Leaf Project - A book streaming platform

Infrastructure

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Leaf Project - A book streaming platform: Infrastructure

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Abstract

During the 21st century, humans have begun to have digital books and use in digital form most of their information, be this: image, sound, or printed materials. Some of these efforts have had great success. For images, the new digital cameras brought lots of new features, such as reduced physical size, higher quality, and error correction. For sound, digital music enables digital distribution, ease of sharing, and large amounts of storage. But, despite the recent efforts by Internet companies and publishers, the book industry has resisted success in the digital era.

Today, new technologies enable us to distribute digital books. However, these digitised books are still represented in a traditional: as text and static images. However, our project is based on the believe that ones reading experience can evolve and benefit from current technology.

The "Leaf" project's main objective is to create an electronic publication distribution platform that can equally satisfy publishers,writers, **and** readers. The project will create an environment to distribute digital publications that support more advanced technologies, providing in the future something beyond text and static images to the reader.

This document describes the different aspects of design of an information technology infrastructure designed to stream electronic publications. This part of the "Leaf" projects aims to describe the necessary information technology infrastructure needed as an electronic publication distribution platform. The main purpose of this infrastructure is to serve electronic publications on-line to readers; however, that is not the only objective for this infrastructure. It has to deliver a service that should be highly scalable. This architecture should include database and directory servers to support the main services. All the auxiliary services should support the aim of the project , i.e., to serve amounts of traffic in a scalable and highly manageable way, while utilising open standards.

The first chapter reviews the state of the art in electronic publication. The document continues in chapter 3 with an analysis of each of the different servers involved in the architecture. The Apache web server is used as streaming book service, the OpenLDAP is used to implement the authentication server. The last section finishes with a discussion of the database server. Chapter 4 describes the performance tests to verify that the propose solution meets the requires set of the system.

The "Leaf" project infrastructure has been designed and all the involved services implemented successfully delivering a future possible infrastructure for the book "streaming" services. Moreover, the obtained knowledge will help to create the first steps in the project infrastructure. The performance test unveil that the Varnish web accelerator is a cheap and powerful solution to improve the web server performance.

Sammanfattning

Under 21 a århundradet, har människor börjat få digitala böcker och användning i digital form mesta av sin information, den här: bild, ljud eller tryckt material. Några av dessa insatser har haft stor framgå ng. För bilder, har väckt nya digitalkameror massor av nya funktioner, så som minskad fysisk storlek, högre kvalitet och felkorrigering. För ljud, möjliggör digital musik digital distribution, enkel delning och stort lagringsutrymme. Men trots den senaste tidens ansträngningar från Internet-företag och förläggare, har bokbranschen motstånd framgång i den digitala tidsåldern.

Idag, ny teknik gör det möjligt att distribuera digitala böcker. Men dessa digitaliserade böcker som fortfarande representerade i en traditionell: som text och statiska bilder. Dock är vårt projekt bygger på tro att de läsupplevelse kan utvecklas och dra nytta av dagens teknik.

Den "Leaf" projektets viktigaste må l är att skapa en elektronisk plattform publikation distribution som även kan tillfredsställa förläggare, författare, **och** läsare. Projektet kommer att skapa en miljö för att distribuera digitala publikationer som har stöd för mer avancerad teknik, att i framtiden nå got bortom text och statiska bilder för läsaren.

Detta dokument beskriver olika aspekter av design av en IT-infrastruktur för att strömma elektroniska publikationer. Denna del av "Leaf" projekt syftar till att beskriva den infrastruktur som behövs IT behövs som en elektronisk publikation distributionsplattform. Det huvudsakliga syftet med denna infrastruktur är att tjäna elektroniska publikationer på nätet till läsarna, men det är inte den enda målet för denna infrastruktur. Det har att leverera en tjänst som ska vara skalbar. Denna arkitektur bör omfatta databas och servrar för att stödja de viktigaste tjänsterna. Alla stödtjänster bör stödja målet med projektet, dvs att tjäna mängder trafik i en skalbar och mycket hanterbart sätt, samtidigt utnyttjar öppna standarder.

Det första kapitlet granskar den senaste i elektronisk publicering. Dokumentet fortsätter i kapitel 3 med en analys av varje av de olika servrar som deltar i arkitekturen. Webbservern Apache används som streaming bok tjänsten är OpenLDAP används för att genomföra autentiseringsservern. Det sista avsnittet avslutas med en diskussion om databasservern. Kapitel 4 beskriver prestandatester för att verifiera att föreslå lösningen uppfyller de kräver uppsättning av systemet.

Den "Leaf" projektet infrastruktur har designats och alla inblandade genomförs tjnster kunna ge en framtida möjlig infrastruktur för boken "strmmande" tjänster. Dessutom kommer de erhållna kunskapen bidrar till att skapa de första stegen i projektet infrastrukturen. Föreställningen testet avslöjar att Varnish Web Accelerator är en billig och kraftfull lösning för att förbättra prestandan webbservern.

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List of Acronyms and Abbreviations

E-Publications

EPUB Electronic Publication

IDPF International Digital Publishing Forum

PDF Portable Document Format

OEB Open Electronic book

Services Related Acronyms

AVFS A Virtual File System

DNS Domain Name Server

FUSE File system in User SpacE

HA High Availability

LDAP Lightweight Directory Active Protocol

NFS Network File System

NIS Network Information System

OU Organisational Unit

RDN Relative Distinguished Name

WAL Write Ahead Logging

Web Technologies

CSS Cascade Style Sheet

SMIL Synchronized Multimedia Integration Language

SVG Scalable Vector Graphics

XHTML eXtensible Hypertext Markup Language

XML eXtensible Markup Language

1 Introduction

1.1 Current electronic publications platforms

The Internet is probably one of the largest disruptions in society since the introduction of atomic energy. The creation of the Internet lead to the information era or age, where users and the creators can distribute information *without* distributor's help. This information is transmitted nearly instantly through networks that form the Internet.

The introduction of Internetworking of personal computers generated a new way of consuming and generating information. Users began to consume information through the screen of their computer in addition to regular paper. Today the proliferation of smart phones and tablets allow the user to access digital information anywhere and at anytime in a comfortable manner.

The publishing industry (books, newspapers and magazines) want to evolve their business into the digital age. Their objective is to use modern technology to distribute their contents instantly to their end users. Due to the fact that technology frees the content from being restricted to static contents, associated with the traditional paper format, industry may use these technology advancements to offer more dynamic content. These potential changes in the publishing industry may modify the entrenched habits of society as related to reading habits. The digital era initially means that the user can no longer leaf through pages, sniff the books at the bookshop, or do other sorts of actions they have traditionally done.

Post-PC devices, such as smart phones and tablets, will be (some are) the new means to access digital media: music, videos, and news. Therefore, the publishing industry is focusing on how to create or adapt their business to these technologies.

Federico Enni, Sebastián Galiano, George Khalil [3], and Diego Botero [4], master students at KTH, form the team developing the "Leaf" project. The project's aim is to improve digital publishing and distribution methods by exploiting today's standards and technologies. Thanks to these technologies the project intends to break the social entrenchment of a centenaries old technology: the physical book. The "Leaf" project will be described further in the next section.

1.2 The Leaf Project

Currently publishing and distribution companies have adopted a very conservative approach to the digital information market. They copied their physical model when they made a direct translation to their digital model. The industry is trying to attract users by keeping the same structure as the earlier physical model (and experience), instead of adopting a new model that might require creating (or adopting) new habits. In the current digital book market books are still filled with static text, unaware of the reader's environment, and do not take into consideration current technical possibilities. Digital books are currently simply direct translations of physical books. The only real difference is that to get a book the user goes to a virtual bookstore instead of a physical one. Instead,the books could take profit of the dynamic contents such as Javascript enable books which would provider further interaction with the books.

Even though the electronic book (ebook) market has experienced a huge growth during 2010 in

the USA [5], the ebook seems not to be embraced by the customers. While, it is possible to find consumers in the streets using their smart phones or their mp3 players; it is still hard to find anyone using an electronic book reader. Perhaps a reason is the retention of the price of printed book in the digital format (thus electronic books are not less expensive than their paper counterparts) and the direct translation from physical to digital made by the publishers means that the digital version of the book frequently offers nothing more than images of the printed pages. This conservative strategy leads to slower penetration of ebooks in the market and at the same time it exacerbates the lack of competition between the different publishers and digital distributors in the market.

Magazines and newspapers are taking another approach to the problem. Each of them is developing their own mobile *application* for each and every application platform. On one side, the magazines and newspapers have increased their development cost for each software ecosystem where they are active. On the other side, the user has to download an application for *each* publication. What is more, if each magazine adopts a subscription method, the user ends up in an ocean of subscriptions and payments.

Statistics gathered from several sources [6] [7],indicate that electronic book reading is unpopular in comparison to news reading through websites. Consumers are used to consuming data through the Internet[8], and the time reading a news article is shorter than a book, hence that the reader is used to read digital media for short periods of time.

Therefore, the "Leaf" project, tries to renew digital distribution models by offering a distribution platform that allow streaming content instead of downloading it to the device, this exploits the latest trends in technology to offer a more dynamic approach to reading. The content will be distributed through a single mobile application, which will allow the user to access multiple publications. From a business perspective the project will research new methods of generating profit for the publishers and editors through advertising and subscription based payments.

1.3 The Information Technology infrastructure for the Leaf Project

The aim of the overall thesis project is to design and build a complete infrastructure for book streaming. The infrastructure will be divided in three services:

- ▷ Book Streaming: The actual service of streaming the books to an Android client that will be developed by Federico Enni [9], and the streaming platform developed by Sebastián Galiano.
- ▷ Authentication: This service will provide secure authentication; as well as maintain a database recording user's personal information for billing. It will be developed by Sebastián Galiano.
- ▷ User data database: The database will store all the information related to the user's reading of each publication, such as: bookmarks, notes, or highlighting. It will be developed by Sebastián Galiano

The three services will be configured to provide as high performance for a given hardware platform as possible; along with providing high availability, high scalability, and other tweaks (when possible). High availability ensures that the service will be up and running nearly 100% of time by avoiding single points of failure. High scalability provides the ability for the service to grow by adding new hardware to the service platform.

The infrastructure of The "Leaf" project will provide an easy to use distribution method by supporting defacto electronic publications formats and future formats. This means that the publisher would not need to adapt their content to the platform or vice-versa. The platform will achieve that objective by exploiting current standards and designs. There is currently no dedicated server for book streaming, but due to the fact that the electronic open publication standard is based on web technology, it is possible to design a web server that can manage digital books in a similar way to web pages and hence send them to the client. More information about the web server and how to adapt it to a "streaming" book server can be found in section 3.2. Unlike music or video, text does not require low latency transmission in order to be distributed. Therefore The "Leaf" project offers a fake sense of streaming by transferring parts of documents (chapter by chapter) to the customer.

The web server architecture design also has to deal with another design decision, the use of Content Distribution Networks (CDN)[10] or web caches [11] for static content. This kind of content is very demanding for the server in terms of both network traffic and processing. It is possible to deal with this problem from two different perspectives. By using a CDN to distribute static content via internationally distributed servers that reduce transmission delays and reduces load on the web server, by using web caches that store static content in a cache in order to provide fast access. This thesis will analyse and test both options from a performance perspective with the help of the stress and performance measurement tool Apache Jmeter[2]. CDN and web caching in subsection 3.2.3 while the performance testing can be found in section 4.

The web server will only deliver a streaming service to the user. However, there are others services that need to be delivered. Obviously, the platform will be used by many users, therefore using an authentication server to store passwords and personal information will reduce the load on the web server, decentralise the architecture, and increase the overall performance of the infrastructure. This authentication service will be based on OpenLDAP [12], an open directory server, as described in section 3.3.

The final service is the user data database. As with the other services a goal is to decentralise the architecture and reduce the load on the content server. As a result, this service will be based on a PostgreSQL database server[13] running in a separate server (or servers). This service will be described in further detail in section 3.4.

As mentioned previously the infrastructure will be as decentralised and as highly available as possible while offering highly scalability performance, for each service. This can be achieved in different manners, way thus the details will be described separately for each service.

This master thesis project will try to solve these problems and implement these services efficiently. The final thesis will include an evaluation of each of the services separately and of the system as a whole.

2 Electronic Publications

This chapter describes the state of the art of electronic publications, specifically the EPUB format.

2.1 State of the art in the document formats

For many years Adobe Systems' Portable Document Format (PDF)[14] has been treated as the standard document format. For the publishing industry it was not desirable to use a format developed by Adobe as the standard for their publications. Before the electronic publication standard (EPUB) was launched by the International Digital Publishing Forum (IDPF), the Open ebook (OEB) [15] was created. The OEB file format was a group of XHTML pages and XML[16] files inside a ZIP compressed file. In 2007 the Open eBook standard was replaced with the Open Publication Structure [17] ,this later became EPUB.

EPUB has slowly become the standard format and has been adopted by most e-readers. Despite the existence of open standards, other formats were developed by private companies, specifically: Amazon's AZW[18], DjVu [19], and many others. The main problem of these formats is that they are owned by those companies and therefore they are not open standards.

Other formats such as text (.txt) or HTML have been used for digital publications, but these formats lack the features needed by many publications.

2.2 EPUB File Format

Due to its openness, the EPUB document format is undoubtedly the most compatible document format for electronic publications. EPUB has rapidly become the most widely supported document file format for digital distribution. Users range from small virtual bookshops to Apple Inc. This format is used to distribute their electronic content (except for Amazon's Kindle). EPUBs development is based in well known web standards that allows the file format to easily adapt to any platform. Furthermore, EPUB is operating system (OS) independent and hardware independent.

The current specification of EPUB is version 2.0, but version 3.0 has already been drafted by IDPF [20]. The new specification will have greater support for recent web standards and better support for scripting, this will permit a more dynamic approach to electronic publications.

The EPUB file format is described through four components that will be reviewed during the following subsections. Due to the interest of the project regarding the features in EPUB 3.0, we will describe the components as of version 3.0 of the specification. In this thesis project, the differences between EPUB 2.0 and EPUB 3.0 are not important because the main idea behind streaming EPUB is that the content is web standard based and the content is compressed using a well-know algorithm.

2.2.1 EPUB Publications 3.0

EPUB Publications 3.0 is the component which defines the conformance requirement for an EPUB file. This component specifies the composition requirements of the document from a publication perspective. The components described by EPUB Pulications 3.0 [21] are:

- ▷ **Package document** contains bibliographic and other metadata. It is the main data source describing *how* to display the document.
- ▷ **Content documents** define the profiles of the different web standards in the EPUB. More information can be found in subsection 2.2.3.
- ▷ **EPUB navigation document** refers to an XHTML [22] Content Document which helps the user (and the electronic reader) navigate through the publication's contents.
- ▷ **EPUB style sheets** are not mandatory, but they are the style definer of the complete book or different parts of a book . These style sheets use the CSS standard [23].
- ▷ **Media overlays documents** describe how to create a synchronized text with an audio representation of the same text.
- ▷ **Additional publication resources** are any other kind of publication resource that can contribute to the display or logic of the electronic publication.
- ▷ **Container** is the representation of the EPUB 3.0 in a single file through the compression of the content using the ZIP algorithm.

2.2.2 EPUB Content Documents 3.0

EPUB Content Documents 3.0 are the readable part of an EPUB file. These documents are XHTML[22] (now based on HTML5[24] and SVG[25]) documents. Inside them may be references to media content, such as audio or video [26].

The specifications rely on SVG to generate vector graphics and they inherit all the HTML5 semantics and standard definitions. Regarding CSS, the defined profile is still CSS 2.1, but the standard is starting to support CSS3.

2.2.3 EPUB Open Container Format

The Container specification defines a format and algorithm to encapsulate the different files that constitute an EPUB file. Thanks to the merger and compression of the different files into one file, an electronic publication is easy to transport, share, and distribute.

The Open Container Format describes how to to create an abstract container and a physical container [27]. The abstract container specifies a file system model in order to structure the content in a logical way, the same way that operating systems have a logical structure to store the data, the abstract container for the EPUB Content Document 3.0 establishes how to create the logic inside of an EPUB file. The local resources are located in a directory tree in the root file system. No structure is required for files. The meta-inf folder is mandatory and it includes different files defining the rights, data encryption, and metadata about the container itself.

The Open Container Format ZIP container is the physical container within one file for the abstract container. Using the ZIP compression algorithm it is possible to compress all the abstract containers into one file.

2.2.4 EPUB Media Overlays 3.0

People who due to a disability are not able to read or they have difficulties reading publications are the aim of this media overlay component [28]. This component describes the timing for a audio recording in order to synchronise the audio with the text. The Media Overlay is described as a conjunction of SMIL [29]. SMIL is a W3C standard created for the purpose of displaying synchronized media through XML.

The system is based on XML tags that define the chapter name and the audio file related to that chapter. It also defines when each audio file has to start and end in order to have a proper synchronization between the text and the audio.

3 Infrastructure Services

The "Leaf" project platform is supported by several services. The main service is the book streaming service which is based on the Apache web server. Authentication is done by the openLDAP service. The data related with the user (such as bookmarks or preferred books) will be stored in a PostgreSQL database. The architecture of these services will be designed following four guidelines: high availability, high scalability, manageability, and high performance.

The following subsections describe the concept of high availability and high scalability followed by an overview of the three different services. Each of the sections related with a service will include a description of how the design should be realised to follow the guidelines.

3.1 High Availability and High Scalability

One server has a limited amount of processing power. Therefore, it may be necessary to have more than one server serving as a large virtual server. The division of a service over multiple servers distributes the work load over the cluster. This redundancy in servers can provide a high service availability. High availability of a system ensures the availability of a service [30]. In case of hardware or software failure the service should still be able to deliver the service. Such high available services are based on servers redundancy enabling automatic or semi-automatic fail over in case of failure.

There are two kinds of high availability that can be achieved with redundancy: active redundancy and passive redundancy. Active redundancy is similar to a web cluster. All the servers that form the cluster work in parallel, thus despite the failure of one server the rest will continue to provide the service. Passive redundancy uses a passive standby based architecture. One server is the primary server and a secondary server acts as the backup server that will be substituted for the primary server when the primary server fails.

The redundancy of servers can also be used to increase the performance of the system by creating a cluster or virtual server. The typical architecture for a virtual server is similar to that shown in figure 1. The cluster or virtual server is composed of a number of computers providing a service as if they were one. A load balancing service spreads the load over all the servers that form the cluster. Load balancing assures the maximum performance from the architecture by guessing which server is the least busy, then sending all the requests from a given user to it. This estimation is done by different algorithms and approaches. This type of architecture assures high performance and high scalability. High performance is achieved due to load balancing over the virtual server architecture, i.e., the workload is shared by multiple servers enabling the aggregate load to be proportional to the total server capacity rather than limited to the capacity of any single server. This architecture delivers high scalability because it is possible to add more and more servers to the architecture without major reconfigurations or architectural changes. Note that an explicit assumption is that the load generated by any single user's requests can be satisfied by a single server, ideally by a small fraction of the resources of a single server.

Each one of the services described in the previous section will be analysed in order to provide useful guidelines:

- **Webserver** is a read only service. The end user only reads information from the server; therefore

it is easy to maintain the consitency of the data across different servers. The approach selected is to use a Linux virtual server or a load balanced cluster. This architecture is presented in figure 1. The load balancer is the only extra element needed in order to make the architecture work. It will decide, using an algorithm, which server is the least busy in order to redirect the user to this server.

- **Directory** services will be provided by the open standard directory software (OpenLDAP) which already supports clustering. Unfortunately, support for multi-master server is not reliable, thus one of the servers has to be the master while the rest are slaves. The master server is the only server with write and read permissions to the directory data, i.e., the slaves have only read permission. OpenLDAP maintains data consistency by giving only the master write permission. The ability to have several OpenLDAP slaves assures high availability for reading.

- **Database** software offers load balanced clustered service through different tools. The use of clustering is a bit tricky because a cluster of servers has to maintain consistency. If one server changes the data, then all the server should change this data (nearly) instantly, so that the data will be the same in all the servers that form the cluster. PostgreSQL already offers tools to create a load balanced cluster with data replication. The selected configuration for PostgreSQL is a master-slave configuration. The operations to the database will be per user, meaning that no more than one user will modify the same value in the database. Therefore no database locks will be required. The locks prevent data from being corrupted when the data is modified by more than one user by limiting the concurrency. Because the operations are per user, this enables us to configure the database to use a relaxed (eventual) consistency requirements[31]. This means that the concurrency is established by the application layer. PostgreSQL runs in this mode by default, and allows the administrator to establish which values, tables, or databases should be locked and managed by PostgreSQL [32]. Relaxed consistency reduces the load on PostgreSQL by simplifying the consistency and concurrency processes.

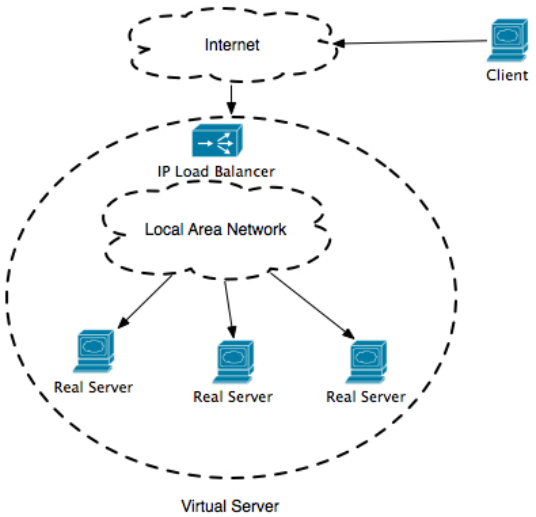


Figure 1: Virtual Server Architecture[1]

The combination of these services offers a decentralised database configuration. The addition of load balancing in each layer of the architecture (Web, Directory, and Database) should provide high

performance and high availability to the overall architecture. The architecture is shown in figure 2. User requests for content will go directly to the web servers, from there authentication queries can be made via the Domain Name Server (DNS) load balanced sided of the OpenLDAP architecture. Requests related with user data such as (bookmarks, preferences, publications visited, ...) will be directed to the PostregreSQL cluster. The modification or the creation of subscriber information (username, password, email) will be directed to the master OpenLDAP server which will replicate the data over the slaves. The next section describes each one of these services and how to implement these services. Even though each service provides a specific function, all the requests coming from the application must pass through the web server. A seen by the application running on the user's device, the authentication will be a regular web server authentication. However, the actual authentication request will be passed from the web server to the OpenLDAP service. A similar process will happen with regard to bookmarks, preferences, etc. as these will result in database queries. This approach reduces the information about the details of the infrastructure stored in the application and therefore, increases the overall security and enhances the flexibility and scalability of the system. Further information about how the web server makes use of the OpenLDAP and database services can be found in the specific section regarding each service.

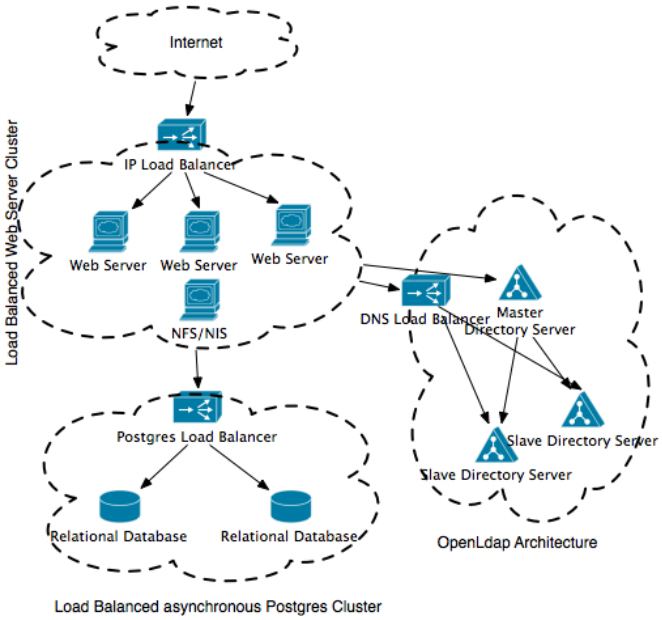


Figure 2: Leaf Project platform architecture

3.2 Book Streaming Service

The book streaming service will be based on the EPUB file format. We will use a web server to deliver the relevant parts of a document to the user's application.. The web server related documentation is given in subsection 3.2.1. However, as discussed in section 2.2.3 the EPUB is contained inside a ZIP file. A web server could directly serve the ZIP file, and then the client downloads it completely, decompresses it, and finally displays it. However, this is not an streaming platform, but rather a full download of the file. We will implement an alternative solution where the contents of the file are accessed after decompression and served chapter by chapter in order to create a streaming-like service.

(Note that the contents of chapters may be compressed, encoded, encrypted, etc. for transfer to the application running on the user's device)

There are two ways of accessing contents inside a compressed file. The first way is to actually decompress the EPUB in a folder inside the server and serve it. The second way is by using a file system in userspace to allow the web server to access the content without decompressing the EPUBs. The first solution is more classical and requires more management and the inclusion of scripts to automate this function, increasing the consumption of processing and disk resources. On the other hand, the second solution offers transparent access to the EPUB files while increasing the amount of processing needed to access the file. The commercial plan for The "Leaf" Project by George Khalil [3] states that in order to have content for the first implementation of The "Leaf" Project, the service should include as many books as possible from the free digital library of the Gutenberg Project [33]. Project Gutenberg offers more than 36,000 EPUB books. Due to economical reasons, The "Leaf" Project first server should have more than 100GB of hard disk free space in order to store all the content from the Gutenberg Project decompressed , therefore, in order to better manage this limited space while still serving a large amount of content, the second solution is better. Once the service takes off and we can increase the server's storage space the first solution will be adopted. This second solution and the technologies surrounding it will be described in subsection 3.2.2.

It is well known that static elements in a web page, such as images, videos, or audio constitute the largest proportion of the EPUB file in terms of the number of bytes, hence these consume the most bandwidth for the transfer from disk/memory to the user, and processing them also consumes CPU resources. Therefore, we considered these elements when designing a service that may be accessed by large numbers of users. One can use a CDN of servers spread all around the world, enabling static content to be served (delivered) by the geographically closest CDN server. Also, it is possible to use a web cache to store and serve static content thus reducing the load of the actual web server and the bandwidth used. We have measured performance using basic stress testing and performance testing. Further information about CDN and, web caches can be found in the section 3.2.3, while information about performance testing is in chapter 4.

Section 3.2.4 will introduce clustering for the book streaming service. That section will describe how the streaming service works and what are the problems that we need to be concerned with.

3.2.1 Apache

The first program that we will consider, is the one that provides the actual streaming service via an Apache web server. Apache is the most used web server in the world [34]. The Apache HTTP server is one of the projects of the Apache Software foundation.

A web server receives HTTP GET requests from a user. The web server processes this request based upon the server's configuration files. Typically the server will simply access a file and send the contents of this file via the network to the user's browser which interprets the contents of this response and renders a web page. The web server might also invoke a process and return the results of this process's execution. The web server could also potentially execute code within the server and generate the contents to be send to the user. In this thesis project the web pages contain a chapter of a book, therefore the electronic book reader developed by Federico Enni will ask for web pages that will be subsequently be displayed as pages of the book.

Apache is based on three basic folders that determine the complete functionality of the service:

- ▷ The **Configuration folder** stores all the configuration information, including the main configuration of the Apache server and the configuration for the several web sites that may or may not be served.
- ▷ The **Log folder** where all the logs from the running service are stored. This can be used to check the server's behaviour. The log can be analised directly from the text file or using one of the many tools that are available, such as: awstats[35], or webalizer[36].
- ▷ The **Web pages (documents in the htdocs folder)** where the documents to be served are stored.

The configuration of the Apache service is directly based on these three folders. The Apache server listens to the one or more IP addresses written in the configuration files. When, an HTTP request is sent to that IP address the Apache server analyses the request by reading the headers and applying the rules in the configuration file for that request. The configuration file contains directives, and it is possible to configure more than 200 different directives.

The Apache server handles every request by creating an specific process for that request. Therefore, each request is managed by a specific process. Thus, the more connections, the more requests to the server, and the more processes running in the server. The Apache configuration file allows the administrator to determine the maximum number of child process that can becreated (MaxClients); as well as the maximum number of process created when Apache is intially started(StartServers). The Apache server must start some processes when it boots, by doing so it does not need to wait for a request to come as this would increase the request processing time due to the time it takes to create a new process. By creating a number of serving processes beforehand, the performance will be better for the end users. There are also variables to define how many processes should be running before a new request arrives. Each process can be running and working while there is a connection using them. Additionally, due to the cost of creating a process after the process has completed its service it is kept alive for a keep alive time out period; defined in the configuration file (Keepalivetimeout). This variable helps the web server to quickly serve another request.

The great thing about this forking of processes is that if a connection fails the whole service continues to operate. Unfortunately, when the traffic load is very high, there are a lot of processes each of which uses the CPU and some amount of memory. If the load on the server is high, i.e., there are many connections, then you can reach the maximum number of child process that can be created according to the server's configuration file according to the server's configuration file; then the server will not accept any more connections. At this point there are two alternatives, increase the MaxClients value (by default 255) or reduce the keep alive time out. The first alternative may lead to an out of resources situation in the server; which means a collapse of the whole computer. The second alternative will cause the server to kill the process more quickly after completing their service. But due to the fact that creating a new process is rather costly this alternative can also eventually exhaust the server's resources.

The project will use SSL/TLS to secure the connection. Therefore, retaining the connections from users prevents the server from having to repeat the SSL/TLS negotiation as well as the user authentication. Furthermore, the service serves the end user with a chapter at a time, hence the user

is likely to ask for another chapter (make another request) after finishing the chapter that this user is reading. Keeping the connection with this user avoids the server having to create a new connection each time the user reads a chapter.Trying to keep the connection will run into trouble in two ways: (1) there is a timeout of idle connections that may be less than the time it takes a typical user to read a chapter and (2) if number of simultaneous users is proportional to the number of connections, then there will be a problem due to the maximum number of TCP ports per IP address (since the port number is limited to 16 bits).

Electronic publications are mainly static content, therefore for each request of static content the web server will create a connection leading to the problem described above. It is important for this project to somehow solve this problem. In Section 3.2.3 several possible solutions will be explained.

From an architecture perspective, the web infrastructure architecture is designed to be load balanced and clustered in order to distribute the CPU load across the different servers. This will decrease the probability of overloading one of the servers that forms the web infrastructure architecture. The clustered architecture's details can be found in the section 3.2.4. A basic Apache web server configuration file can be found in the Appendix A on page XXXX.

3.2.2 Dealing with the EPUB file format

The previous section described that in order to serve the chapters inside the EPUB document it is necessary to decompress the file and place the uncompressed file(s) inside the htdocs folder or use filesystem in userspace (FUSE) technology to enable the Apache web server to read inside the ZIP files. In this thesis project the second option has been selected, because it eases the management of the documents for both web server and for the administrator. In order to understand how it works, FUSE will be explained along with the implementation of the specific file system over FUSE that is used to access the files.

3.2.2.1 File System in Userspace

FUSE is software that provides an abstraction layer over the file system. It can be used to acess a file system in user space instead of kernel space. FUSE was born as the library for "A Virtual File system" (AVFS), which allows all software to transparently look inside compressed files [37].

FUSE is a kernel module for the Linux or Unix operating systems that allows development of file system drivers in user space rather than kernel space. There are hundreds of file systems [38] based on FUSE and they are structured depending on their use:

- **Archive File Systems** allow the access inside archives.
- **Compressed File Systems** permits access within compressed files.
- **Database File Systems** treat relational database as file systems, giving the ability to store files or browse the database as a file system.
- **Encrypted File Systems** provide transparent access to encrypted files or folders.
- **Media File Systems** are designed to treat complex media devices with proprietary structures in a human readable way.

- **Hardware File Systems** enable the user to have direct hardware access.
- **Monitoring File Systems** are file systems that generate notifications when a file is modified.
- **Network File Systems** provide file systems for access by network protocols.
- **NonNative File Systems** allow proprietary file systems that are non standard to Linux to be used by the user.
- **Union File Systems** merge multiple and diverse file systems into a single entry point.
- **Versioning File Systems** store multiple versions of files and allow the user to change between which version they access.

FUSE improves the speed of file system development. However, using file systems developed with FUSE increases CPU resource consumption, but avoids the need to turn each file into a native file.

3.2.2.2 A Virtual File System

The aim of the Apache server is to serve the content inside the EPUB documents. There is a FUSE Compressed File System that allows Apache web server to access inside the EPUB files, this is called AVFS. AVFS is a file system that allows software to browse files inside archived, compressed files, and remote file systems [39]. AVFS is easy to use, once installed it is only necessary to use the commands shown in Listings 1 and 2.

Listing 1: Command line to activate the AVFS file system

```
$mountavfs
```

The command shown in Listing 1 mounts the AVFS file system in a hidden folder in the home of the root user, and starts the AVFS daemon "avfsd". Inside this hidden folder it is possible to find an exact copy of the whole mounted file system with the difference that inside this folder it is possible to access the compressed files as if they were folders.

Listing 2: Command line to mount the AVFS file system in the htdocs folder

```
$sudo -u <Apache User> avfsd -o modules=subdir -o subdir=<source folder> -o rellinks
    -o allow_other <htdocs subfolder> -o ro
```

Listing 2 mounts a source folder into a the htdocs subfolder. That folder will be AVFS enabled. Therefore, it is possible to access any compressed folders inside the AVFS enabled folder. The other peculiarity of the command is that is executed as the user who runs the Apache web server. This a security measure to ensure that only the Apache user and the root user will be able to modify or edit this folder. The htdocs subfolder will be mounted readonly because the EPUB content will be never changed. A read only file sytem allows the OS to speed up some operations as it knows it that it never has to write back the contents of memory pages used with this file system. The source folder will be readable and writable, as this will be the folder where the content will be uploaded.

Subsequently any compressed file inside this folder will be seen by the user and the software as a regular file. Mounting Apache's htdocs subfolder as AVFS and storing inside the EPUB files inside this folder, will allow the web server to provide the content in response to requests as a regular web page, and therefore, effectively stream the chapters of EPUB files. Note that the chapters are not really sent as a synchronous stream, but rather are sent one chapter at a time as requested.

The main limitation of this file system, is that AVFS is not able to write inside the compressed files once that they are mounted as a file system, because AVFS is a read only file system. From the Android application's perspective it is necessary to create a summary file in order to navigate through the EPUB document's contents. Initially, we thought that creating the summary file inside the EPUB compressed file would be a simply way to provide the summary. After discovering AVFS limitation regarding writing inside a compressed file we changed the location of the summary file to a separate writable directory. More information about the summary creation process can be found in Federico Enni 's master thesis [9].

In order to access inside a compressed file it is mandatory that the file extension is one of the extensions known by AVFS such as ZIP, and we must append the "# "symbol to the end of the filename. That is why when a EPUB file is uploaded to the server a script created by Federico Enni modifies the extension of the file to ZIP and adds the '#' symbol to the end of the filename. For instance, to access inside a ZIP file a user will execute the command show in Listing 3:

Listing 3: Command line to access the content in an EPUB

```
$cd <filename.zip>#23
```

To access the content inside the zip file from a command line it is necessary to ask for the filename ending with the "#" symbol (which is written in HTTP as "%23"). Therefore, whenever the Android application has to access any of the EPUB files served by the web server, the URL in the code must end in "%23". Therefore a URL to navigate inside a compressed file will look like the example shown in Listing 4:

Listing 4: Example of URL to access a EPUB

```
http://<servername>/<filename.zip>%23
```

It would be also possible to redirect any URL request to a URL ended in "%23" by the Apache web server, using the Rewrite Rules and Rewrite Condition [40]. In this case the Apache web server should evaluate all the request and add the "%23" when necessary. This will increase the process per request, that is why in this thesis project we have decided that the Android application should address this issue. The application will now before hand which URL has to append the symbol without having to process it.

The final htdocs folder structure will store in its root directory several web pages related with the functioning of the service and two folders. One directory dedicated to storing the EPUB files and another to storing the summary files.

3.2.3 Improving Apache Performance

EPUB books using version 3.0 may be full of images and videos and other kinds of static content. As described in section 3.2, each connection made to the web server creates a child process in the server and while that behaviour is good in some cases, it can lead to a saturation of the server. In order to avoid this problem one alternative is to shift the most CPU and bandwidth consuming content, to another server. In this thesis two solutions will be analysed, one is a web cache and the other one is the use of a CDN. This subsection will describe these alternatives while chapter 4 will discuss the performance testing of the alternatives.

3.2.3.1 Web Cache

A web cache, is a reverse proxy cache service that caches the most visited content. Therefore, when a new request comes for content the request is serviced by the web cache instead of the web server. Thus, the web server reduces the number of necessary child process and the overall load on the server is reduced leading to a faster service. Web cache servers have been tuned to improve web server performance.

During this thesis project the selected web cache will be Varnish [0] which is a well known HTTP accelerator designed in 2006. This web cache is widely used and is used by a number of major web based services such as Facebook[0]. There are multiple web caching programs, but due to the increasing popularity of Varnish it became the preferred solution for this project.

Varnish users claims that the software works well out of the box[0], therefore this project will use the default configuration of Varnish. The main characteristic of Varnish is that unlike other programs it has been built explicitly for the purpose of accelerating the delivery of web pages. Therefore, the software is very conscious of operating systems limitations [0].

3.2.3.2 Content Distribution Network

Using a CDN is another option for offloading traffic from the web server and improving he overall user experience. In the case of a CDN, content is distributed over several servers located around the world. These servers have copies of the static content and content is delivered to the user from the closest CDN server. The fact that the response to an user request comes from a physically closer server reduces the response time and the web server does not need to execute code associated with the actual delivery of the document as part of the processing related with that request.

There are several CDNs services available on the market. Some of these are commercial and the others are free. This thesis project will focus on the free CDNs. The most important free CDN is A Content Distribution Network for PlanetLab (CoDeeN) [0], followed by The Coral Content Distribution Network (Coral)[0]. By appending the URL of the content to the CDN's URL the CDN distributes this content through the CDN.

3.2.4 Linux Virtual Server

One of the goals in the project was to create a highly available and scalable architecture. In order to accomplish this it is necessary to create a network of servers working as if it was one server, i.e., as a cluster. Apache does not provide any software to achieve this specific configuration. However, it does offer the Linux Virtual Server (LVS), a cluster service at the IP level. Figure 1 on page 10 is a representation of the LVS architecture. There is a single point of entry through a load balancer. The load balancer manages the connections to the different servers through an algorithm. The aim of LVS is to "Build a high-performance and highly available server for Linux using clustering technology, which provides good scalability, reliability and serviceability" [1]. This architecture allows the addition of new servers to the cluster. The inclusion of each server increases the performance during high load situations and increases reliability in the event of the failure of a server in the cluster.

The LVS architecture provides an actively redundant architecture, so the failure of one server does not affect the overall service in terms of uptime, only in capacity. This method has been selected for the web server due to the fact that the web server is one of the key services of the platform and high availability is necessary to offer a good performance. A cluster architecture increases the performance by sharing the work load over all the servers of the clusters; unlike passive redundancy which would centralise the work load on a single server. There are two ways of sharing the work load over all the servers in a cluster:

- **DNS load balancing** is the simplest way of creating a cluster. A domain name can be associated with more than one IP address, therefore each domain name query returns a list of the IP addresses of those interfaces to machines in the cluster. The DNS server will answer different queries with the different IP addresses in a different order (thus spreading the load over the set of machines associated with these IP addresses). DNS load balancing can easily lead to imbalances in the cluster because the client may cache the DNS server's reply, but it will only send web requests to the first IP address it receives. Unfortunately with this method of load balancing, a failure in one web server in a cluster will lead to random access problems by the users[0], unless another machine takes over servicing requests to this IP address.

- **Dispatcher** uses a load balancing server to distribute queries over all the servers that form the cluster. The dispatcher can be seen as a virtual service because it only has one IP address but represents the whole cluster. The load balancer can distribute the requests better than the DNS load balancing approach because it is not dependent on a name server mapping to an IP address (or list of addresses). The load balancer can redistribute the requests from an incoming transport layer connection perspective to a load perspective and it need not send requests to those servers are not operating correctly[0].

To provide better performance the dispatcher is the preferred method due to the fact that it offers more fine grained control of the requests, hence this potentially leads to better performance. The load balancer needs to regularly send a request or ECHO_REQUEST to each one of the cluster servers in order to ensure that they are operating and to measure their latency in response (enabling it to estimate the server's capacity to handle additional requests). An unavailable server will not answer the load balancer and will not be assigned new requests. The load balancer will automatically add the server back once it is working [30] with an average delay of half the polling interval.

There are several programs to control the load balance across the cluster servers. Red Hat piranha, Mon, keepalived, and ldirectord are the most common programs[0]. Ldirectord is a good solution for

this thesis project due to its ease of management, lack of dependence on major distributions (such as "Red Hat"), and its specialisation on load balancing for web servers.

However, the use of a load balancer raises another issue due to the creation of a single point of failure: the load balancer. If the load balancer fails the whole system will be unavailable. Therefore, the solution is to create a backup load balancer or a cluster of load balancers. This will be described further in the following section.

LVS helps to create the web server cluster needed to provide high availability and scalability, but it does not provide any service for checking and maintaining information consistency or integrity. Each of the servers should serve the same content. In order to achieve this, we copy the same content to all the servers, this process is slow, it can lead to errors, and it increases the amount of management overhead. Instead of copying the data server by server, it is possible to create a network file system that automatically shares the content across all the servers. Therefore, by utilising a network file system all the web servers will receive the same data. This can drastically reduce the data management overhead in comparison with explicitly copying the data server by server. More details about the Network File System (NFS) solution can be found in section 3.2.4.2.

3.2.4.1 Configuration

The load balancer depends on the software ldirectord [0]. Ldirectord is a daemon that manages the servers in a LVS. The software relies on a configuration file that indicates which virtual IP address is mapped to the actual IP address of the real servers. Ldirectord checks the health of the servers by periodically request a URL and checking the response. If the response is incorrect, then the server is removed from the LVS and it is automatically reactivated once the response is correct.

The configuration of the load balancer has to specify which scheduler is going to be used to decide which real server will process the job. There are several schedulers whose descriptions can be found in the ipvsadm manual document , these include[0]:

- **Round Robin**: The jobs are distributed equally among all the servers. This method does not take into consideration the load of each server.
- **Weighted Round Robin**: Similar to Round Robin but distributes new jobs first to the servers with the highest weight. When the weight of more than one server is equal then those server receive equal distribution.
- **Least-Connection**: The server with fewest active jobs gets the new incoming jobs.
- **Weighted Least-Connection**: Like Least-Connection but takes into consideration the real servers' weight (Ci/Wi). This is the default scheduling algorithm.
- **Locality-Based Least-Connection**: Always assigns jobs to a server until this server is overloaded or unavailable, in that case the jobs will be assigned to servers with fewer jobs.
- **Locality-Based Least-Connection with Replication**: Just like the previous one, but in this case the scheduler arranges a set of servers that will be targeted to give service. If all the servers in this set are overloaded, then it will add a node from the cluster to the server set.

- ▷ **Destination Hashing**: Jobs are assigned by consulting a statically assigned hash table indexed by their destination IP addresses.
- ▷ **Source Hashing**: The jobs are assigned by consulting a statically assigned hash table indexed by their source IP addresses.
- ▷ **Shortest Expected Delay**: New jobs are assigned to the server with the shortest expected delay in response.
- ▷ **Never Queue**: The new jobs are assigned to an idle server. If there is not idle server, then the Short Expected Delay algorithm is used.

The round robin schedulers are too arbitrary and do not take into consideration the number of jobs each server is currently serving. The Locality-Based Least-Connection Schedulers relies too much on overloading one server and does not spread the load over all the cluster, but this scheduler is mostly used for a cache cluster [0]. The hash table schedulers are based on parameters that do not relate to the thesis, such as source address or destination address (however, these might be used to give different service to users in different IP domains - but this is left as future work). Shortest Expected Delay is based on an algorithm where the expected delay is $(C_i + 1)/U_i$, where C_i is the number of connections on the server and U_i is the weight of the server i. The Leaf Project architecture does not use weights, therefore this scheduler will only consider the number of connections plus 1 which may lead to incorrect results in the algorithm.

This lead to the idea that Least-Connection should be the appropriate scheduler, but surprisingly Never Queue is the best scheduler in terms of minimising the delay of responses as was demonstrated in 1988 in the paper "Greed Is Not Enough: Adaptive load sharing in large heterogeneous systems" by A. Weinrib and S. Shenker [0].
A configuration file is shown in Listing 5 , with the values relevant to the IP address to be filled in.

Listing 5: Ldirectord configuration file

```
# Global Directives
checktimeout=3
checkinterval=1
virtual=<cluster virtual ip>
  real=<real server ip> gate
  real=<real server ip> gate
        service=http
  request=./test.html
        receive=happy
        scheduler=nq
        persistent=120
        netmask=<cluster netmask>
        protocol=tcp
```

In the configuration file the field "scheduler" indicates which scheduler of the before mentioned is going to be used. The scheduler is indicated by writing its acronym. In this project we have selected the never-queue scheduler whose acronym is "nq". The forwarding method has to be defined in the configuration file under the "real" directive just after the real server IP address. In this project the

forwarding method will be "gate" which stands for direct routing. The load balancer request for the file "test.html" should contain the word "happy". The final configuration file can be found in the Appendix B.

Each load balancer is configured to use the IP address that represents the whole cluster. Therefore all the requests will come first to the load balancer, which will redirect them transparently to the correct web server in the cluster. The load balancer must be able to route the traffic to the real servers. This is accomplished by enabling IPv4 forwarding in the load balancer. There are several ways to do this depending on the Linux system, but there is a method that works across all the Linux distributions. This method is described below.

The Linux operating system has a special folder call "proc" located in the root of the file system which represents system information of the running operating system. It contains several subfolders and files, for instance the file */proc/version* contains the Linux kernel version. In the same manner the file */proc/sys/net/ipv4/ip_forward* activates or deactivates IPv4 forwarding. Therefore, the command shown in Listing 6 will activate IPv4 forwarding in any Linux operating system.

Listing 6: Command line to activate IPv4 forwarding

```
$echo '1' > /proc/sys/net/ipv4/ip_forward
```

Once forwarding is enabled the cluster's virtual IP address must be configured in each load balancer. To add a virtual IP address, a second IP address will be configured for the ethernet interface "eth0". Listing 7 shows the command to add a second IP address to any interface in a Linux operating system. Note that this is a so-called secondary IP address on the interface. :

Listing 7: Configuration of the virtual ip

```
$ifconfig eth0:1 <ip address>
```

This command adds the IP address to the interface configuration. However, if the computer reboots the IP configuration will be reset. Each Linux distribution uses a different set of configuration files to assign permanent addresses to network interfaces. To permanently configure the secondary address you will need to modify the appropriate configuration files for your Linux distribution. Once all the values are set the load balancing architecture (without heartbeat) will be similar to that shown in Figure 3.

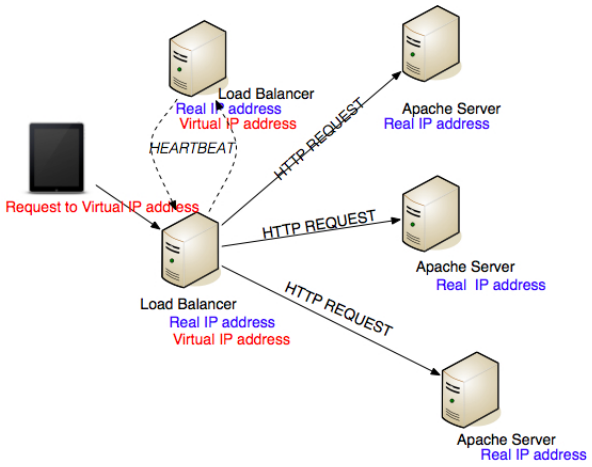


Figure 3: Web Server Load Balanced Architecture

3.2.4.2 Heartbeat in Load Balancing

The previous section described how a load balancer acting as a dispatcher will be placed in front of the web server. However, it is also noted that having only a single load balancer creates a single point of failure. If the load balancer fails, then the cluster is no longer accessible. A backup load balancer that is activated when the primary fails is one solution to this problem.

To solve this problem of a single point of failure, we add a heartbeat daemon inside each one of the load balancers. Each heartbeat emits a packet which informs of the other load balancers that a given load balancer is still operating, hence if the primary load balancer crashes, then the backup one automatically takes over the cluster's virtual IP address. Once the primary is working again there are two alternatives. The backup continues working as the primary and the former primary act as the backup, or they returned to their original states. There is an open source software that provides a heartbeat function called "Linux-HA". This software implements the heartbeat protocol. It is based on several configurations files that will be described below.

The configuration file shown in Listing 8 is used to set up the heartbeat process, to declare the nodes in the heartbeat, as well as the different types of communications. "ha.cf" - the high-availability configuration file. This configuration file to stores the setting for the heartbeat process, the list of the nodes in the cluster, and the communications topology. The parameter "keepalive" refers to the time in seconds between the keepalive heartbeat packets, these are used to check the status of the server. The parameter "deadtime" represents the time before the slave server takes over. The "node" parameter stores the domain name of each of the nodes relevant to this heartbeat. "Bcast" parameter tell the service which interface should be used to send the keepalive packets. There are additional configuration directives available, but only these specific ones have been used in the project.

Listing 8: High Availability Configuration

```
keepalive 2
deadtime 30
udpport 694
bcast eth0
node node1
node node2
```

Listing 9 shows the content of the file "haresources" where the master node is declared along with the actions that must be automatically executed once the server reactivates. The first value is the name of the server that will be the master in the heartbeat architecture, the second value is the global virtual server architecture IP address. The last value indicates which interface should be configured with this virtual server IP address. It is important that the "udpport" directive is defined before the bcast directive (as shown in Listing 9, otherwise the hearbeat will not start.

Listing 9: High Availability Resources Configuration

```
<name of the master server> IPaddr::<IP address to configure>/<physical interface>
```

Listing 10 is the authentication file. It stores a secret key that is used for server authentication of the heartbeat packets in the cluster cluster. This is necessary in order to avoid an attacker impersonating the heartbeat source.

Listing 10: High Availability Authentication Configuration

```
auth 1
1 sha1 SomeSuperSecretPasswordHere
```

The */etc/host* file defines the linux host's IP address and its domain name. Because the heartbeat configuration files use the names of hosts we must avoid the load balancer making a DNS request to find the IP address of each node, therefore we utilize the mapping between host name and IP address as provided in the host file to learn the IP addresses that should be used with the heartbeat. In this project this means that each one of the load balancers needs to have its IP address and name in the host file. Listings 11 is an example host configuration file. The host file is always located in */etc/hosts*.

To ensure that the */etc/hosts* mapping is used before attempting a DNS lookup, you must make sure that the file */etc/nsswitch.conf* contains the line: "hosts: files dns" as this instructs the name lookups to check in the */etc/hosts* file before doing a DNS lookup.

Listing 11: Host File Configuration Configuration

```
<node1 IP address>  node1.example.com node1
<node2 IP address>  node2.example.com node2
```

All the configuration files described in this section must be exactly the same in both servers in order that the same policies and configurations will be used. It is strongly recommend to add more that one connection for the heartbeat. A failure of the connection(s) between the load balancers may create a situation where both load balancers may be active.

Once the configuration files are placed on each server it is possible to try the heartbeat by taking down the virtual IP interface in the master server and then check after the deadtime if the slave server has autoconfigured the interface as described in the resources file configuration 9.

The configuration files described in this section can be found in the Appendix B, with a topology map indicating each interface and its IP address.

3.2.4.3 Network File System

Data integrity and consistency in a cluster is achieved by assuring that the information source is the same among all the servers. That is not possible with a local file system, because the information is not shared among the servers, different information can be stored in each server. Hence a network file system is needed. Network File System version 4 provides the prototype platform with a well documented, IETF standard network file system that can be used to store the web server data; i.e., htdoc files.

NFS utilizes a client-server architecture. There is one server that delivers the shared content from one of the clients. The NFS architecture consists of one server and one or more clients. In the "Leaf" project case, there will be one NFS server and as many NFS clients as web servers to form the web server cluster [0]. Note that there can actually be multiple NFS servers with each one having its own clients. The clients simply have to mount the file system provided by the NFS server

The configuration of NFS is based on a single configuration file where the shared folder, the permissions, and the IP addresses of the different NFS clients (i.e., web servers) that can access the server are declared. Figure 4 is a graphical representation of the final book streaming architecture. The NFS server exports the folder containing the EPUBs, the web servers are also the NFS clients which mount the NFS folder as subfolder in the web server *htdocs* folder.

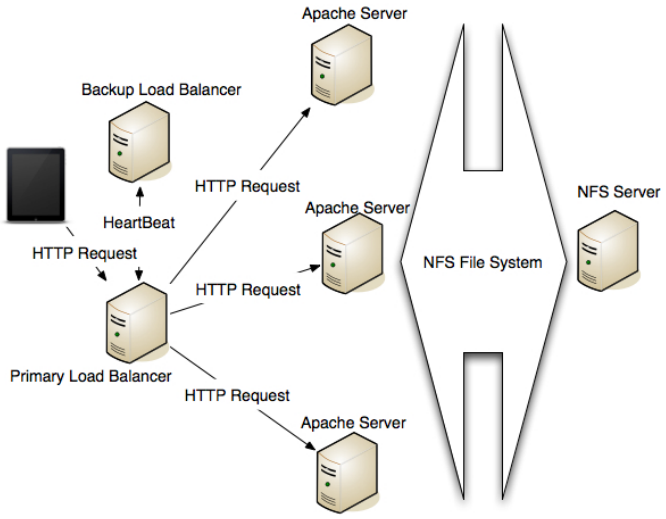


Figure 4: Book streaming infrastructure

NFS based file systems can be mounted in two different ways:

- **Soft mount**: avoids rebooting the NFS client in case of a NFS server failure[0]. If there is an error while the client is doing a file request, the client machine just report an error. Most of the services do not support this behaviour and therefore it can lead to corrupted files and data lost[0].

- **Hard mount**: is a mount type where the NFS client cannot continue regular operations without the NFS server. A hard mount hangs the program that is accessing the NFS mounted file system, when the NFS server recovers the program will resume its functionality[0]. In case of hard mount the client keeps on trying to access the NFS server even if the server is down, creating a high number of request that can lead to NFS client overload. It is possible to hard mount a folder, but specify the "intr" option which allows an administrator to unmount the NFS server in case of failure[0].

For the project we will use a hard mount, because it reduces the risks in case of an error in the NFS server and in case of failure of the NFS server the web server will stop serving the content. The mode is selected by adding the option in the NFS client configuration file, see Listing 12.

NFS must be configured on both, the server and the client side. Listing 12 illustrates the server configuration. The "export" config file is where the folders to be exported to the clients are described. As in all the configuration file there are several directives and this document only focuses on those that have been used. The first directive is the complete path to the server's copy of the folder to be exported. The second value is the IP address (or hostname) of the client that will mount the file. It is also possible to list more than one IP address (or hostname) after the NFS folder directive. In this project each NFS client is one of the web servers in the Web server cluster. Between brackets the mounting options are specified. In the Leaf project case the folder needs read permissions by all the clients, and it has to be owned by the Apache user and by the root group.

NFS has two big constraints in this architecture. The first one is more noticeable in NFS version 3 and previous. Each client has to contact the server for any kind of access to the files, which increases the load on the server and increases the access time to the file. To solve that NFS version 4 implements *delegations*. NFS delegations is one of the major improvements in the cache system for NFS version 4. The server can approve delegations for a files to a client. Then the client is able to operate on the file locally without the server's interference. There are two kinds of delegations: read or write delegations. Read delegations allow the delegation of file as long as there is no write from other client. Using the write delegation mode, the server can recall a delegation if the file is being read or written by any other client[0][0]. In this project the NFS exported folder will be read only in version 4. Therefore, the clients can locally cache the files and use them without increasing the server load. These delegations are the default in the NFS server, hence no extra configuration is needed.

The second limitation is also related with the cache. In case of a server or client reboot the client will lose the data cached by delegations, meaning that once it is rebooted everything must be cached again. There is no direct solution for this in the current NFS implementation, but other distributed file systems such as Andrew File System [0] feature off-line access to the files through local copy. A future improvement for the architecture could be researching the use of the Andrew File System as a substitute for NFS version 4.

In the Linux operating system both users and the groups are defined by a name and a numeric id. The NFS server uses the numeric ID to identify users and groups. Two options are required to announce to the clients the desired user ID and group ID: anonuid and anongid. It is important that the numeric id coincides in all the computers. The user id file is located in */etc/passwd* and the group file is located in */etc/group*.

Listing 12: NFS server exports configuration file

```
<NFS Folder local> <NFS client IP> (<options>)
```

Listing 13 shows an example line from the */etc/passwd* file. The first field is the user name and the third field is the user ID. Listing 14 is an example of the group file where the first field is the group name and the third field is the numeric ID of the group. In order to have a proper NFS cluster the group ID and the user ID must be populated automatically to all the clients. This assures that whenever a folder is mounted it is mounted using the same numeric ID in all the servers. That is why we choose to use the Network Information Service (NIS), which allows the project to use common ID values throughout all of the cluster. More information about how NIS has been configured for this purpose can be found in the next subsection (section 3.2.4.4).

Listing 13: Passwd example configuration line

```
www-data:x:33:33:www-data:/var/www:/bin/sh
```

Listing 14: Groups example configuration line

```
root:x:0:
```

On the client side there is only one file to configure: */etc/fstab*. The fstab or file system table is a file common to all Unix file systems. The main purpose of this file is to describe how the operating system should deal with each available file system, whether the file system is located on a disk, disk partition, memory, or remotely on the network. The configuration file identifies the file system to mount and where to mount it, as well as specifying different options. In the case of NFS something similar to what is shown in Listing 15 must be configured.

Listing 15: NFS configuration line in the Fstab configuration file

```
<NFS server ip>:/<remote NFS folder name>  <local NFS client folder>
nfs  <mount options>0 0
```

In our case the options will be *"hard"* and *"intr"* to force the hard mount mode with the possibility of interrupting the deamons accessing the file system in order to unmounting the file system. The NFS client and server configuration files can be found in the Appendix C. To actually mount all the file systems, the command *"mount"* is executed on the NFS client. It is possible to show the set of NFS mounted file systems using the command *"showmount -a"*. The server can be told to explicitly export the file systems using the *"exportfs"* command.

3.2.4.4 Network Information System

NIS also called Yellow Pages is a client-server service, to distribute some configurations files such as usernames, and user ids. In this project, the NIS server will be used to distribute a centralised passwd and group file. Therefore each client will not only have the same users as the server, but also each of these users will have the same user ID and group ID on all machines. Since this is really important to NFS we will configure NFS to make use of the NIS server.

The first thing to do is to assure that the NFS version 4 kernel is able to translate the user ID and group ID to name [0]. For this purpose the NFS version 4 tools suite includes the idmap daemon. The NFS mounts the folders as a user *"nobody"* and group *"nobody"*, and as mentioned before the desired outcome will be to have them mounted as the web server user and as the root group. That is why in both client and server we configure the *"/etc/idmapd.conf"* as it is showed in Listing 16

Listing 16: Idmapd.conf Configuration File

```
[Mapping]

Nobody-User =  www-data
Nobody-Group = nogroup
```

The next step after configuring idmap is running it on both server and clients. Once idmap is running it is time to configure the NIS server and later each one of the NIS clients that in this project's architecture are the web servers.

The NIS server configuration depends on one file */etc/yp.conf* where the IP address of the server and the domain name must be declared. The server is a server of itself, so it must be added as shown in Listing 17. The first field is the IP address of the NIS server and, the second field must be filled in with the server's name followed by the NIS domain name. The NIS domain name is a name invented to related all the computers that use the NIS server and it is not propagated outside the network. This same file must contain the same information in each of the clients.

Listing 17: yp.conf Configuration File

```
<server IP address>   <server name>.<NIS domain>
```

Once the NIS server is running, we create the associated authentication files by executing the command *"/usr/lib/yp/ypinit -m"* and after that restart the NIS service.

The client only needs one more modification to begin using the NIS service. The file *"/etc/nsswitch.conf"* which lists the order in which certain sources (such as passwd or group files) have to consult for a resolution. Appending the word "nis" at the end of each line as shown in Listing 18 and afterwards appending the NIS daemon will end the steps in NIS configuration.

Listing 18: nsswitch Configuration File

```
passwd:     files nis
shadow:     files nis
group:        files nis
```

The NIS server will be installated on the NFS server. Therefore, the web servers will be NIS clients and NFS clients at the same time that they are web servers. The appendix C about NFS includes a figure showing the final configuration.

3.3 Directory and Authentication

The directory service can be used for end user authentication. Separating the directory server from the rest of the services reduces the overhead and also allows us to centralise the authentication as a single service. Therefore, multiple services can use the same directory to perform authentication. The directory stores a username and password per end user. The use of a directory service also increases the security of the architecture as the user's passwords and other data are **not** stored in the web server, hence the web server can not possibly disclose the user's name or password and the web servers can be distributed about the network whereas, while the directory server can be located in a more secure place. An important advantage of this partitioning is that an attack on the web server can not compromise a user's personal data.

OpenLDAP, is an open source implementation of the Lightweight Directory Access Protocol based on the X.500 OSI directory standard [12][0]. OpenLDAP allows the "Leaf" project to use a well proven, open source directory service. It uses a client-server architecture, where the server is the OpenLDAP server and the client can run on devices that will authenticate using the directory. Similarly the OpenLDAP client can run in the web servers enabling them to authenticate the Leaf project user to the service.

Entries are the basic elements in the LDAP information model. Each entry represents a group of attributes that share a Distinguished Name (DN). As a distinguished name it uniquely identifies each entry. Each one of these attributes associated with an entry are defined by type and filled with one or more values.
LDAP is designed as a hierarchical tree structure where the roots of tree represent the more global

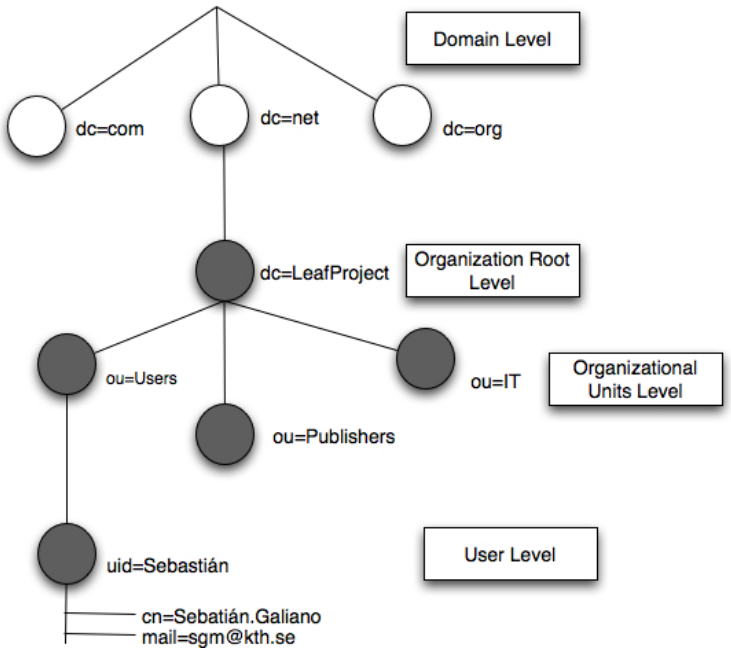


Figure 5: LDAP hierarchical tree architecture

representation of an organization and the top of tree the most specific types [0]. Figure 5 is an example of what a LDAP tree looks like below a domain based name. In this example the root is one of the domains that the company owns which might be located below: .com, .net, or .org. The next value in the tree is the name for each domain, in this case the "Leaf" project and inside each domain the different organizational units (Users, Publishes, IT). The data related to each user in each Organizational Unit (ou) is hanging from the attribute "ou", and is represented by different types of data: uid, mail, cn, and more. In order to refer to data inside of LDAP, one can use a Relative Distinguished Name (RDN). In order to refer to the user in figure 5 the nomenclature will be *uid=Sebastián, ou=users, dc=LeafProject, and dc=net.* The "dc" field stands for domain component. That is way there are two dc fields, one indicates the domain extension, and the other the domain name.

The types and values defined in the LDAP database will depend on what the application layer needs to perform authentication.

3.3.1 OpenLDAP Cluster Architecture

The OpenLDAP service is a light and fast database service. The data inside the database can be accessed in two ways: write or read access. Modifying personal data or creating new accounts requires write access while authentication and data access only requires read access. OpenLDAP allows one master server to have write and read permissions, and as many slave servers as desired; these are only able to access the data in read mode. This is done to maintain consistency in the database across the OpenLDAP servers.

An OpenLDAP infrastructure may have many masters and many slaves, therefore we have organized the servers as a cluster. The provider is the OpenLDAP client or server that provides information to a consumer and the consumer is the computer that retrieves the information can add this information to its local database. The consumer can later be a provider.

The provider and the consumer synchronise using the LDAP sync replication engine (syncrelp). This engine is installed on the consumer and allows the LDAP consumer to synchronise their shadow copy of a segment with the corresponding subtree of the provider's tree. The consumer performs these updates both by polling and timely updates after content changes[0].

In the polling configuration, also known as refreshOnly, the consumer requests the provider to synchronise the consumer with the modifications that have been made in the provider's tree. The consumer requests in each poll contains a cookie that the provider uses to know which information is relevant to synchronise. Push synchronisation is also supported by the refreshAndPersist mode. In this case the provider keeps tracks of which servers have requested this mode and sends them updates as information is modified in the providers. Synchronisation using syncrlp is object based, meaning that for each end object all the types and values will be sent , rather than only the modified values in each object[0].

In the "Leaf" project, authentication is only a small part of the overall architecture. OpenLDAP will use a DNS load balancing approach to reduce the complexity of the OpenLDAP architecture, while offering good performance for the project's main goals. Dispatcher load balancer, is better solution to share the load among servers. But due to the fact that OpenLDAP is a really fast service, and also is not one of the core services in the platform, DNS load balancing is good enough for the platform purposes. Unfortunately, the OpenLDAP documentation reports that using a multi-master cluster configuration may lead to corrupted data[0], therefore we need to consider what we should do to avoid this problem. Figure 6 illustrates the OpenLDAP architecture as it will be used for the Leaf Project.

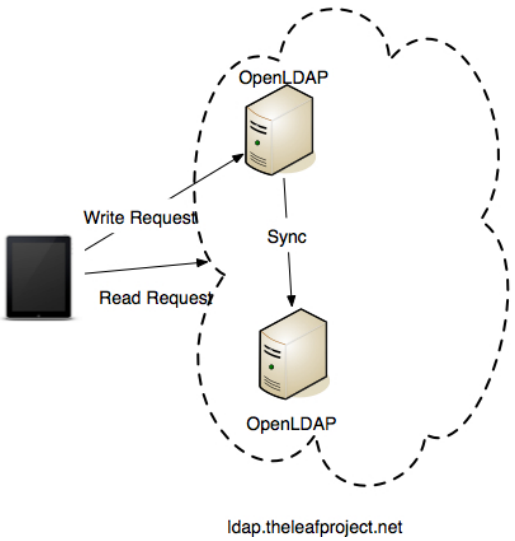


Figure 6: OpenLDAP infrastructure

3.3.2 OpenLDAP Configuration

The OpenLDAP configuration uses two configurations files. The *"slapd.conf"* and the *"ldap.conf"*. The configuration file "ldap.conf" is used to establish system-wide defaults that will be used by all the clients inside the operating system. The configuration file "slapd.conf" defines the configurations options for the OpenLDAP server. The service configuration will reflect the previous domain name structure commented in section 3.3. The base domain name will be *dc=theleafproject, dc=net* and there will be two organisational units: Users and Publishers.

The configuration file "ldap.conf" will need to define the *BASE* as showed in Listing 19.

Listing 19: Base Field for the ldap.conf file

```
BASE    dc=theleafproject,dc=net
```

The server configuration file ("slapd.conf") requires us to define the access control list rights for the database and the admin user. The access control list entries are defined by the command *access to*, followed by the attribute to apply the permissions to, the user that will have permissions regarding that attribute, and which kind of access level is granted for that OpenLDAP object. There are eight possible access levels:

- **none** forbids all access.
- **disclose** grants access to the information in case of error.
- **auth** provides authentication access.
- **compare** allows comparisions between OpenLDAP objects.
- **search** permits a user to apply search filters over the OpenLDAP object.

- ▷ **read** enables the selected user to read the results of a search.
- ▷ **write** allows the user to modify OpenLDAP objects.
- ▷ **manage** gives total control for management to a user.

An example of an access list to the attribute password is shown in Listing 20. That Listing 20 shows that the attribute password can be used by anybody to authenticate.

Listing 20: OpenLDAP access list to the Password attribute

```
access to attrs=userPassword
        by * auth
```

In our project we want the users to be able to authenticate themselves directly from the web. However, creation of any new data will only be possible through the admin user. That has to be reflected in the access list. The full configuration file can be found in the Appendix D.

After configuring the OpenLDAP server, it is time to fill it with the data that creates the organisation inside the OpenLdap. The organisation inside the OpenLDAP is created using text files called *"ldif"*, with a specific structure. The "ldif" files define first each step on the tree structure by using schemas. The schemas define the attributes and objects that are contained in an OpenLDAP. For instance, the default schemas in the OpenLDAP installation define the object "organizational unit", "person", and attributes such as "mail" or "Password". The schema places the attributes and objects in a hierarchical tree manner, such as the one showed in figure 5 on page 29. Listing 21 is the "ldif" file used to create the ldap structure for the project. The Listing first 21 creates the base of the tree and then specifies the two organizational unit branches: Users and Publishers. It ends with the definition of two initial users for each branch.

Listing 21: Ldif file

```
dn: dc=theleafproject,dc=net
objectClass: dcObject
objectClass: organizationalUnit
dc: theleafproject
ou: theleafproject dot net

#Regular Users branch
dn: ou=Users, dc=theleafproject,dc=net
objectclass: organizationalUnit
ou: Users

#Publisers Users branch - Upload Rights
dn: ou=Publishers, dc=theleafproject,dc=net
objectclass: organizationalUnit
ou: Publishers
\pagebreak
#BasicUser (Leaf of the LDAP tree)
dn: cn=Sebastian Galiano, ou=Users, dc=theleafproject,dc=net
objectclass: person
cn: Sebastian Galiano
sn: Sebastian
```

```
userPassword:{SSHA}v1pngWBTA399vhFjLIs1VGzWlm27AsMP

#PublisherUSer (Leaf of the LDAP tree)
dn: cn=Penguin, ou=Publishers, dc=theleafproject,dc=net
objectclass: person
cn: Penguin
sn: Penguin
userPassword:{SSHA}v1pngWBTA399vhFjLIs1VGzWlm27AsMP
```

The user password is encrypted using the tool *"ldappasswd"* and the data is loaded inside the OpenLDAP server using the command *"ldapadd"*. It is possible to modify the data by creating another "ldiff" an using the *"ldapmodify"* command.

This basic configuration will enable OpenLDAP to act as a single server. Section 3.3.1 noted that the OpenLDAP architecture for the "Leaf" project will be a master/slave architecture where the master server will have read and write permissions and the slave only read permissions. For that purpose the "slapd.conf" file in the master server must add some fields to allow the synchronisation between servers. Listing 22 shows the fields to add in the *"slapd.conf"* master configuration file, while Listing 23 shows the fields in the slave server's *"slapd.conf"*. The selected method of synchronisation is the push synchronisation, which is the "refreshAndPersist" mode [0].

Listing 22: OpenLDAP Master Server Synchronisation fields

```
overlay syncprov
 syncprov-sessionlog <size>
```

The field *"overlay syncprov"* in the master's configuration file activates the synchronisation mode. The other two fields manage the checkpoint creations and the size of the session log. The field "syncprov-sessionlog" determines the maximum number of session log entries that can be stored[0]. The session log stores information about the write operations that has been done to the master. Also the master should have an special access control list entry in order to allow the sync user to read the directory content.

Listing 23: OpenLDAP Slave Server Synchronisation fields

```
 syncrepl rid=000
          provider=ldap://<OpenLDAP master server hostname><port>
          type=refreshAndPersist
          searchbase=
          scope=sub
          attrs=<attritbutes to synchronise>
          bindmethod=simple
          binddn=<synchronise user>
          credentials=<password>
```

The slave server configuration file needs the OpenLDAP master server's hostname, the attributes to synchronise, and the user and password of the user who will manage the synchronisation between

master and slave. The complete configuration files can be found in the appendix D.

It has been mentioned that the OpenLDAP cluster will only have read access and that requests to the OpenLDAP server will be spread over the servers by a DNS load balancing method. This means that there will be three domain names for the OpenLDAP architecture. Each server (master and slave) will have one domain name, and there will be at third domain name that will represent both servers. Then from the application layer the write request must be sent to the domain name with write permissions and all the requests related with authentication or reading should be sent to the domain name that represents both servers. (Figure 19 in the Appendix D on page 65 shows the final architecture design for the OpenLDAP service).

The Apache web server will use OpenLDAP to authenticate users. The publishers will use a PHP form login to authenticate to OpenLDAP through the web while the users will access the content through and HTTP authentication configured in the Apache web server. The HTTP authentication is an authentication method to permit a web browser or any other HTTP client to provide user credentials in order to access content [0][0][0]. HTTP authentication takes places *before* any HTML code is executed, therefore the Apache web server has to be configured to use OpenLDAP as the authenticator. Appendix A contains the Apache configuration for the OpenLDAP authentication, as well as the PHP code for the web based OpenLDAP authentication.

3.4 Database

The relational database in the "Leaf" project will deliver to the service the data related to books, and any other information that is worth storing. Is not the aim of this project, to design a new database, rather the objective is to build a infrastructure that will serve the required data that is stored in a database.

Similar to other services in this document the database is a client-server architecture, where the client requests information and the server replies with the requested information. There are several relational databases that could be used, but the project will focus on the two most widely used databases in the open source world: MySQL and PostgreSQL.

The guidelines of the project are to achieve high performance and high availability when possible, therefore it is desirable that the service supports a cluster based implementation of the service. This is even more desirable when the service is critical for the platform, as is the case in this thesis project for both the web server and the database.

It is difficult to select between PostgreSQL and MySQL. Specialist, blogs, and articles have been written about this topic [0][0]. It seems that PostgreSQL has focused on offering as many features as possible, while MySQL focuses on being as fast as possible. However, each tries to catch up with the other alternatives in terms of features. From a clustering perspective both databases support clustering; MySQL directly with MySQL cluster and PostgreSQL with different software depending on the aim of the architecture. While looking for information about load balancing clustering, it was impossible to find a clear guide of how to create a load balanced cluster for MySQL, while it was easy and clear for PostgreSQL. As there is a clear description of how to create a load balanced cluster using PostgreSQL the datbase server selected for this project will be PostgreSQL.

3.4.1 Configuration and Creation of the Database

PostgreSQL uses two main configuration files. One for the general configuration and the other one for the access list configuration. The general configuration file has many possible directives that can be used to tune the service. This thesis project only focuses on the basic configuration necessary to make the database work properly. There are two important parameters to modify from the default *"postgresql.conf"* file (see Listing 24). The first one concerns to which IP addresses the server will listen and the second one activates password encryption to avoid revealing plain text versions of passwords. To limit the addresses that will be listened to, PostgreSQL enables the operator of the database to determine from which external and internal network interfaces requests can be made to access the database. In the Leaf project the only servers that should be able to access the database are the webservers. This restriction means that Federico Enni's Android application [9] will communicate with the webserver to retrieve data, rather than directly accesing the database. This decision was made for security reasons, as accessing the database from outside the infrastructure network implies access to data such as the database username and password, database name server, or database IP address. Restricting access to the web servers avoids exposure of the database to the Internet.

Listing 24: Postgresql.conf basic configuration parameters

```
listen_addresses = <Allowed IP addresses>
encryption = on
```

PostgreSQL also provides a configuration file (*pg_hba.conf*) to configure an access control list. Using this access control list is possible to control who and from where it is possible to connect to the database.The first two lines of Listing 25 shows how to permit local connections to the database, thus it is possible to modify and query the database locally. Following this there is one line per web server that is added (which includes the IP address of each server) so that these web servers can connect to the PostgreSQL database (as the PostgreSQL user).

Listing 25: pg_hba.conf configuration example

```
local   all         all                                 md5
host    all         all         127.0.0.1/32            md5
host    <allowed database>        <allowed user>          <allowed IP address>
                md5
```

To access the database there must be a user who has access rights to the database, thus we have created an a specific user to access the database. By default PostgreSQL provides a user who have administrator rights, therefore if that user is compromised, then all the database could be modified. Therefore, in our project we have create a specific user that will access the database and this specific user will not have privileges to access the rest of the system.

Once that the service is up and running it is possible to create a database and a user. It is important to execute in the PostgreSQL environment as the postgres user. This is shown in Listing 26

Listing 26: Entering the PostgreSQL environment

```
$sudo - postgres
$psql
```

Once inside the PostgreSQL environment the commands shown in Listing 27 show how to create a user, how to create a database, and how to grant access to the desired user to the selected database.

Listing 27: PostgreSQL database and user creation

```
postgres=# CREATE USER <username> WITH PASSWORD <password>;
postgres=# CREATE DATABASE <database name>;
postgres=# GRANT ALL PRIVILEGES ON DATABASE <database name> to <username>;
```

Databases are divided into tables of columns. Each column represents a value associated with a row in the table. Each table represent an abstract group. During the design of the database Federico Enni and I decided to create a database for the whole project that would include at least two tables: one for users and another table for books.

Each table has different columns. These column were need by Federico Enni for his Android application or by the scripts in the server in order to provide the data necessary for the desired service [9]. In the book table these values refer to the name of the book, the publisher of the book, the language the book is written in, and the name of the author(s). All of these describe the book. Additionally there is a unique ID for each book, a filename to identify the book's summary, and an a navigation file pointer known as ncx. Each one of these columns has a different type depending on what values are to be stored. Long values are stored as text, which is a character based type with unlimited length [0], the rest of character type data are stored in a variable character type with a limited length. The ID value is a integer value which is declared as a primary key. The primary key uniquely identifies the values in a table, thus avoiding duplicates for this entry. Also the ID integer is not a regular integer, but rather is a sequential integer, this type of integer increase its value monotonically and automatically. This way we know that the ID will automatically auto-increase, hence the IDs will be unique.

Listing 28 shows how to create a table and the columns, while Listing 29 is an example of the final books table view. This data definition defines the attributes of each book.

Listing 28: PostgreSQL table and columns creation

```
postgres=# CREATE TABLE <tablename> ( <column name>  <column type>, <column name>  <
    column type>,...);
```

Listing 29: Books table composition

```
id          | integer               | not null default nextval('books_id_seq'
    ::regclass)
title       | text                  |
author      | character varying(50) |
description | text                  |
cover       | character varying(20) |
publisher   | character varying(50) |
filename    | character varying(50) |
language    | character varying(15) |
ncx         | character varying(50) |
```

3.4.2 PostgreSQL and Load Balancing

PostgreSQL is an open source object-relational database system. PostgreSQL conforms to the ANSI-SQL:2008 standard and claims to be full featured [13]. PostgreSQL itself does not support load balanced clustering, but rather can utilize middleware that works between the PostgreSQL client and database. Among the different middleware available is pgpool-II [0] the only middleware that supports load balancing. Pgpool-II provides the following features:

- **Connection Pooling** allows PostgreSQL servers to save and re-use connections. This is similar to the method that Apache uses with processes. When a connection uses the same properties it can be re-used, thus reducing connection overhead.
- **Replication** permits pgpool-II to control more than one PostgreSQL server. Replication creates data backups on different physical disks so in the event of a disk failure the server will not stop and will always have all of the data.
- **Load Balancing** functionality takes advantage of the replication feature of PostgreSQL to reduce the load on each of the servers that form the PostgreSQL cluster. Each time a query comes to the cluster the load balancer distributes the query among the servers currently in the cluster.
- **Limiting Connections** creates a limit on the number of concurrent connections that can be allowed by PostgreSQL.
- **Parallel Query** divides data among the PostgreSQL servers. Then, each query can be processed by all the servers in parallel, hence reducing response time.

To achieve all these features pgpool-II relays queries between the PostgreSQL client and the server. The client believes that pgpool-II is the real server and the server thinks that pgpool-II is a client. This transparency allow the use the PostgreSQL database *without* changing the server's source code.

The PostgreSQL cluster is a master-slave based cluster. One of the servers is the master and it can read and write the database; while the slaves can only read the database. This ensures that the data is not corrupted as there is only one writer. Every time a change occurs in a PostgreSQL database a Write Ahead Log (WAL) file is modified or created [0]. The WAL files store the information related to modifications within the database. Thanks to replication, these files can be sent between PostgreSQL servers to recreate the changes in each of the slave servers. PostgreSQL 9 and pgpool-II support

streaming replication. Streaming replication allows the PostgreSQL master to asynchronously send WAL files, while the WAL files are being generated [0]. Even though there is a small delay when streaming, this delay is much less than that of waiting for the creation of the next WAL file (typically 16MB) and then sending the whole WAL file.

All these features allow the database service to accomplish the goals of the "Leaf" project. The content inside the database will support Federico Enni's project. Figure 7 shows the PostgreSQL infrastructure for the Leaf Project

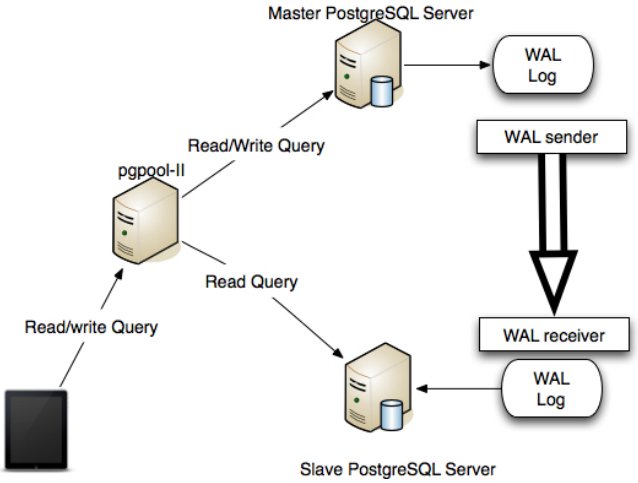


Figure 7: PostgreSQL infrastructure

3.4.3 Load Balancing and Cluster Configuration

PostgreSQL master/slave configuration through streaming replication depends on the correct configuration of the *"postgresql.conf"* files of both servers (master and slave). The correct configuration of master and slave will activate streaming replication which will replace the regular replication provided by pgpool-II.

First of all, in the master server the *"pg_hba.conf"* file we must add a new line to accept replication. This new line will accept replication from the IP address of the slave and from a privileged database user. After modifying the *"pg_hba.conf"* is time to modify the PostgreSQL main configuration file, *"postgresql.conf"*. In this file, the WAL level must be set to hot_standby, and set the maximum number of wal sender to the number of maximum number of expected slave servers. A base backup must be created and sent to the client in order to assure that all the servers will have the same initial data. For that purpose the PostgreSQL WIKI on streaming replication provides a script [0]. On the slave side, the *hot_standby* field in the *postgresql.conf* file must be on. Beside that, a configuration file called *recovery.conf* must be created in the directory where the database is stored. That configuration file states that the server is in standby mode, and defines who is the master server (i.e., primary server). A detailed view that configurations is located in the Appendix E.

To finish the cluster configuration the pgpool-II proxy must be configured to control the load balancing. In the pgpool-II configuration file (*"/etc/pgpool.conf"*) the important fields are the port

for pgpool-II to use, the replication mode field, the load balancing mode field, the master/slave mode field, the master_slave_sub_mode field, and the declaration of each one of the nodes that the pgpool-II proxy is going to control. The declaration of these nodes must establish the hostname of each node, the port, and the weight. The most important fields in pgpool-II configuration file are shown in Listing 30, the final configuration file is located in the Appendix E.

Listing 30: Key Fields for the pgpool-II Configuration File

```
port = <port number>
replication_mode = false
load_balance_mode = true
master_slave_mode = true
master_slave_sub_mode = 'stream'
backend_hostname0 = '<hostname>'
backend_port0 = <PostgreSQL port>
backend_weight0 = 1
backend_hostname1 = '<hostname>'
backend_port1 = <PostgreSQL port>
```

4 Performance test

In section 3.2, two possible alternatives to improve the Apache web server performance were named: Varnish web accelerator and CDN usage. This chapter describes the tests that were made of both tools. From the results of these tests we will select the most appropriate one. Apache Jmeter is the tool selected for performance testing. Apache Jmeter is an open stress and performance tool designed to create high traffic loads and to obtain human readable results.

4.1 Jmeter

System testing must utilise a tool that allows great control and gathers data automatically. The selected tool is Apache Jmeter [2]. This software is part of the Apache Software Foundation project and it is able to perform both stress and performance tests over a large system. Jmeter allows configuration of the tests through scriptable samplers and timers, and additionally offers multi-thread support [2].

The steps necessary to launch a test are defined in a test plan. Each test plan can consist of one or more threads running simultaneously. Each thread is a combination of samplers, timers, and other Jmeter elements. There are several Jmeter elements:

- A **Thread Group** is the basic element, all of the other elements have to be inside a thread group. Different threads emulate different concurrent connections to a server. The thread group is defined by the number of threads and the "Ramp-up" period, this period defines how much time it will take to Jmeter to launch all the threads. For instance, 20 threads in a 200 seconds ramp up period results in each thread starting 200/20 seconds after the previous thread started. Usually the ramp-up is a long period in order to initially load the server and to enable the server to create the necessary child processes that it would be running in a steady state.
- **Controllers** there are two kinds of controllers: Samplers and Logic Controllers:
  - **Samplers** are the elements that create a request for a server.
  - **Logic Controllers** established the logic to sent a response to the server.
- **Listeners** display and arrange the information gathered by Jmeter.
- **Timers** add time delays between and over different elements.
- **Assertions** allow checking if the server's answers are the expected answers.
- **Configuration Elements** modify configurations in the samplers.
- **Pre-Processor Elements** modify samplers before its execution.
- **Post-Processor Elements** execute an action after the sampler request has been sent.

The combination of these elements in a test plan creates a a model that can be run against a system in order to evaluate its performance. Part of effort was to design a simple test plan to test the performance of the Varnish solution versus a CDN. Figure 8 shows an example of what a test plan looks like.

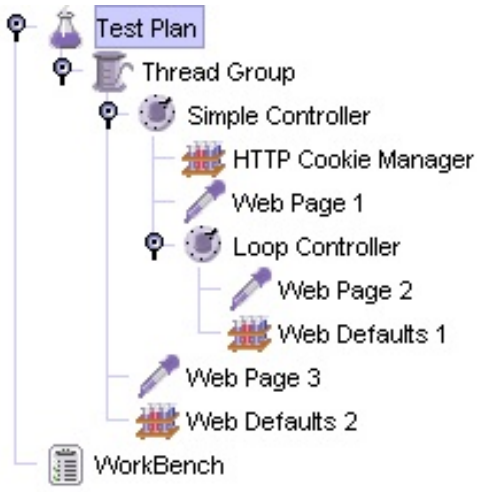


Figure 8: Jmeter Test plan example[2]

4.2 Test and Results

4.2.1 Test Bed Description

The different performance tests will be executed from a Macbook 5.1 (equiped with 2.4Ghz Intel Core 2 Duo, with 4 GB of RAM). The laptop is running MAC OS X 10.6.7 operating system. The software to launch the tests will be Jakarta JMeter version 2.4. The test will be launched from Groningen (in The Netherlands) using a cable Internet service provider with a download speed of 30 Mbps and an upload speed of 3 Mbps.

The tests will be executed against a computer equipped 4 cores Intel Xeon processor at 2.8 Ghz with 2GB of RAM. The operating system of this server is OpenSuse version 11.2, the Apache version is 2.2. The server is located at KTH Kista campus

4.2.2 Tests Description

The test's objective is provide us with information in order to decide between using a CDN or the Varnish web accelerator for the "Leaf" Project. For this purpose, three tests will be executed. The first test will evaluate the performance of the Apache web server without either of the two tools that we wish to test. The second test will evaluate the performance of the system when augmented with the Varnish software and the third test will evaluate the performance of the Apache web server when used together with the CDN.

The aim of the testing is not stress the underlaying platform, but to identify the difference in performance between CDN and Varnish. For that purpose five different trials will be launched for each different test. Each trial will increase the load in steps of fifty threads, and the ramp-up period will be the same for all the trials. The fact that the ramp-up period remains intact means that the last trial (250 threads) will be the most stressful for the server. The ramp-up period will be 50 seconds, and the number of threads will vary from 50 to 250 threads. At the end of each trial the Apache server will be restarted and started with a small trial(50 threads in a 50 seconds ramp-up period) in order to create Apache processes.

Jmeter gathers the response time for each request and the global response time. The global response refers to the response time for all the requests in a thread. The test thread will consist on thirty four requests. For each trial we will evaluate the global minimum response time, the global maximum response time, and the global average response time. Beside the Jmeter measures, the tests will be monitorized using monitoring tools: *iostat* to check the disk performance, *sar* to check the CPU performance, and *top* and *ps* to monitor the Apache process. The Jmeter results and the *iostat* and the *sar* monitor results can be found in the Appendix F.

Jmeter is not able to read the structure of an EPUB therefore the tests will be against a regular web page that will contain the book *"Alice's Adventures in Wonderland"* (commonly known as Alice in Wonderland) by Charles Lutwidge Dodgson (Lewis Carroll) from the Gutenberg Project. This book contains several images that will be used to evaluate the web server's performance with static content.

4.2.3 Apache Only Test

The first set of test were against the Apache Server without Varnish or CDN. Table 1 shows the average time, the minimum time, and the maximum time for each one of the different trials inside the tests: 50 threads, 100 threads, 150 threads, 200 threads, and 250 threads. Figure 9 graphically shows the average of the values in the table 1. The figure shows a big gap between the average and minimum response time and the maximum response time. During the tests the number of Apache process increased from twelve process in the case of fifty threads to up to twenty eight process for the two hundred fifty threads. Note that each of the trials was repeated three times.

Table 1: Apache Test Results

	Average time(ms)	Minimum time(ms)	Maximum time(ms)	#Apache processes
50 threads	94	54	260	12
	95	49	274	12
	94	54	288	12
100 threads	105	49	411	16
	90	48	292	16
	102	51	363	16
150 threads	95	50	356	19
	98	48	460	19
	95	52	388	19
200 threads	100	49	411	22
	95	49	398	22
	96	48	390	22
250 threads	112	50	679	28
	95	49	398	28
	91	50	508	28

Figure 9 does not show what is the relation between the number of process and the response time. Where the response time is the time that the server takes to process each request. Figure 10 is a

representation of the average, minimum and maximum response times in a more linear disposition. In the figure 10 is easier to see that the average response time and the minimum response time are independent from the number of threads. Being the graphic representation an straight line. On the other hand, The representation for the maximum response time steep up when the number of threads increases. The equation for that graphic represents the how does the response time is affected by the number of threads. The R squared coefficient or coefficient of simple determination represents the percentage of variation in the response time that is related to the number of threads.

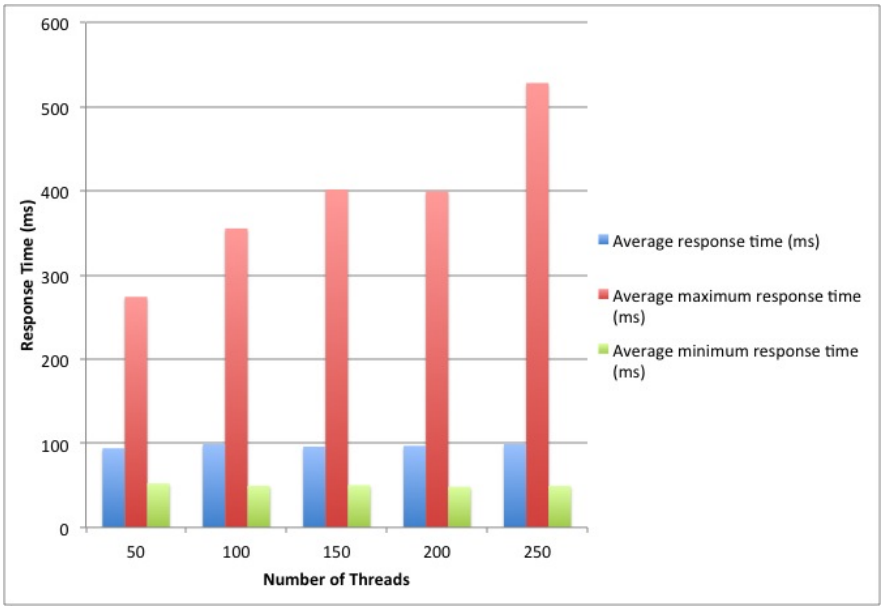


Figure 9: Average Response Time for Apache Only Tests

The results in figure 10 show that meanwhile the load is low the system can keep up with the requests but once the number of threads increase the system has to queue the requests and then the response time increases. The response time then is not only the transmission time and the process time but also the time that the request pass in the queue. The relation between the response and the number of threads is more determinant in the maximum response time as the different values in the graphich are linear.

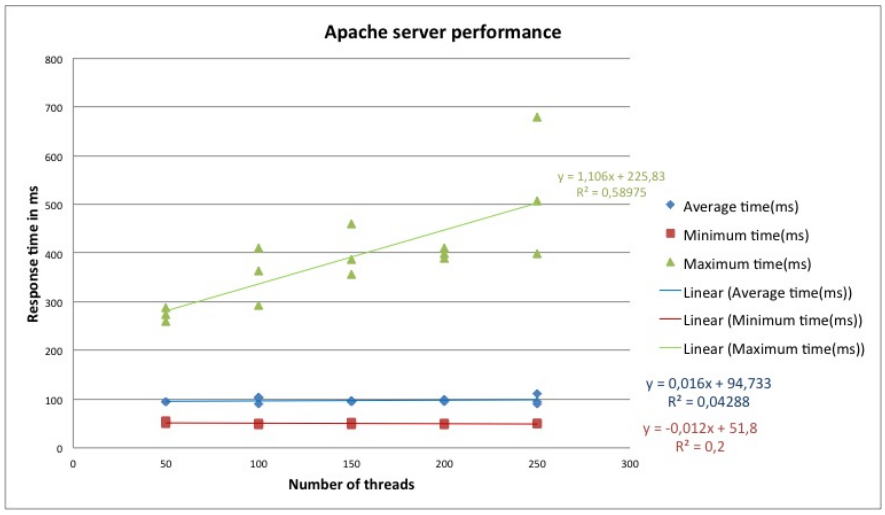


Figure 10: Linear Representation of the Average Response Time for Apache Only Tests

4.2.4 Apache + Varnish Test

The second set of tests evaluates the performance for the Varnish Web Accelerator. Table 2 shows the average response time, the minimum response time and the maximum response time for each one of the different trials. The overall response time are lower than the "Only Apache" mode as figure 11 shows. As can easily be seen in figure 11 the maximum response time has decreased to close to three hundred milliseconds , the average response time is roughly sixty milliseconds instead of 94 ms, and the minimum response time is slightly better (at $\sim$ 45.4 ms versus 51.8 ms). With this values seems that the Varnish mode really accelerates the web server performance.

Compared to the "Apache only" mode, the Varnish enabled server uses only seven processes during all the trials. Varnish only creates new Apache processes when new requests come. The requests in the tests were always the same, therefore, Apache only created one more process from the initial state and all the requests were served by Varnish. It is possible to add new requests to the test and see how the number of process increases. In this set of trials, the number of processes created by Apache is lower than the number of Apache processed created when Varnish was not present. Meaning, that the Apache server could handle a lot more simultaneous users.

In summary, Varnish offers a faster response time as well as reduces the number of Apache processes for the same number of threads requesting the same content.

Table 2: Apache+ Varnish Test Results

	Average time(ms)	Minimum time(ms)	Maximum time(ms)	#Apache processes
50 threads	69	46	238	7
	63	46	175	7
	57	46	123	7
100 threads	61	45	231	7
	66	46	257	7
	60	46	158	7
150 threads	56	46	128	7
	58	46	235	7
	62	46	210	7
200 threads	58	47	134	7
	59	46	186	7
	62	46	186	7
250 threads	66	47	197	7
	71	47	257	7
	67	47	257	7

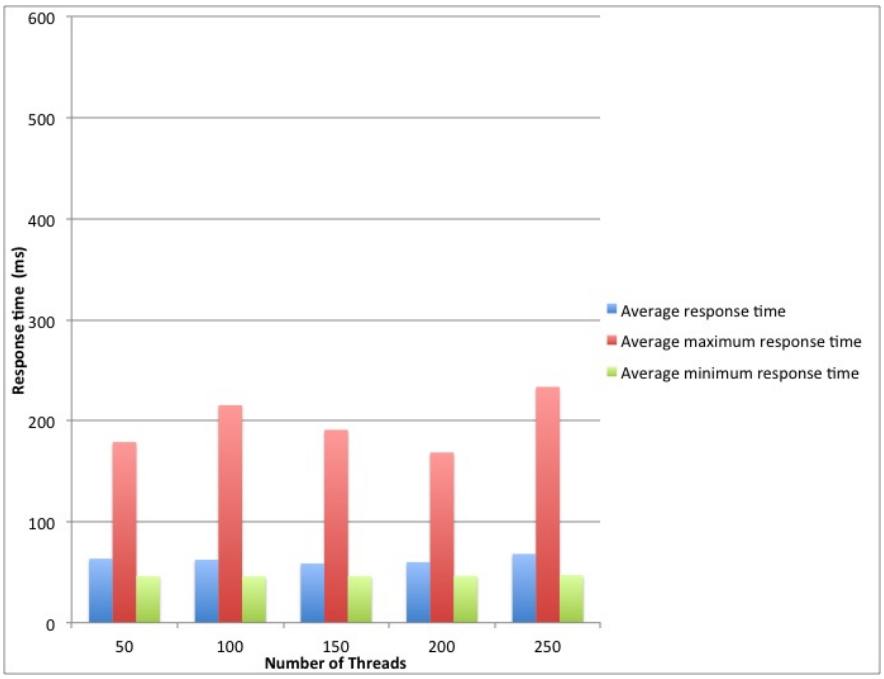


Figure 11: Average Response Time for Apache + Varnish Tests

The Figure 12 is a linear representation of the results presented in the table 2. Just like in the previous test the minimum and average time is not affected by the number of threads. However, comparing the maximum response time between the Varnish enable in the figure 12 and the Apache Only mode 10, one can observe that the difference in values of the correlation factor. This is because the values in the Varnish mode do not have so much relation between the number of threads and the response time. In fact, observing the maximum response values in the table 2, it is possible to observe

how the values are around 200 milliseconds independently of the number of number of threads. The Varnish web cache replies the response really fast as it has them cached reducing the waiting time per request and therefore reducing the queue size.

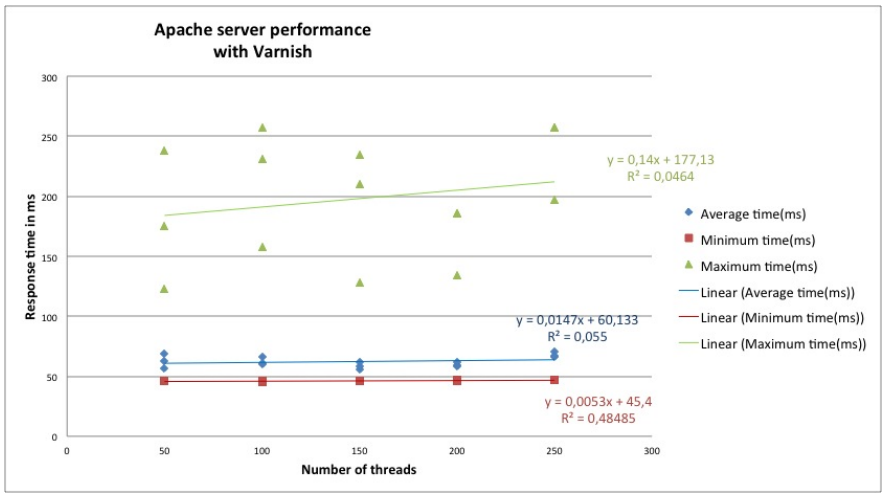


Figure 12: Linear Representation of the Average Response Time for Apache + Varnish Tests

4.2.5 Apache + CDN

The CDN configuration was based upon changing all of the URLs in the static contents of the HTML pages to redirect the URL to the CDN. Creating a rule in the Apache configuration would require the Apache server to still process each request. Therefore, the Jmeter Test was modified to redirect all the static resources request to the CDN. The selected CDN was Coral[0], and the URLs were appended with "nyud.net".

The test was quite disappointing. Only the fifty threads test was performed due to the fact that the quality of this "free" CDN is poor. The performance results shown in table 3 are unacceptable and not close to the expected quality of service. Unfortunately, this master thesis project does not have a budget to sign up with a real CDN. We assume that a real CDN could significantly improve the performance in terms of response time. In terms of the number of processes, the CDN solution is pretty similar to the Varnish mode. The static content is served by the CDN and HTML content is served by the Apache server. The number of processes created will be lower, but the unlike the Varnish mode where everything is cached, here the HTML content will require that the Apache server create more and more processes as the number of threads increase. Figure 13 shows how bad the results were for the fifty threads test. The average response time was over one second compared to the other two tests where the average response time was around fifty milliseconds.

Table 3: Apache + CDN Test Results

	Average time(ms)	Minimum time(ms)	Maximum time(ms)	#Apache processes
50 threads	1395	302	3347	8
	992	594	2707	8
	750	363	5109	8

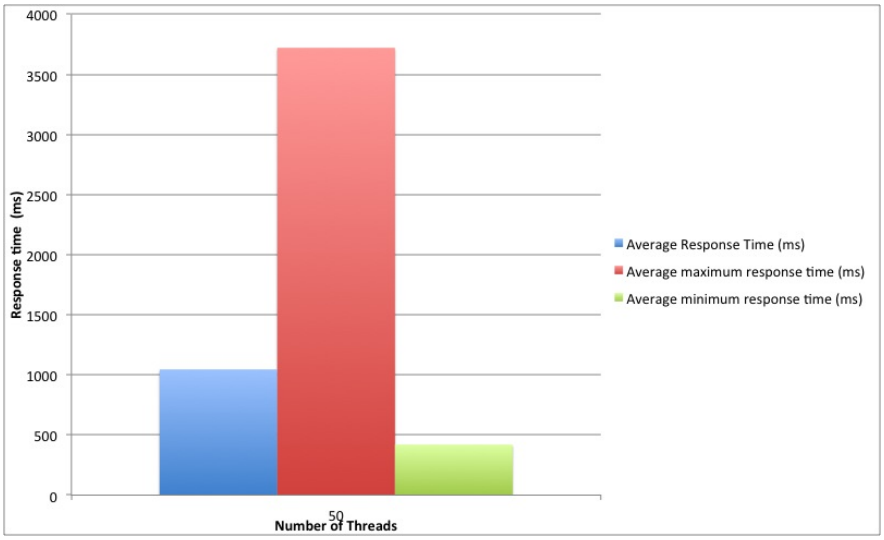


Figure 13: Average Response Time for Apache + CDN Test

4.3 Performance test conclusion

After testing the three solutions, the Varnish enable service seems to give better results not only with respect to time but also in stability. The CDN enable service seems to improve the stability of the service, but it will be important to evaluate the different available CDNs and choose an appropriate one based on its performance (and price).

Varnish is not only better in terms of process load and response time, but also in terms of CPU usage. During the test, the CPU usage has been monitored (the data from monitoring each trial can be found in the Appendix F). The analysis of the data became interesting in the 250 threads trials. During this trials with 250 threads, the server is more stressed than in the others tests as seen in the appreciable CPU usage, while in the other tests the CPU is mostly idle.

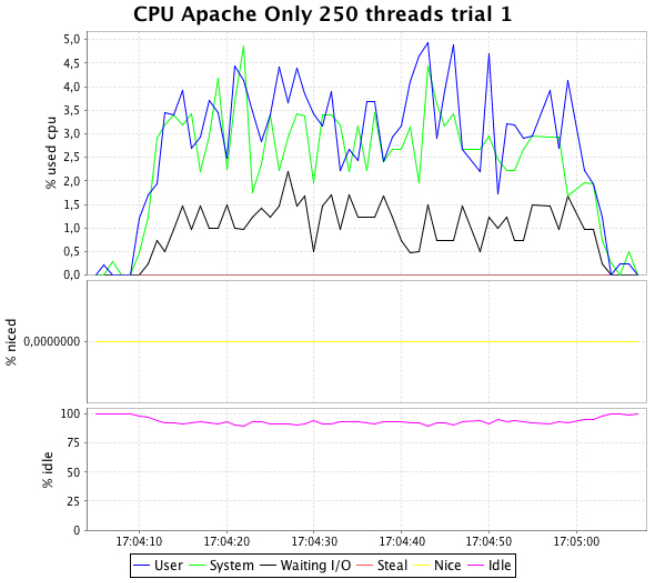
Figure 14 presents the results of the 250 threads trials of the web server without Varnish, while the figure 15 presents the corresponding results when testing the web server while using Varnish. The most important values in the figures are:

%User: is the percentage of CPU utilisation used while executing an application (user level)

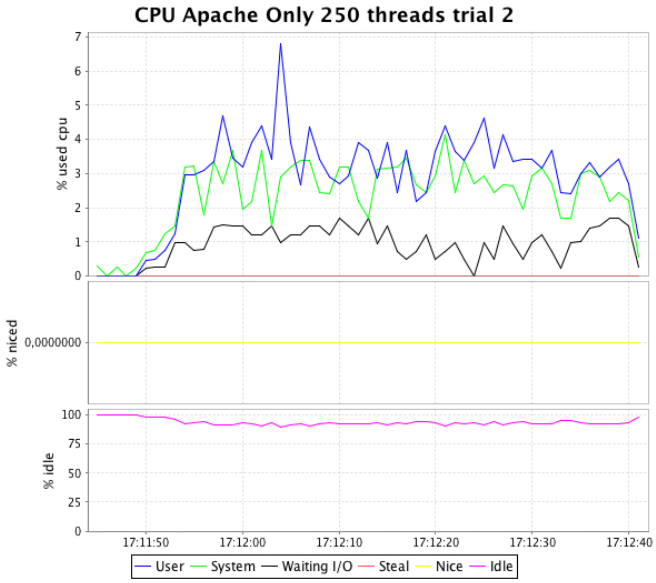
%System: is the percentage of CPU utilisation used while executing kernel related process (system level).

%Waiting I/O: is the percentage of time that the CPU were idle or blocked during waiting for an I/O request to be completed.

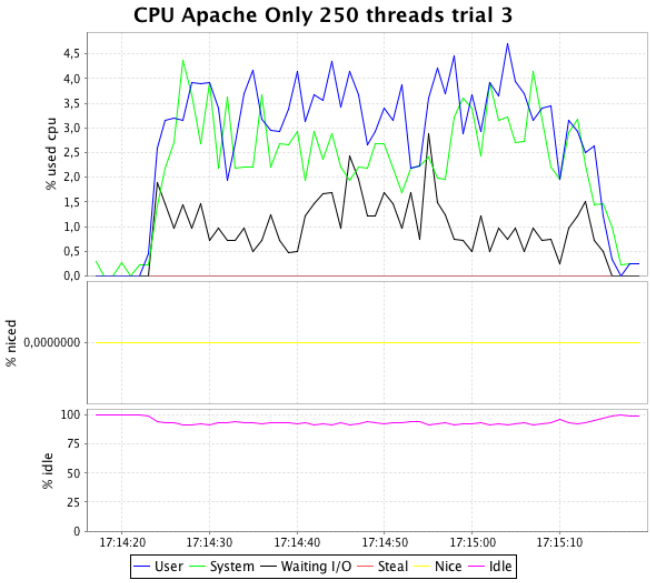
%Idle: Percentage of time that the CPU is idle.



(a) Apache Only 250 threads CPU Usage trial 1



(b) Apache Only 250 threads CPU Usage trial 2

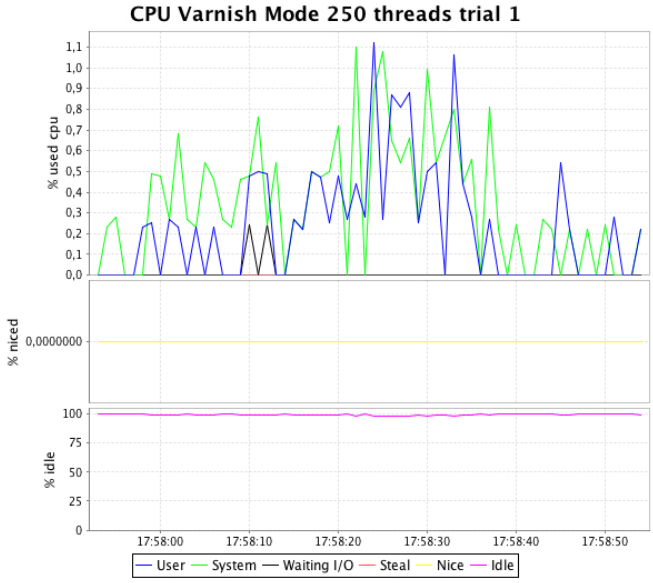


(c) Apache Only 250 threads CPU Usage trial 3

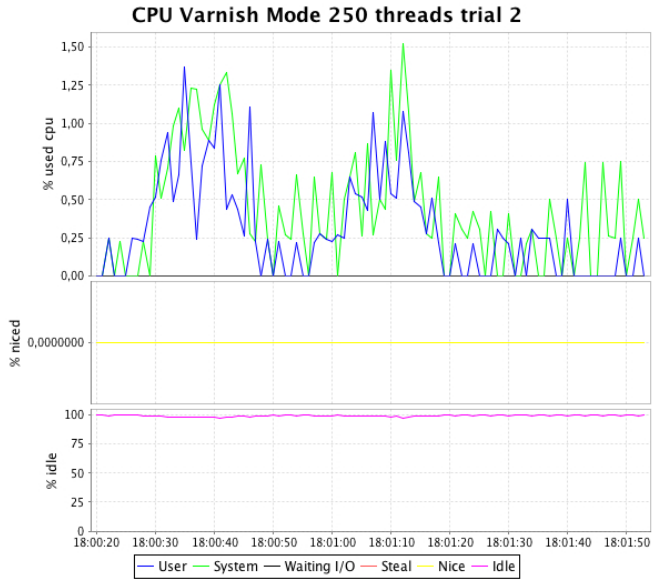
Figure 14: CPU Usage for Apache Only, 250 threads

Figure 14 shows that the CPU usage for system and user processes in the "Only Apache" mode are around the 4% on average and the %idle is most of the time roughly 80% of the CPU capacity. Also the amount of time that the CPU is blocked or idle, while waiting for I/O requests is visible and is on average 2% of the CPU usage. In contrast in the figure 15 , when using a Varnish enabled

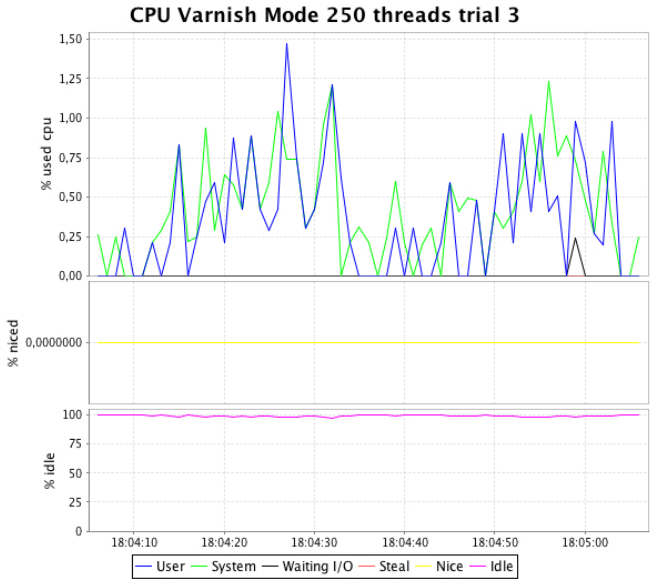
web server, there is lower CPU usage for both %user and %system processes. The CPU is almost idle during all the trials and the %waiting I/O shows only some peaks in the graphs.



(a) Varnish 250 threads CPU Usage trial 1



(b) Varnish 250 threads CPU Usage trial 2

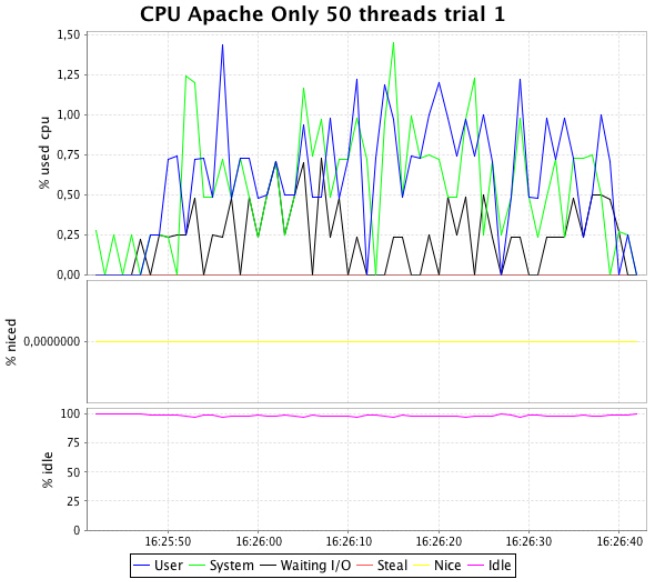


(c) Varnish 250 threads CPU Usage trial 3

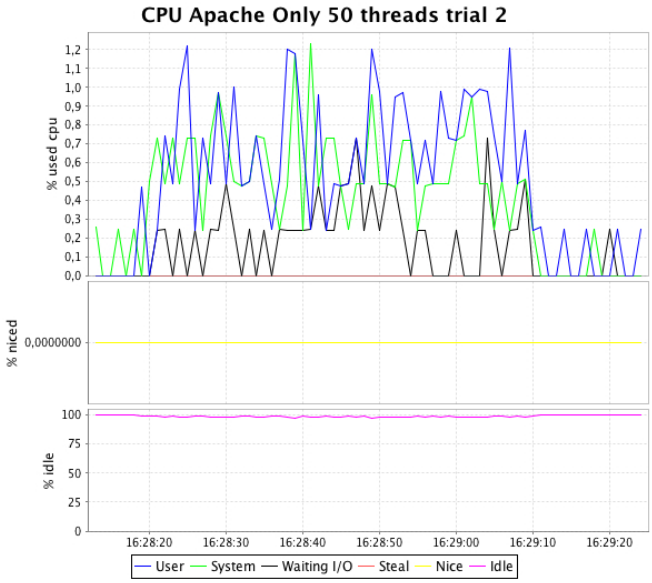
Figure 15: CPU Usage for Varnish mode, 250 threads

The data reveals that in "Only Apache" mode the server has to access the disk to serve the data and creates processes for each HTTP request, thus increasing the CPU usage as well as the time spent waiting for I/O requests to be completed. However, in the Varnish enabled mode, the static content is cached, hence avoiding most of the I/O waiting and also avoiding the web server process creation, drastically reducing the CPU consumption and providing an overall better performance for the service. In fact the Varnish test results with 250 threads are rather comparable to the "Only

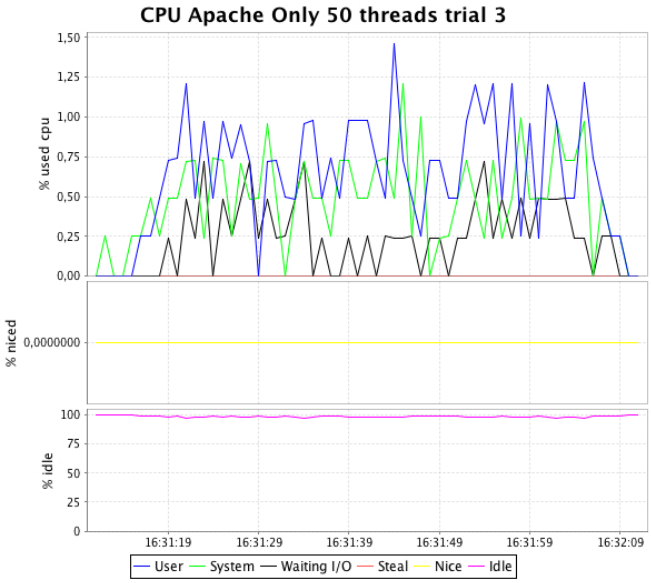
Apache" mode for 50 threads in terms of CPU usage. Figure 16 shows the case of 50 threads CPU usage in the "Only Apache" mode. The CPU usage is at the same level as it is in the Varnish mode for 250 threads, but the waiting for I/O requests is still better in the Varnish mode as the static content is cached. Therefore, even for low loads of traffic it is useful to use Varnish.



(a) Apache Only 50 threads CPU Usage trial 1



(b) Apache Only 50 threads CPU Usage trial 2



(c) Apache Only 50 threads CPU Usage trial 3

Figure 16: CPU Usage for Apache Only, 250 threads

Varnish should be installed in each of the different web servers that will form the web service cluster. The use of Varnish will help in the initial rollout of the platform as it will increase the number of concurrent users that can be served with reasonable performance even with only one server.

5 Conclusions and Future work

The objectives of this thesis was to create the infrastructure for a book streaming platform. As a matter of fact, the platform is not truly a streaming platform but more a chapter download platform, However, due to the low latency of the book media this chapter downloading service appears to the user as an streaming service.

5.1 Conclusions

The infrastructure has been designed with the ability to grow from a single server to a multi-clustered service. It is able to deliver the correct data to the application layer designed by Federico Enni [9]. The most important services (Web and Database) have been designed to grow following a high availability, high performance, and high scalability design. Nevertheless, the OpenLDAP architecture due to technical limitations cannot fully meet the requirements of high availability, high performance, and high scalability. The OpenLdap architecture is able to fullfill those requirements only in read mode.

The performance tests have helped the project to decide that Varnish is a good solution to improve the Apache web server performance, and that a CDN could be a good tool to use in the future. The performance tests also revealed how will the web server perform when serving only one book for a limited number of users. Varnish is a really good service to improve the performance over the books that will be hits as it is able to cache them in memory. In contrast, the long tail , or the books that are not so demanded will be also cached by Varnish thus increasing the memory consumption. For this reason, Varnish should be configured to only cache the most demanded books, only.

Secondary objectives of the thesis were to design a PosgreSQL database and an OpenLDAP tree. Both of them has been implemented in a very simplistic way that has been sufficient meet the needs of the thesis. The last objective was to run the whole architecture simultaneously. While a single server architecture has been running in a server, the clustered architecture has not yet been tested. However, each one of the clustered services has been tested in virtual machines running on a computer.

5.2 Future Work

This master's thesis project has designed, implemented, and evaluated the basics elements of the service; however, this service still needs improvements. The most important areas for improvement are control and security, and the following specific features:

- ▷ Design of the IP address topology for the cluster
- ▷ Implementation of security layers using firewalls to protect the servers from the outside (most importantly to protect the database server).
- ▷ Configure and test of the Andrew File System [0].
- ▷ Create User Application Data Database to store application data such as: bookmarks and notes.
- ▷ Evaluate the viability of the OpenLDAP in multimaster mode.

- ▷ Study and implement of the backup software solutions.
- ▷ Study and implement of the service monitoring tools.
- ▷ Implementation of an OpenLDAP load balancer.
- ▷ Stress test over all the platform to calculate the number of concurrent users that it would support.

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Appendices

A. Apache Web Server Configuration File

Listing 31: Apache Final Configuration File labellst:apa1

```
SSLEngine on
SSLCertificateFile /etc/apache2/ssl/apache.pem
ServerTokens Prod
ServerSignature Off
DocumentRoot
RewriteEngine on
<VirtualHost *:80>
DocumentRoot /srv/www/htdocs
Alias /home
AcceptPathInfo On
<Directory                        >
     Options  +Indexes
     Order allow,deny
    Allow from all
AllowOverride All
     AuthType Basic
        AuthBasicProvider ldap
        AuthName
        AuthzLDAPAuthoritative off
        AuthLDAPURL
        AuthLDAPBindDN cn=WritE,dc=theleafproject,dc=net
        AuthLDAPBindPassword somepassword
        Require valid-user
</Directory>
```

Listing 32: PHP code to authenticate through openLDAP

```
function ldap_authenticate() {
    global $ldapconfig;
    global $username;
    global $password;

    if ($username !=    && $password !=   ) {
        $ds=@ldap_connect($ldapconfig[      ],$ldapconfig[      ]);
        $r = @ldap_search( $ds, $ldapconfig[        ],       . $username);
        if ($r) {
            $result = @ldap_get_entries( $ds, $r);
            if ($result[0]) {
                   ldap_set_option($ds, LDAP_OPT_PROTOCOL_VERSION, 3);
                if (@ldap_bind( $ds, $result[0][    ], $password) ) {
                    return $result[0];                }
            }
        }
    }
}
```

B. Ldirectord and HeartBeat Configuration Files

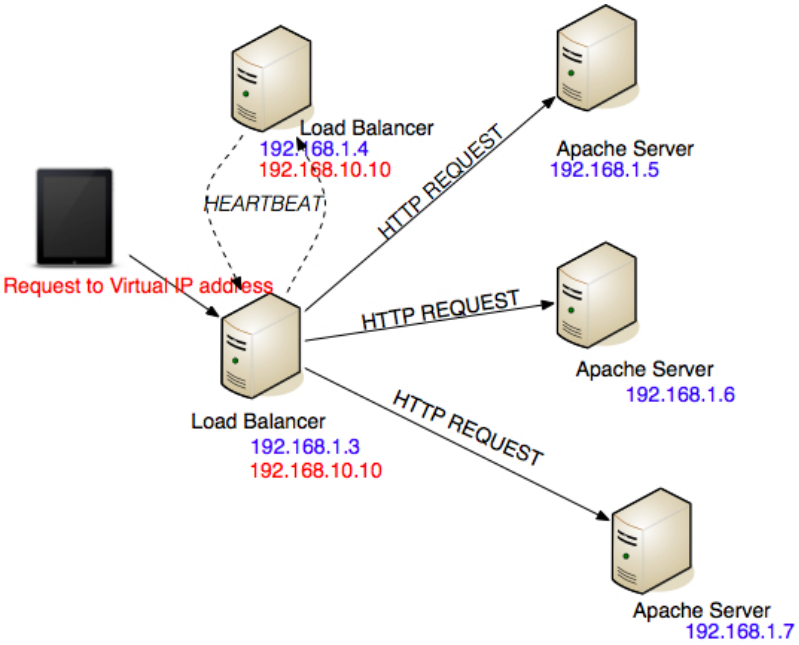

Figure 17: Load Balanced topology (Apache + Load Balancer + HeartBeat)

Listing 33: Ldirectord Final Configuration file

```
# Global Directives
checktimeout=3
checkinterval=1
virtual=192.168.10.10
  real=192.168.1.5 gate
  real=192.168.1.6 gate
  real=192.168.1.7 gate
        service=https
  request=./test.html
        receive=happy
        scheduler=nq
        persistent=120
        netmask=255.255.255.0
        protocol=tcp
```

Listing 34: High Availability Final Configuration

```
keepalive 2
deadtime 30
udpport 694
bcast eth0
node node1
node node2
```

Listing 35: High Availability Resources Final Configuration

```
node1  192.168.1.3::192.168.10.10/eth0:1
```

Listing 36: High Availability Authentication Final Configuration

```
auth 1
1 sha1 SomeSuperSecretPasswordHere
```

Listing 37: Host File Configuration Final Configuration

```
192.168.1.3  node1.example.com node1
192.168.1.4 node2.example.com node2
```

C. NFS and NIS Configuration Files

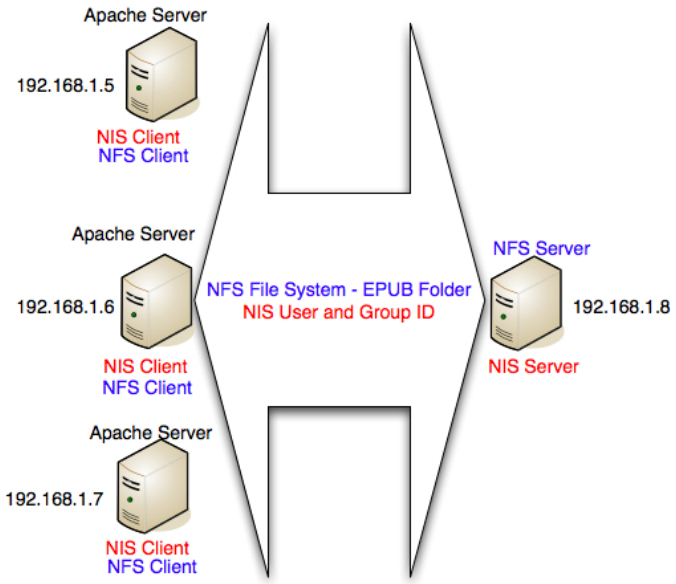

Figure 18: NFS and NIS Topology

Listing 38: NFS server exports Final Configuration File

```
/srv/nfs/leaf 192.168.1.5,192.168.1.6,192.168.1.7 (intr)
```

Listing 39: NFS Final Configuration Line in the Fstab Configuration File

```
<192.168.1.8>:/</srv/nfs/leaf>  </leaf>  nfs  <mount options>0 0
```

Listing 40: Idmapd.conf Final Configuration File

```
[Mapping]

Nobody-User =  www-data
Nobody-Group = nogroup
```

Listing 41: yp.conf Configuration File

```
192.168.1.8   ypserver.theleaf
```

Listing 42: nsswitch Configuration File

```
passwd:     files nis
shadow:     files nis
group:        files nis
```

D. OpenLdap Configuration Files

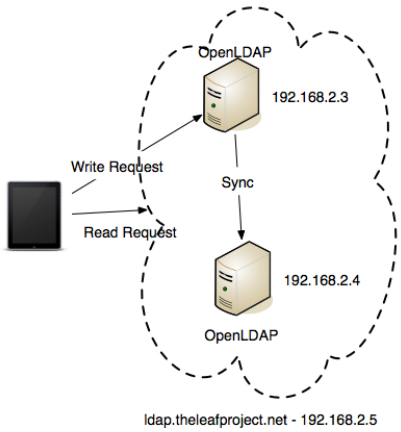

Figure 19: OpenLDAP infrastructure

Listing 43: Slapd.conf Master Configuration File

```
include   /etc/openldap/schema/core.schema
include   /etc/openldap/schema/cosine.schema
include   /etc/openldap/schema/inetorgperson.schema
include   /etc/openldap/schema/rfc2307bis.schema
include   /etc/openldap/schema/yast.schema

pidfile   /var/run/slapd/slapd.pid
argsfile  /var/run/slapd/slapd.args


access to dn.base=
        by * read
 access to attrs=userPassword
        by * auth
access to *
        by * read
        by


database  bdb
suffix
checkpoint      1024    5
cachesize       10000
rootdn
rootpw    {SSHA}v1pngWBTA399vhFjLIs1VGzWlm27AsMP
directory /var/lib/ldap
index objectClass eq
overlay syncprov
 syncprov-checkpoint 100 10
  syncprov-sessionlog 100
```

Listing 44: Slapd.conf Slave Configuration File

```
include   /etc/openldap/schema/core.schema
include   /etc/openldap/schema/cosine.schema
include   /etc/openldap/schema/inetorgperson.schema
include   /etc/openldap/schema/rfc2307bis.schema
include   /etc/openldap/schema/yast.schema

pidfile   /var/run/slapd/slapd.pid
argsfile  /var/run/slapd/slapd.args


access to dn.base=
        by * read
 access to attrs=userPassword
        by * auth
access to *
        by * read
        by


database  bdb
suffix
checkpoint      1024    5
cachesize       10000
rootdn
rootpw    {SSHA}v1pngWBTA399vhFjLIs1VGzWlm27AsMP
directory /var/lib/ldap
index objectClass eq
  syncrepl rid=000
               provider=ldap://192.168.2.3:389
               type=refreshAndPersist
               searchbase=
               scope=sub
               attrs=
               bindmethod=simple
               binddn=
               credentials=password
```

E. Postgres Configuration Files

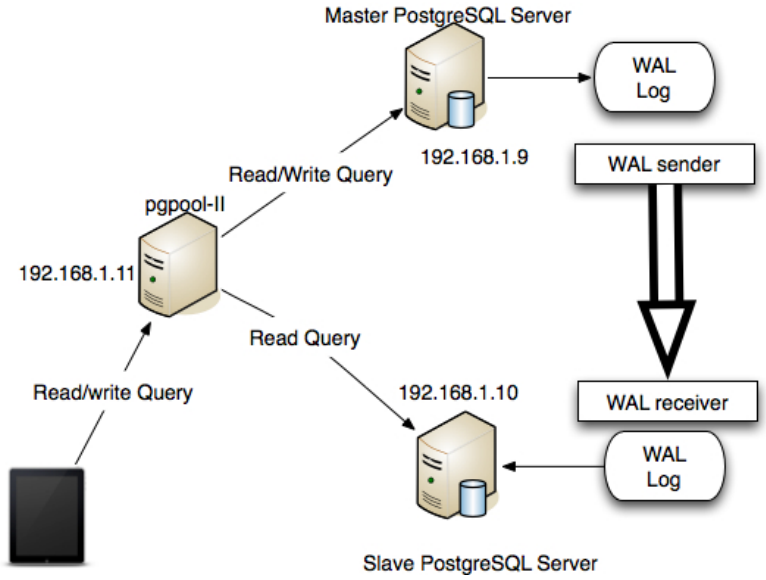

Figure 20: PostgreSQL Final infrastructure

Listing 45: pg_hba.conf master

```
local   all         postgres                            ident
local   all             all                                     trust
host    all             all             127.0.0.1/32            trust
host    all             all             ::1/128                  md5
host    replication     postgres        192.168.1.10/32        trust
```

Listing 46: pg_hba.conf slave

```
local   all         postgres                            ident
local   all             all                                     trust
host    all             all             127.0.0.1/32            trust
host    all             all             ::1/128                  md5
host    all   all   192.168.1.11/24   trust
```

Listing 47: postgresql.conf master

```
data_directory = '/var/lib/postgresql/9.0/main'
hba_file = '/etc/postgresql/9.0/main/pg_hba.conf'
ident_file = '/etc/postgresql/9.0/main/pg_ident.conf'
external_pid_file = '/var/run/postgresql/9.0-main.pid'
listen_addresses = '*'
port = 5432
max_connections = 100
ssl = false
password_encryption = on
shared_buffers = 28MB
wal_level = hot_standby
max_wal_senders = 1
hot_standby = off
```

Listing 48: postgresql.conf slave

```
data_directory = '/var/lib/postgresql/9.0/main'
 hba_file = '/etc/postgresql/9.0/main/pg_hba.conf'
 ident_file = '/etc/postgresql/9.0/main/pg_ident.conf'
external_pid_file = '/var/run/postgresql/9.0-main.pid'
listen_addresses = '*'
port = 5433
max_connections = 100
ssl = false
password_encryption = on
shared_buffers = 28MB
wal_level = archive
hot_standby = on
```

Listing 49: recovery.conf

```
 standby_mode = 'on'
primary_conninfo = 'host=192.168.1.10 port=5432 user=postgres password=somepassword'
```

Listing 50: pgpool.conf configuration file

```
listen_addresses = '*'
port = 9999
pcp_port = 9898
socket_dir = '/var/run/postgresql'
pcp_socket_dir = '/var/run/postgresql'
backend_socket_dir = '/var/run/postgresql'
pcp_timeout = 10
num_init_children = 32
max_pool = 4
child_life_time = 300
connection_life_time = 0
child_max_connections = 0
client_idle_limit = 0
authentication_timeout = 60
logdir = '/var/run/postgresql'
pid_file_name = '/var/run/pgpool/pgpool.pid'
replication_mode = false
load_balance_mode = true
replication_stop_on_mismatch = false
replicate_select = false
reset_query_list = 'ABORT; DISCARD ALL'
print_timestamp = true
master_slave_mode = true
master_slave_sub_mode = 'stream'
connection_cache = true
fail_over_on_backend_error = true
insert_lock = true
ignore_leading_white_space = true
log_statement = false
log_per_node_statement = false
log_connections = false
log_hostname = false
enable_query_cache = false
pgpool2_hostname = 'pgpool'
system_db_hostname = 'localhost'
system_db_port = 5432
system_db_dbname = 'pgpool'
system_db_schema = 'pgpool_catalog'
system_db_user = 'postgres'
system_db_password ='somepassword'
backend_hostname0 = 'postgres2'
backend_port0 = 5433
backend_weight0 = 1
backend_hostname1 = 'postgres1'
backend_port1 = 5432
```

F. Performance test

F.1. Results with Only Apache

Table 4: Jmeter 50 threads test first trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	60	43	139
19033-h-0.htm	50	333	105	551
1.css	50	54	43	301
i001_th.jpg	50	57	44	136
pgepub.css	50	59	43	331
0.css	50	50	43	93
i002_th.jpg	50	59	44	360
title.jpg	50	51	43	91
plate02_th.jpg	50	155	90	363
i008_th.jpg	50	77	47	241
plate01_th.jpg	50	158	90	391
i009_th.jpg	50	98	47	462
cover_th.jpg	50	160	94	424
i005_th.jpg	50	78	46	194
i003_th.jpg	50	75	46	183
i015_th.jpg	50	84	47	349
i011_th.jpg	50	80	47	231
i017_th.jpg	50	87	47	186
plate04_th.jpg	50	202	93	591
i022_th.jpg	50	90	47	342
i007_th.jpg	50	62	45	337
i020_th.jpg	50	86	46	366
i004_th.jpg	50	64	44	179
plate03_th.jpg	50	166	93	343
i018_th.jpg	50	72	45	177
i019_th.jpg	50	55	42	141
i016_th.jpg	50	80	45	171
i010_th.jpg	50	52	43	95
i012_th.jpg	50	94	48	186
i014_th.jpg	50	78	47	152
i021_th.jpg	50	55	44	102
i013_th.jpg	50	82	46	187
i006_th.jpg	50	90	47	193
TOTAL	1650	94	42	591

Table 5: Systat monitoring for the 50 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:25:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:42        all      0.00      0.00      0.28      0.00      0.00     99.72
16:25:42          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:42          1      0.00      0.00      0.00      0.00      0.00    100.00
16:25:42          2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:42          3      0.00      0.00      0.99      0.00      0.00     99.01

16:25:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:43        all      0.00      0.00      0.00      0.00      0.00    100.00
16:25:43          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:43          1      0.00      0.00      0.00      0.00      0.00    100.00
16:25:43          2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:43          3      0.00      0.00      0.00      0.00      0.00    100.00

16:25:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:44        all      0.00      0.00      0.25      0.00      0.00     99.75
16:25:44          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:44          1      0.00      0.00      0.00      0.00      0.00    100.00
16:25:44          2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:44          3      0.00      0.00      1.00      0.00      0.00     99.00

16:25:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:45        all      0.00      0.00      0.00      0.00      0.00    100.00
16:25:45          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:45          1      0.00      0.00      0.00      0.00      0.00    100.00
16:25:45          2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:45          3      0.00      0.00      0.00      0.00      0.00    100.00

16:25:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:46        all      0.00      0.00      0.25      0.00      0.00     99.75
16:25:46          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:46          1      0.00      0.00      0.00      0.00      0.00    100.00
16:25:46          2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:46          3      0.00      0.00      1.00      0.00      0.00     99.00

16:25:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:47        all      0.00      0.00      0.00      0.22      0.00     99.78
16:25:47          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:47          1      0.88      0.00      0.00      0.00      0.00     99.12
16:25:47          2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:47          3      0.00      0.00      0.00      0.00      0.00    100.00

16:25:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:48        all      0.25      0.00      0.25      0.00      0.00     99.51
16:25:48          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:48          1      0.00      0.00      0.00      0.00      0.00    100.00
16:25:48          2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:48          3      0.98      0.00      0.98      0.00      0.00     98.04

16:25:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:49        all      0.25      0.00      0.25      0.25      0.00     99.25
16:25:49          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:49          1      0.00      0.00      1.01      0.00      0.00     98.99
```

```
16:25:49          2      0.99      0.00      0.99      0.00      0.00     98.02
16:25:49          3      0.00      0.00      0.00      0.99      0.00     99.01

16:25:49       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:50       all      0.72      0.00      0.24      0.24      0.00     98.80
16:25:50         0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:50         1      0.00      0.00      0.00      0.00      0.00    100.00
16:25:50         2      0.94      0.00      0.00      0.00      0.00     99.06
16:25:50         3      0.97      0.00      1.94      1.94      0.00     95.15

16:25:50       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:51       all      0.74      0.00      0.00      0.25      0.00     99.02
16:25:51         0      0.00      0.00      0.97      0.00      0.00     99.03
16:25:51         1      1.94      0.00      0.00      0.00      0.00     98.06
16:25:51         2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:51         3      1.00      0.00      0.00      0.00      0.00     99.00

16:25:51       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:52       all      0.25      0.00      1.24      0.25      0.00     98.26
16:25:52         0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:52         1      1.00      0.00      1.00      0.00      0.00     98.00
16:25:52         2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:52         3      0.00      0.00      1.94      1.94      0.00     96.12

16:25:52       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:53       all      0.72      0.00      1.20      0.48      0.00     97.60
16:25:53         0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:53         1      1.94      0.00      1.94      0.00      0.00     96.12
16:25:53         2      1.83      0.00      0.92      0.00      0.00     97.25
16:25:53         3      0.00      0.00      1.96      0.98      0.00     97.06

16:25:53       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:54       all      0.73      0.00      0.49      0.00      0.00     98.78
16:25:54         0      0.96      0.00      0.00      0.00      0.00     99.04
16:25:54         1      1.94      0.00      0.97      0.00      0.00     97.09
16:25:54         2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:54         3      0.00      0.00      0.99      0.99      0.00     98.02

16:25:54       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:55       all      0.49      0.00      0.49      0.25      0.00     98.77
16:25:55         0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:55         1      0.98      0.00      0.00      0.00      0.00     99.02
16:25:55         2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:55         3      0.98      0.00      0.98      0.98      0.00     97.06

16:25:55       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:56       all      1.44      0.00      0.72      0.24      0.00     97.60
16:25:56         0      0.96      0.00      0.00      0.00      0.00     99.04
16:25:56         1      2.88      0.00      0.96      0.00      0.00     96.15
16:25:56         2      1.87      0.00      0.93      0.00      0.00     97.20
16:25:56         3      0.00      0.00      0.00      1.00      0.00     99.00

16:25:56       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:57       all      0.48      0.00      0.48      0.48      0.00     98.55
16:25:57         0      0.00      0.00      0.98      0.00      0.00     99.02
16:25:57         1      0.96      0.00      0.00      0.00      0.00     99.04
16:25:57         2      0.00      0.00      0.96      0.00      0.00     99.04
16:25:57         3      0.98      0.00      0.98      0.98      0.00     97.06
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16:25:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:58        all      0.73      0.00      0.73      0.00      0.00     98.54
16:25:58          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:58          1      0.00      0.00      0.96      0.00      0.00     99.04
16:25:58          2      1.92      0.00      0.00      0.00      0.00     98.08
16:25:58          3      0.98      0.00      0.98      0.98      0.00     97.06

16:25:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:25:59        all      0.73      0.00      0.49      0.49      0.00     98.30
16:25:59          0      0.00      0.00      0.00      0.00      0.00    100.00
16:25:59          1      0.99      0.00      0.00      0.00      0.00     99.01
16:25:59          2      0.00      0.00      0.00      0.00      0.00    100.00
16:25:59          3      0.96      0.00      1.92      0.96      0.00     96.15

16:25:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:00        all      0.48      0.00      0.24      0.24      0.00     99.03
16:26:00          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:00          1      0.95      0.00      0.00      0.00      0.00     99.05
16:26:00          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:00          3      0.98      0.00      2.94      0.98      0.00     95.10

16:26:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:01        all      0.50      0.00      0.50      0.50      0.00     98.50
16:26:01          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:01          1      1.00      0.00      1.00      0.00      0.00     98.00
16:26:01          2      1.00      0.00      2.00      0.00      0.00     97.00
16:26:01          3      0.96      0.00      0.00      1.92      0.00     97.12

16:26:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:02        all      0.71      0.00      0.71      0.71      0.00     97.87
16:26:02          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:02          1      0.93      0.00      0.00      0.00      0.00     99.07
16:26:02          2      0.92      0.00      0.92      0.00      0.00     98.17
16:26:02          3      0.00      0.00      1.94      3.88      0.00     94.17

16:26:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:03        all      0.50      0.00      0.25      0.25      0.00     99.01
16:26:03          0      0.98      0.00      0.00      0.00      0.00     99.02
16:26:03          1      0.98      0.00      0.98      0.00      0.00     98.04
16:26:03          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:03          3      1.00      0.00      0.00      0.00      0.00     99.00

16:26:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:04        all      0.50      0.00      0.50      0.50      0.00     98.51
16:26:04          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:04          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:04          2      1.00      0.00      0.00      0.00      0.00     99.00
16:26:04          3      0.00      0.00      1.94      1.94      0.00     96.12

16:26:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:05        all      0.94      0.00      1.17      0.70      0.00     97.19
16:26:05          0      0.93      0.00      0.93      0.00      0.00     98.13
16:26:05          1      0.92      0.00      0.92      0.00      0.00     98.17
16:26:05          2      0.00      0.00      0.92      0.00      0.00     99.08
16:26:05          3      2.94      0.00      0.98      2.94      0.00     93.14

16:26:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
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16:26:06        all      0.49      0.00      0.74      0.00      0.00     98.77
16:26:06          0      0.00      0.00      0.99      0.00      0.00     99.01
16:26:06          1      0.00      0.00      0.98      0.00      0.00     99.02
16:26:06          2      0.96      0.00      0.00      0.00      0.00     99.04
16:26:06          3      0.98      0.00      2.94      0.00      0.00     96.08

16:26:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:07        all      0.49      0.00      0.97      0.73      0.00     97.82
16:26:07          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:07          1      0.00      0.00      0.98      0.00      0.00     99.02
16:26:07          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:07          3      1.90      0.00      2.86      2.86      0.00     92.38

16:26:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:08        all      0.98      0.00      0.49      0.24      0.00     98.29
16:26:08          0      0.00      0.00      1.02      0.00      0.00     98.98
16:26:08          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:08          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:08          3      2.88      0.00      0.00      1.92      0.00     95.19

16:26:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:09        all      0.48      0.00      0.72      0.48      0.00     98.31
16:26:09          0      0.94      0.00      0.00      0.00      0.00     99.06
16:26:09          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:09          2      0.97      0.00      0.00      0.00      0.00     99.03
16:26:09          3      0.96      0.00      2.88      0.96      0.00     95.19

16:26:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:10        all      0.72      0.00      0.72      0.00      0.00     98.55
16:26:10          0      0.00      0.00      0.97      0.00      0.00     99.03
16:26:10          1      0.96      0.00      0.00      0.00      0.00     99.04
16:26:10          2      1.89      0.00      0.94      0.00      0.00     97.17
16:26:10          3      0.00      0.00      1.94      0.97      0.00     97.09

16:26:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:11        all      1.22      0.00      0.98      0.24      0.00     97.56
16:26:11          0      0.97      0.00      0.00      0.00      0.00     99.03
16:26:11          1      0.99      0.00      0.99      0.00      0.00     98.02
16:26:11          2      0.00      0.00      0.97      0.00      0.00     99.03
16:26:11          3      1.98      0.00      0.99      0.00      0.00     97.03

16:26:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:12        all      0.00      0.00      0.72      0.00      0.00     99.28
16:26:12          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:12          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:12          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:12          3      0.96      0.00      2.88      0.00      0.00     96.15

16:26:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:13        all      0.73      0.00      0.00      0.00      0.00     99.27
16:26:13          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:13          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:13          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:13          3      1.92      0.00      0.96      0.00      0.00     97.12

16:26:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:14        all      1.19      0.00      0.95      0.00      0.00     97.86
16:26:14          0      0.95      0.00      0.00      0.00      0.00     99.05
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16:26:14          1      0.94      0.00      0.94      0.00      0.00     98.11
16:26:14          2      0.93      0.00      0.00      0.00      0.00     99.07
16:26:14          3      2.88      0.00      1.92      0.00      0.00     95.19

16:26:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:15        all      0.97      0.00      1.45      0.24      0.00     97.34
16:26:15          0      0.00      0.00      0.99      0.00      0.00     99.01
16:26:15          1      0.96      0.00      0.96      0.00      0.00     98.08
16:26:15          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:15          3      1.94      0.00      2.91      0.97      0.00     94.17

16:26:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:16        all      0.49      0.00      0.49      0.24      0.00     98.78
16:26:16          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:16          1      0.98      0.00      0.00      0.00      0.00     99.02
16:26:16          2      0.96      0.00      0.00      0.00      0.00     99.04
16:26:16          3      0.00      0.00      1.92      0.96      0.00     97.12

16:26:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:17        all      0.74      0.00      0.99      0.00      0.00     98.27
16:26:17          0      1.00      0.00      2.00      0.00      0.00     97.00
16:26:17          1      0.00      0.00      0.99      0.00      0.00     99.01
16:26:17          2      0.00      0.00      0.98      0.00      0.00     99.02
16:26:17          3      1.96      0.00      1.96      0.00      0.00     96.08

16:26:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:18        all      0.73      0.00      0.73      0.00      0.00     98.55
16:26:18          0      0.97      0.00      0.97      0.00      0.00     98.06
16:26:18          1      0.96      0.00      0.00      0.00      0.00     99.04
16:26:18          2      0.96      0.00      0.00      0.00      0.00     99.04
16:26:18          3      0.97      0.00      1.94      0.00      0.00     97.09

16:26:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:19        all      1.00      0.00      0.75      0.25      0.00     97.99
16:26:19          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:19          1      2.02      0.00      0.00      0.00      0.00     97.98
16:26:19          2      0.99      0.00      0.99      0.00      0.00     98.02
16:26:19          3      1.00      0.00      1.00      1.00      0.00     97.00

16:26:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:20        all      1.20      0.00      0.72      0.00      0.00     98.07
16:26:20          0      0.94      0.00      1.89      0.00      0.00     97.17
16:26:20          1      1.94      0.00      0.97      0.00      0.00     97.09
16:26:20          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:20          3      0.98      0.00      0.98      0.98      0.00     97.06

16:26:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:21        all      0.98      0.00      0.49      0.49      0.00     98.04
16:26:21          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:21          1      1.98      0.00      0.00      0.00      0.00     98.02
16:26:21          2      0.96      0.00      0.00      0.00      0.00     99.04
16:26:21          3      0.98      0.00      1.96      0.98      0.00     96.08

16:26:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:22        all      0.74      0.00      0.49      0.25      0.00     98.52
16:26:22          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:22          1      2.94      0.00      0.98      0.00      0.00     96.08
16:26:22          2      0.00      0.00      0.00      0.00      0.00    100.00
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16:26:22          3      0.00      0.00      0.00      0.99      0.00     99.01

16:26:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:23        all      0.97      0.00      0.97      0.49      0.00     97.57
16:26:23          0      0.94      0.00      1.89      0.00      0.00     97.17
16:26:23          1      1.98      0.00      0.99      0.00      0.00     97.03
16:26:23          2      0.97      0.00      0.00      0.00      0.00     99.03
16:26:23          3      1.94      0.00      0.00      1.94      0.00     96.12

16:26:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:24        all      0.74      0.00      1.23      0.00      0.00     98.04
16:26:24          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:24          1      1.01      0.00      1.01      0.00      0.00     97.98
16:26:24          2      0.96      0.00      0.96      0.00      0.00     98.08
16:26:24          3      0.00      0.00      2.97      0.00      0.00     97.03

16:26:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:25        all      1.00      0.00      0.25      0.50      0.00     98.25
16:26:25          0      1.04      0.00      0.00      0.00      0.00     98.96
16:26:25          1      0.97      0.00      0.00      0.97      0.00     98.06
16:26:25          2      1.00      0.00      0.00      0.00      0.00     99.00
16:26:25          3      0.98      0.00      0.98      1.96      0.00     96.08

16:26:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:26        all      0.71      0.00      0.71      0.24      0.00     98.33
16:26:26          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:26          1      0.95      0.00      0.95      0.00      0.00     98.10
16:26:26          2      0.95      0.00      0.95      0.00      0.00     98.10
16:26:26          3      0.00      0.00      0.99      0.00      0.00     99.01

16:26:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:27        all      0.00      0.00      0.25      0.00      0.00     99.75
16:26:27          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:27          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:27          2      0.00      0.00      0.98      0.00      0.00     99.02
16:26:27          3      0.00      0.00      0.98      0.98      0.00     98.04

16:26:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:28        all      0.49      0.00      0.49      0.24      0.00     98.78
16:26:28          0      0.98      0.00      0.00      0.00      0.00     99.02
16:26:28          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:28          2      0.96      0.00      0.00      0.00      0.00     99.04
16:26:28          3      0.98      0.00      0.98      0.98      0.00     97.06

16:26:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:29        all      1.22      0.00      0.98      0.24      0.00     97.56
16:26:29          0      1.00      0.00      1.00      0.00      0.00     98.00
16:26:29          1      0.97      0.00      0.97      0.00      0.00     98.06
16:26:29          2      0.97      0.00      0.00      0.00      0.00     99.03
16:26:29          3      1.94      0.00      2.91      0.97      0.00     94.17

16:26:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:30        all      0.49      0.00      0.49      0.00      0.00     99.02
16:26:30          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:30          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:30          2      1.90      0.00      0.00      0.00      0.00     98.10
16:26:30          3      0.00      0.00      0.97      0.00      0.00     99.03
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16:26:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:31        all      0.48      0.00      0.24      0.00      0.00     99.28
16:26:31          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:31          1      0.94      0.00      0.94      0.00      0.00     98.11
16:26:31          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:31          3      1.00      0.00      1.00      0.00      0.00     98.00

16:26:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:32        all      0.98      0.00      0.49      0.24      0.00     98.29
16:26:32          0      0.00      0.00      0.99      0.00      0.00     99.01
16:26:32          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:32          2      1.92      0.00      0.00      0.00      0.00     98.08
16:26:32          3      0.97      0.00      0.97      0.97      0.00     97.09

16:26:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:33        all      0.72      0.00      0.72      0.24      0.00     98.32
16:26:33          0      0.96      0.00      0.00      0.00      0.00     99.04
16:26:33          1      0.96      0.00      0.96      0.00      0.00     98.08
16:26:33          2      0.00      0.00      0.94      0.00      0.00     99.06
16:26:33          3      1.90      0.00      1.90      0.95      0.00     95.24

16:26:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:34        all      0.98      0.00      0.24      0.24      0.00     98.53
16:26:34          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:34          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:34          2      1.94      0.00      0.00      0.00      0.00     98.06
16:26:34          3      1.94      0.00      1.94      0.97      0.00     95.15

16:26:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:35        all      0.73      0.00      0.73      0.48      0.00     98.06
16:26:35          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:35          1      1.94      0.00      0.00      0.00      0.00     98.06
16:26:35          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:35          3      0.97      0.00      0.97      1.94      0.00     96.12

16:26:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:36        all      0.24      0.00      0.73      0.24      0.00     98.78
16:26:36          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:36          1      0.00      0.00      1.96      0.00      0.00     98.04
16:26:36          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:36          3      0.00      0.00      0.98      0.98      0.00     98.04

16:26:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:37        all      0.50      0.00      0.75      0.50      0.00     98.25
16:26:37          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:37          1      0.99      0.00      0.99      0.00      0.00     98.02
16:26:37          2      1.02      0.00      0.00      0.00      0.00     98.98
16:26:37          3      0.98      0.00      1.96      1.96      0.00     95.10

16:26:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:38        all      1.00      0.00      0.50      0.50      0.00     98.00
16:26:38          0      1.01      0.00      0.00      0.00      0.00     98.99
16:26:38          1      1.02      0.00      0.00      0.00      0.00     98.98
16:26:38          2      0.99      0.00      0.99      0.00      0.00     98.02
16:26:38          3      1.94      0.00      0.97      1.94      0.00     95.15

16:26:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:39        all      0.71      0.00      0.00      0.47      0.00     98.82
```

```
16:26:39          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:39          1      0.00      0.00      0.93      0.00      0.00     99.07
16:26:39          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:39          3      0.98      0.00      0.00      1.96      0.00     97.06

16:26:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:40        all      0.00      0.00      0.27      0.27      0.00     99.46
16:26:40          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:40          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:40          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:40          3      0.99      0.00      0.00      0.00      0.00     99.01

16:26:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:41        all      0.25      0.00      0.25      0.00      0.00     99.50
16:26:41          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:41          1      0.00      0.00      0.99      0.00      0.00     99.01
16:26:41          2      1.02      0.00      0.00      0.00      0.00     98.98
16:26:41          3      0.00      0.00      0.00      0.00      0.00    100.00

16:26:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:26:42        all      0.00      0.00      0.00      0.00      0.00    100.00
16:26:42          0      0.00      0.00      0.00      0.00      0.00    100.00
16:26:42          1      0.00      0.00      0.00      0.00      0.00    100.00
16:26:42          2      0.00      0.00      0.00      0.00      0.00    100.00
16:26:42          3      0.00      0.00      0.99      0.00      0.00     99.01
```

Table 6: Iostat monitoring for the 50 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.03    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.41    0.05    0.40     1.56    14.55    35.64     0.00    4.32   0.44   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    0.60     0.00    17.60    29.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.10    0.00   99.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    2.60     0.00    27.20    10.46     0.00    0.31   0.31   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.63    0.00    0.63    0.24    0.00   98.49

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.20    0.00    0.60     0.00    22.40    37.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.78    0.00    0.58    0.29    0.00   98.35

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.54    0.00    0.44    0.44    0.00   98.58

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.68    0.00    0.82    0.43    0.00   98.07

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.40     0.00    11.20    28.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.77    0.00    0.72    0.05    0.00   98.45

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    1.00     0.00    20.80    20.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.83    0.00    0.88    0.15    0.00   98.15

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.88    0.00    0.74    0.25    0.00   98.14

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    18.00    0.00    4.00     0.00   176.00    44.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.68    0.00    0.59    0.24    0.00   98.49

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    0.44    0.15    0.00   98.69

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.80     0.00    12.80    16.00     0.00    3.00   1.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.64    0.00    0.49    0.44    0.00   98.44

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.21    0.05    0.00   99.69

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    1.20     0.00    22.40    18.67     0.00    0.00   0.00   0.00
```

Table 7: Jmeter 50 threads test second trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	61	42	171
19033-h-0.htm	50	348	106	761
1.css	50	50	43	67
i001_th.jpg	50	55	43	137
pgepub.css	50	53	42	306
0.css	50	55	42	298
i002_th.jpg	50	52	44	99
title.jpg	50	54	42	298
plate02_th.jpg	50	181	54	558
i008_th.jpg	50	93	46	365
plate01_th.jpg	50	179	53	516
i009_th.jpg	50	98	48	338
cover_th.jpg	50	158	50	400
i005_th.jpg	50	82	45	387
i003_th.jpg	50	79	46	400
i015_th.jpg	50	77	45	196
i011_th.jpg	50	83	46	351
i017_th.jpg	50	95	47	221
plate04_th.jpg	50	166	54	351
i022_th.jpg	50	76	45	185
i007_th.jpg	50	52	44	98
i020_th.jpg	50	73	45	180
i004_th.jpg	50	68	45	222
plate03_th.jpg	50	162	74	278
i018_th.jpg	50	78	46	189
i019_th.jpg	50	55	43	151
i016_th.jpg	50	71	46	141
i010_th.jpg	50	52	43	92
i012_th.jpg	50	94	47	346
i014_th.jpg	50	79	47	201
i021_th.jpg	50	73	46	386
i013_th.jpg	50	82	46	196
i006_th.jpg	50	91	48	153
TOTAL	1650	95	42	761

Table 8: Systat monitoring for the 50 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:28:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:13        all      0.00      0.00      0.26      0.00      0.00     99.74
16:28:13          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:13          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:13          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:13          3      0.00      0.00      0.00      0.00      0.00    100.00

16:28:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:14        all      0.00      0.00      0.00      0.00      0.00    100.00
16:28:14          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:14          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:14          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:14          3      0.00      0.00      0.00      0.00      0.00    100.00

16:28:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:15        all      0.00      0.00      0.00      0.00      0.00    100.00
16:28:15          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:15          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:15          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:15          3      0.00      0.00      1.00      0.00      0.00     99.00

16:28:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:16        all      0.00      0.00      0.25      0.00      0.00     99.75
16:28:16          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:16          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:16          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:16          3      0.00      0.00      0.00      0.00      0.00    100.00

16:28:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:17        all      0.00      0.00      0.00      0.00      0.00    100.00
16:28:17          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:17          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:17          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:17          3      0.00      0.00      0.99      0.00      0.00     99.01

16:28:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:18        all      0.00      0.00      0.25      0.00      0.00     99.75
16:28:18          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:18          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:18          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:18          3      0.00      0.00      0.00      0.00      0.00    100.00

16:28:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:19        all      0.47      0.00      0.00      0.00      0.00     99.53
16:28:19          0      0.00      0.00      0.89      0.00      0.00     99.11
16:28:19          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:19          2      0.93      0.00      0.00      0.00      0.00     99.07
16:28:19          3      1.00      0.00      0.00      0.00      0.00     99.00

16:28:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:20        all      0.00      0.00      0.50      0.00      0.00     99.50
16:28:20          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:28:20          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:20          2      0.00      0.00      0.98      0.00      0.00     99.02
16:28:20          3      0.00      0.00      1.94      0.97      0.00     97.09

16:28:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:21        all      0.24      0.00      0.73      0.24      0.00     98.78
16:28:21          0      0.99      0.00      0.00      0.00      0.00     99.01
16:28:21          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:21          2      0.00      0.00      0.98      0.00      0.00     99.02
16:28:21          3      0.00      0.00      0.99      0.00      0.00     99.01

16:28:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:22        all      0.74      0.00      0.49      0.25      0.00     98.53
16:28:22          0      1.96      0.00      0.00      0.00      0.00     98.04
16:28:22          1      0.99      0.00      0.00      0.00      0.00     99.01
16:28:22          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:22          3      0.97      0.00      1.94      0.97      0.00     96.12

16:28:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:23        all      0.49      0.00      0.73      0.00      0.00     98.78
16:28:23          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:23          1      0.98      0.00      0.00      0.00      0.00     99.02
16:28:23          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:23          3      0.97      0.00      2.91      0.97      0.00     95.15

16:28:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:24        all      0.99      0.00      0.49      0.25      0.00     98.28
16:28:24          0      0.99      0.00      0.00      0.00      0.00     99.01
16:28:24          1      0.99      0.00      0.00      0.00      0.00     99.01
16:28:24          2      0.00      0.00      0.98      0.00      0.00     99.02
16:28:24          3      1.00      0.00      1.00      0.00      0.00     98.00

16:28:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:25        all      1.22      0.00      0.73      0.00      0.00     98.05
16:28:25          0      0.95      0.00      0.95      0.00      0.00     98.10
16:28:25          1      0.98      0.00      0.00      0.00      0.00     99.02
16:28:25          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:25          3      3.85      0.00      1.92      0.96      0.00     93.27

16:28:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:26        all      0.24      0.00      0.73      0.24      0.00     98.78
16:28:26          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:26          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:26          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:26          3      0.00      0.00      2.91      0.97      0.00     96.12

16:28:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:27        all      0.73      0.00      0.24      0.00      0.00     99.02
16:28:27          0      0.99      0.00      0.00      0.00      0.00     99.01
16:28:27          1      0.99      0.00      0.00      0.00      0.00     99.01
16:28:27          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:27          3      1.94      0.00      0.97      0.00      0.00     97.09

16:28:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:28        all      0.49      0.00      0.74      0.25      0.00     98.53
16:28:28          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:28          1      0.99      0.00      0.99      0.00      0.00     98.02
16:28:28          2      0.00      0.00      0.98      0.00      0.00     99.02
```

```
16:28:28          3      0.98      0.00      0.98      0.00      0.00     98.04

16:28:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:29        all      0.97      0.00      0.97      0.24      0.00     97.82
16:28:29          0      0.00      0.00      0.97      0.00      0.00     99.03
16:28:29          1      0.97      0.00      0.97      0.00      0.00     98.06
16:28:29          2      0.95      0.00      0.00      0.00      0.00     99.05
16:28:29          3      1.96      0.00      0.98      1.96      0.00     95.10

16:28:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:30        all      0.49      0.00      0.74      0.49      0.00     98.28
16:28:30          0      0.98      0.00      0.98      0.00      0.00     98.04
16:28:30          1      0.98      0.00      0.00      0.00      0.00     99.02
16:28:30          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:30          3      0.00      0.00      1.98      0.99      0.00     97.03

16:28:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:31        all      1.00      0.00      0.50      0.25      0.00     98.25
16:28:31          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:31          1      1.03      0.00      0.00      0.00      0.00     98.97
16:28:31          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:31          3      1.98      0.00      0.99      0.99      0.00     96.04

16:28:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:32        all      0.48      0.00      0.48      0.00      0.00     99.05
16:28:32          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:32          1      0.94      0.00      1.89      0.00      0.00     97.17
16:28:32          2      0.93      0.00      0.00      0.00      0.00     99.07
16:28:32          3      0.00      0.00      0.98      0.98      0.00     98.04

16:28:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:33        all      0.50      0.00      0.50      0.25      0.00     98.75
16:28:33          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:33          1      2.00      0.00      0.00      0.00      0.00     98.00
16:28:33          2      0.00      0.00      0.99      0.00      0.00     99.01
16:28:33          3      0.99      0.00      1.98      0.00      0.00     97.03

16:28:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:34        all      0.74      0.00      0.74      0.00      0.00     98.53
16:28:34          0      0.97      0.00      0.00      0.00      0.00     99.03
16:28:34          1      1.94      0.00      0.97      0.00      0.00     97.09
16:28:34          2      0.00      0.00      0.97      0.00      0.00     99.03
16:28:34          3      0.00      0.00      0.99      0.99      0.00     98.02

16:28:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:35        all      0.49      0.00      0.73      0.24      0.00     98.54
16:28:35          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:35          1      0.97      0.00      0.97      0.00      0.00     98.06
16:28:35          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:35          3      0.00      0.00      2.00      0.00      0.00     98.00

16:28:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:36        all      0.25      0.00      0.49      0.00      0.00     99.26
16:28:36          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:36          1      0.98      0.00      0.00      0.00      0.00     99.02
16:28:36          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:36          3      0.99      0.00      0.99      0.00      0.00     98.02
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16:28:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:37        all      0.51      0.00      0.25      0.25      0.00     98.99
16:28:37          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:37          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:37          2      1.02      0.00      0.00      0.00      0.00     98.98
16:28:37          3      0.00      0.00      0.00      0.99      0.00     99.01

16:28:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:38        all      1.20      0.00      0.48      0.24      0.00     98.08
16:28:38          0      0.94      0.00      0.00      0.00      0.00     99.06
16:28:38          1      0.93      0.00      0.93      0.00      0.00     98.13
16:28:38          2      1.92      0.00      0.00      0.00      0.00     98.08
16:28:38          3      1.92      0.00      1.92      1.92      0.00     94.23

16:28:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:39        all      1.18      0.00      1.18      0.24      0.00     97.40
16:28:39          0      0.00      0.00      0.93      0.00      0.00     99.07
16:28:39          1      1.94      0.00      0.97      0.00      0.00     97.09
16:28:39          2      0.92      0.00      0.92      0.00      0.00     98.17
16:28:39          3      0.98      0.00      1.96      0.98      0.00     96.08

16:28:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:40        all      0.72      0.00      0.24      0.24      0.00     98.79
16:28:40          0      0.95      0.00      0.00      0.00      0.00     99.05
16:28:40          1      0.95      0.00      0.00      0.00      0.00     99.05
16:28:40          2      0.96      0.00      0.00      0.00      0.00     99.04
16:28:40          3      0.98      0.00      0.98      0.98      0.00     97.06

16:28:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:41        all      0.25      0.00      1.23      0.25      0.00     98.28
16:28:41          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:41          1      0.00      0.00      0.99      0.00      0.00     99.01
16:28:41          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:41          3      0.00      0.00      3.88      0.97      0.00     95.15

16:28:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:42        all      0.96      0.00      0.48      0.48      0.00     98.08
16:28:42          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:42          1      1.89      0.00      0.00      0.00      0.00     98.11
16:28:42          2      0.94      0.00      0.94      0.00      0.00     98.11
16:28:42          3      1.96      0.00      0.00      0.98      0.00     97.06

16:28:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:43        all      0.24      0.00      0.73      0.24      0.00     98.78
16:28:43          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:43          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:43          2      0.95      0.00      0.00      0.00      0.00     99.05
16:28:43          3      0.00      0.00      4.81      0.96      0.00     94.23

16:28:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:44        all      0.49      0.00      0.73      0.24      0.00     98.54
16:28:44          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:44          1      0.00      0.00      1.92      0.00      0.00     98.08
16:28:44          2      0.97      0.00      0.00      0.00      0.00     99.03
16:28:44          3      0.00      0.00      0.00      0.98      0.00     99.02

16:28:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:45        all      0.48      0.00      0.48      0.48      0.00     98.55
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16:28:45          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:45          1      0.97      0.00      0.97      0.00      0.00     98.06
16:28:45          2      0.00      0.00      0.94      0.00      0.00     99.06
16:28:45          3      0.96      0.00      0.96      2.88      0.00     95.19

16:28:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:46        all      0.49      0.00      0.25      0.49      0.00     98.77
16:28:46          0      1.96      0.00      0.00      0.00      0.00     98.04
16:28:46          1      0.98      0.00      0.00      0.00      0.00     99.02
16:28:46          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:46          3      0.00      0.00      0.99      0.99      0.00     98.02

16:28:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:47        all      0.73      0.00      0.49      0.73      0.00     98.05
16:28:47          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:47          1      0.98      0.00      0.98      0.00      0.00     98.04
16:28:47          2      0.96      0.00      0.00      0.00      0.00     99.04
16:28:47          3      0.00      0.00      0.96      2.88      0.00     96.15

16:28:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:48        all      0.49      0.00      0.49      0.24      0.00     98.78
16:28:48          0      0.99      0.00      0.00      0.00      0.00     99.01
16:28:48          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:48          2      0.96      0.00      0.96      0.00      0.00     98.08
16:28:48          3      0.00      0.00      0.98      0.98      0.00     98.04

16:28:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:49        all      1.20      0.00      0.96      0.48      0.00     97.37
16:28:49          0      0.00      0.00      1.89      0.00      0.00     98.11
16:28:49          1      1.96      0.00      0.00      0.00      0.00     98.04
16:28:49          2      1.87      0.00      0.00      0.00      0.00     98.13
16:28:49          3      1.90      0.00      2.86      1.90      0.00     93.33

16:28:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:50        all      0.98      0.00      0.49      0.24      0.00     98.29
16:28:50          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:50          1      0.98      0.00      0.00      0.00      0.00     99.02
16:28:50          2      0.95      0.00      0.95      0.00      0.00     98.10
16:28:50          3      0.97      0.00      0.97      0.97      0.00     97.09

16:28:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:51        all      0.49      0.00      0.49      0.49      0.00     98.53
16:28:51          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:51          1      1.00      0.00      0.00      0.00      0.00     99.00
16:28:51          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:51          3      0.96      0.00      1.92      1.92      0.00     95.19

16:28:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:52        all      0.95      0.00      0.47      0.47      0.00     98.10
16:28:52          0      0.00      0.00      0.96      0.00      0.00     99.04
16:28:52          1      0.00      0.00      0.00      0.93      0.00     99.07
16:28:52          2      1.82      0.00      0.00      0.00      0.00     98.18
16:28:52          3      1.96      0.00      0.00      0.98      0.00     97.06

16:28:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:53        all      0.97      0.00      0.72      0.24      0.00     98.07
16:28:53          0      0.93      0.00      0.00      0.00      0.00     99.07
16:28:53          1      0.00      0.00      0.99      0.00      0.00     99.01
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16:28:53          2      0.00      0.00      0.99      0.00      0.00     99.01
16:28:53          3      2.88      0.00      2.88      0.96      0.00     93.27

16:28:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:54        all      0.72      0.00      0.72      0.00      0.00     98.55
16:28:54          0      0.98      0.00      0.00      0.00      0.00     99.02
16:28:54          1      0.95      0.00      0.00      0.00      0.00     99.05
16:28:54          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:54          3      0.97      0.00      0.97      0.00      0.00     98.06

16:28:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:55        all      0.49      0.00      0.24      0.24      0.00     99.02
16:28:55          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:55          1      0.00      0.00      0.00      1.01      0.00     98.99
16:28:55          2      0.95      0.00      0.95      0.00      0.00     98.10
16:28:55          3      1.94      0.00      0.00      0.97      0.00     97.09

16:28:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:56        all      0.72      0.00      0.48      0.24      0.00     98.56
16:28:56          0      0.96      0.00      0.00      0.00      0.00     99.04
16:28:56          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:56          2      0.95      0.00      0.00      0.00      0.00     99.05
16:28:56          3      0.00      0.00      1.94      0.97      0.00     97.09

16:28:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:57        all      0.49      0.00      0.49      0.00      0.00     99.03
16:28:57          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:57          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:57          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:57          3      1.92      0.00      2.88      0.00      0.00     95.19

16:28:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:58        all      0.98      0.00      0.49      0.00      0.00     98.54
16:28:58          0      0.98      0.00      0.00      0.00      0.00     99.02
16:28:58          1      0.97      0.00      0.00      0.00      0.00     99.03
16:28:58          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:58          3      2.94      0.00      1.96      0.00      0.00     95.10

16:28:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:28:59        all      0.73      0.00      0.49      0.00      0.00     98.78
16:28:59          0      0.00      0.00      0.00      0.00      0.00    100.00
16:28:59          1      0.00      0.00      0.00      0.00      0.00    100.00
16:28:59          2      0.00      0.00      0.00      0.00      0.00    100.00
16:28:59          3      1.92      0.00      1.92      0.00      0.00     96.15

16:28:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:00        all      0.72      0.00      0.72      0.24      0.00     98.31
16:29:00          0      0.96      0.00      0.00      0.00      0.00     99.04
16:29:00          1      0.95      0.00      0.00      0.00      0.00     99.05
16:29:00          2      0.98      0.00      0.00      0.00      0.00     99.02
16:29:00          3      0.99      0.00      0.99      0.00      0.00     98.02

16:29:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:01        all      0.99      0.00      0.74      0.00      0.00     98.27
16:29:01          0      0.99      0.00      0.99      0.00      0.00     98.02
16:29:01          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:01          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:01          3      1.96      0.00      3.92      0.00      0.00     94.12
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16:29:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:02        all      0.95      0.00      0.95      0.00      0.00     98.09
16:29:02          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:02          1      1.89      0.00      0.00      0.00      0.00     98.11
16:29:02          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:02          3      1.94      0.00      2.91      0.97      0.00     94.17

16:29:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:03        all      0.99      0.00      0.49      0.00      0.00     98.52
16:29:03          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:03          1      1.96      0.00      0.00      0.00      0.00     98.04
16:29:03          2      0.97      0.00      0.97      0.00      0.00     98.06
16:29:03          3      1.98      0.00      0.99      0.00      0.00     97.03

16:29:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:04        all      0.98      0.00      0.49      0.73      0.00     97.80
16:29:04          0      0.97      0.00      0.97      0.00      0.00     98.06
16:29:04          1      0.98      0.00      0.00      0.00      0.00     99.02
16:29:04          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:04          3      1.94      0.00      0.97      2.91      0.00     94.17

16:29:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:05        all      0.74      0.00      0.25      0.25      0.00     98.77
16:29:05          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:05          1      0.98      0.00      0.98      0.00      0.00     98.04
16:29:05          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:05          3      0.99      0.00      0.99      0.00      0.00     98.02

16:29:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:06        all      0.50      0.00      0.50      0.00      0.00     99.00
16:29:06          0      0.98      0.00      0.98      0.00      0.00     98.04
16:29:06          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:06          2      1.01      0.00      0.00      0.00      0.00     98.99
16:29:06          3      1.00      0.00      0.00      1.00      0.00     98.00

16:29:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:07        all      1.21      0.00      0.24      0.24      0.00     98.31
16:29:07          0      0.98      0.00      0.00      0.00      0.00     99.02
16:29:07          1      1.92      0.00      0.00      0.00      0.00     98.08
16:29:07          2      0.95      0.00      0.00      0.00      0.00     99.05
16:29:07          3      0.99      0.00      0.00      0.99      0.00     98.02

16:29:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:08        all      0.49      0.00      0.49      0.25      0.00     98.77
16:29:08          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:08          1      0.00      0.00      0.96      0.00      0.00     99.04
16:29:08          2      0.97      0.00      0.00      0.00      0.00     99.03
16:29:08          3      0.98      0.00      0.98      0.98      0.00     97.06

16:29:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:09        all      0.77      0.00      0.51      0.51      0.00     98.21
16:29:09          0      1.01      0.00      0.00      0.00      0.00     98.99
16:29:09          1      1.05      0.00      1.05      0.00      0.00     97.89
16:29:09          2      1.03      0.00      0.00      0.00      0.00     98.97
16:29:09          3      0.00      0.00      0.99      0.99      0.00     98.02

16:29:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
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16:29:10        all      0.24      0.00      0.24      0.00      0.00     99.53
16:29:10          0      0.00      0.00      0.94      0.00      0.00     99.06
16:29:10          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:10          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:10          3      0.98      0.00      0.00      0.98      0.00     98.04

16:29:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:11        all      0.26      0.00      0.00      0.00      0.00     99.74
16:29:11          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:11          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:11          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:11          3      0.00      0.00      0.00      0.00      0.00    100.00

16:29:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:12        all      0.00      0.00      0.00      0.00      0.00    100.00
16:29:12          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:12          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:12          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:12          3      0.00      0.00      0.99      0.00      0.00     99.01

16:29:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:13        all      0.00      0.00      0.00      0.00      0.00    100.00
16:29:13          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:13          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:13          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:13          3      0.99      0.00      0.00      0.00      0.00     99.01

16:29:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:14        all      0.25      0.00      0.00      0.00      0.00     99.75
16:29:14          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:14          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:14          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:14          3      0.00      0.00      0.00      0.00      0.00    100.00

16:29:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:15        all      0.00      0.00      0.00      0.00      0.00    100.00
16:29:15          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:15          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:15          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:15          3      0.00      0.00      0.00      0.00      0.00    100.00

16:29:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:16        all      0.00      0.00      0.00      0.00      0.00    100.00
16:29:16          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:16          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:16          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:16          3      0.99      0.00      0.00      0.00      0.00     99.01

16:29:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:17        all      0.25      0.00      0.00      0.00      0.00     99.75
16:29:17          0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:17          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:17          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:17          3      0.00      0.00      0.00      0.00      0.00    100.00

16:29:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:18        all      0.00      0.00      0.25      0.00      0.00     99.75
16:29:18          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:29:18          1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:18          2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:18          3      0.00      0.00      0.00      0.00      0.00    100.00

16:29:18       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:19       all      0.00      0.00      0.00      0.00      0.00    100.00
16:29:19         0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:19         1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:19         2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:19         3      0.00      0.00      0.98      0.00      0.00     99.02

16:29:19       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:20       all      0.00      0.00      0.00      0.25      0.00     99.75
16:29:20         0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:20         1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:20         2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:20         3      0.99      0.00      0.00      0.99      0.00     98.02

16:29:20       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:21       all      0.25      0.00      0.00      0.00      0.00     99.75
16:29:21         0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:21         1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:21         2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:21         3      0.00      0.00      0.00      0.00      0.00    100.00

16:29:21       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:22       all      0.00      0.00      0.00      0.00      0.00    100.00
16:29:22         0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:22         1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:22         2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:22         3      0.00      0.00      0.00      0.00      0.00    100.00

16:29:22       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:23       all      0.00      0.00      0.00      0.00      0.00    100.00
16:29:23         0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:23         1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:23         2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:23         3      0.99      0.00      0.00      0.00      0.00     99.01

16:29:23       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:29:24       all      0.25      0.00      0.00      0.00      0.00     99.75
16:29:24         0      0.00      0.00      0.00      0.00      0.00    100.00
16:29:24         1      0.00      0.00      0.00      0.00      0.00    100.00
16:29:24         2      0.00      0.00      0.00      0.00      0.00    100.00
16:29:24         3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 9: Iostat monitoring for the 50 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11        _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.03    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.40     1.56    14.56    35.63     0.00    4.31   0.44   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.40     0.00    12.80    32.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.39    0.00    0.48    0.10    0.00   99.03

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     8.40    0.00    3.20     0.00    92.80    29.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    0.64    0.15    0.00   98.48

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.69    0.00    0.64    0.25    0.00   98.42

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.58    0.00    0.58    0.15    0.00   98.69

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    0.68    0.29    0.00   98.30

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.54    0.00    0.49    0.44    0.00   98.54

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.40     0.00     9.60    24.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.87    0.00    0.68    0.39    0.00   98.07

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    16.80    0.00    2.80     0.00   156.80    56.00     0.00    0.29   0.29   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    0.44    0.10    0.00   98.74

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     3.40    0.00    2.80     0.00    49.60    17.71     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.88    0.00    0.68    0.10    0.00   98.34

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.79    0.00    0.39    0.25    0.00   98.57

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.25    0.00    0.15    0.10    0.00   99.50

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.05    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    1.00     0.00    16.00    16.00     0.00    0.00   0.00   0.00
```

Table 10: Jmeter 50 threads test third trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	82	42	1057
19033-h-0.htm	50	353	151	1037
1.css	50	49	42	71
i001_th.jpg	50	52	45	95
pgepub.css	50	59	43	298
0.css	50	50	43	101
i002_th.jpg	50	54	44	103
title.jpg	50	50	44	77
plate02_th.jpg	50	167	91	545
i008_th.jpg	50	71	46	192
plate01_th.jpg	50	152	96	260
i009_th.jpg	50	94	48	228
cover_th.jpg	50	154	55	440
i005_th.jpg	50	82	46	421
i003_th.jpg	50	72	45	151
i015_th.jpg	50	77	45	343
i011_th.jpg	50	91	47	421
i017_th.jpg	50	97	48	235
plate04_th.jpg	50	174	92	361
i022_th.jpg	50	76	46	182
i007_th.jpg	50	52	44	82
i020_th.jpg	50	77	46	337
i004_th.jpg	50	62	45	191
plate03_th.jpg	50	174	92	423
i018_th.jpg	50	73	45	195
i019_th.jpg	50	57	43	149
i016_th.jpg	50	85	46	398
i010_th.jpg	50	53	43	96
i012_th.jpg	50	93	46	190
i014_th.jpg	50	76	47	165
i021_th.jpg	50	57	45	104
i013_th.jpg	50	75	46	166
i006_th.jpg	50	98	48	395
TOTAL	1650	94	42	1057

Table 11: Systat monitoring for the 50 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:31:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:11        all      0.00      0.00      0.00      0.00      0.00    100.00
16:31:11          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:11          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:11          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:11          3      0.00      0.00      0.00      0.00      0.00    100.00

16:31:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:12        all      0.00      0.00      0.25      0.00      0.00     99.75
16:31:12          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:12          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:12          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:12          3      0.00      0.00      0.99      0.00      0.00     99.01

16:31:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:13        all      0.00      0.00      0.00      0.00      0.00    100.00
16:31:13          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:13          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:13          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:13          3      0.00      0.00      0.00      0.00      0.00    100.00

16:31:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:14        all      0.00      0.00      0.00      0.00      0.00    100.00
16:31:14          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:14          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:14          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:14          3      0.00      0.00      0.00      0.00      0.00    100.00

16:31:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:15        all      0.00      0.00      0.25      0.00      0.00     99.75
16:31:15          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:15          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:15          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:15          3      0.00      0.00      0.00      0.00      0.00    100.00

16:31:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:16        all      0.25      0.00      0.25      0.00      0.00     99.50
16:31:16          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:16          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:16          2      0.00      0.00      0.97      0.00      0.00     99.03
16:31:16          3      0.00      0.00      0.99      0.00      0.00     99.01

16:31:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:17        all      0.25      0.00      0.49      0.00      0.00     99.26
16:31:17          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:17          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:17          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:17          3      1.00      0.00      0.00      1.00      0.00     98.00

16:31:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:18        all      0.49      0.00      0.25      0.00      0.00     99.26
16:31:18          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:31:18          1      0.98      0.00      0.00      0.00      0.00     99.02
16:31:18          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:18          3      0.99      0.00      0.99      0.00      0.00     98.02

16:31:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:19        all      0.73      0.00      0.49      0.24      0.00     98.54
16:31:19          0      0.95      0.00      0.00      0.00      0.00     99.05
16:31:19          1      0.96      0.00      0.96      0.00      0.00     98.08
16:31:19          2      0.97      0.00      0.00      0.00      0.00     99.03
16:31:19          3      0.00      0.00      1.00      0.00      0.00     99.00

16:31:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:20        all      0.74      0.00      0.49      0.00      0.00     98.77
16:31:20          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:20          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:20          2      0.97      0.00      0.00      0.00      0.00     99.03
16:31:20          3      1.92      0.00      0.96      0.96      0.00     96.15

16:31:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:21        all      1.21      0.00      0.72      0.48      0.00     97.58
16:31:21          0      0.94      0.00      0.00      0.00      0.00     99.06
16:31:21          1      1.94      0.00      0.00      0.00      0.00     98.06
16:31:21          2      1.96      0.00      0.00      0.00      0.00     98.04
16:31:21          3      0.00      0.00      2.00      1.00      0.00     97.00

16:31:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:22        all      0.49      0.00      0.73      0.24      0.00     98.54
16:31:22          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:22          1      0.97      0.00      0.97      0.00      0.00     98.06
16:31:22          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:22          3      0.96      0.00      2.88      1.92      0.00     94.23

16:31:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:23        all      0.97      0.00      0.24      0.72      0.00     98.07
16:31:23          0      0.95      0.00      0.00      0.00      0.00     99.05
16:31:23          1      1.94      0.00      0.00      0.00      0.00     98.06
16:31:23          2      0.95      0.00      0.00      0.00      0.00     99.05
16:31:23          3      0.98      0.00      0.98      2.94      0.00     95.10

16:31:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:24        all      0.49      0.00      0.74      0.00      0.00     98.77
16:31:24          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:24          1      0.97      0.00      0.97      0.00      0.00     98.06
16:31:24          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:24          3      0.00      0.00      1.98      0.00      0.00     98.02

16:31:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:25        all      0.97      0.00      0.73      0.48      0.00     97.82
16:31:25          0      0.00      0.00      0.96      0.00      0.00     99.04
16:31:25          1      1.94      0.00      0.97      0.00      0.00     97.09
16:31:25          2      1.92      0.00      0.00      0.00      0.00     98.08
16:31:25          3      0.00      0.00      0.99      0.99      0.00     98.02

16:31:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:26        all      0.74      0.00      0.25      0.25      0.00     98.77
16:31:26          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:26          1      1.94      0.00      0.00      0.00      0.00     98.06
16:31:26          2      0.00      0.00      0.00      0.00      0.00    100.00
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16:31:26          3      0.96      0.00      1.92      0.96      0.00     96.15

16:31:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:27        all      0.95      0.00      0.71      0.48      0.00     97.86
16:31:27          0      0.95      0.00      0.00      0.00      0.00     99.05
16:31:27          1      1.90      0.00      0.95      0.00      0.00     97.14
16:31:27          2      0.93      0.00      1.85      0.00      0.00     97.22
16:31:27          3      0.98      0.00      0.98      1.96      0.00     96.08

16:31:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:28        all      0.72      0.00      0.48      0.72      0.00     98.07
16:31:28          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:28          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:28          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:28          3      0.96      0.00      0.96      2.88      0.00     95.19

16:31:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:29        all      0.00      0.00      0.49      0.24      0.00     99.27
16:31:29          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:29          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:29          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:29          3      0.98      0.00      0.98      0.98      0.00     97.06

16:31:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:30        all      0.72      0.00      0.96      0.48      0.00     97.84
16:31:30          0      0.00      0.00      0.95      0.00      0.00     99.05
16:31:30          1      0.96      0.00      0.00      0.96      0.00     98.08
16:31:30          2      0.95      0.00      0.95      0.00      0.00     98.10
16:31:30          3      0.96      0.00      1.92      1.92      0.00     95.19

16:31:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:31        all      0.73      0.00      0.49      0.24      0.00     98.54
16:31:31          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:31          1      0.99      0.00      0.00      0.00      0.00     99.01
16:31:31          2      0.00      0.00      0.95      0.00      0.00     99.05
16:31:31          3      0.97      0.00      0.97      0.97      0.00     97.09

16:31:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:32        all      0.50      0.00      0.00      0.25      0.00     99.26
16:31:32          0      1.01      0.00      0.00      0.00      0.00     98.99
16:31:32          1      0.99      0.00      0.00      0.00      0.00     99.01
16:31:32          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:32          3      0.97      0.00      0.97      0.97      0.00     97.09

16:31:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:33        all      0.48      0.00      0.48      0.48      0.00     98.55
16:31:33          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:33          1      0.00      0.00      0.97      0.00      0.00     99.03
16:31:33          2      0.95      0.00      0.00      0.00      0.00     99.05
16:31:33          3      1.96      0.00      0.00      1.96      0.00     96.08

16:31:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:34        all      0.96      0.00      0.72      0.72      0.00     97.60
16:31:34          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:34          1      0.98      0.00      0.00      0.00      0.00     99.02
16:31:34          2      0.95      0.00      0.00      0.00      0.00     99.05
16:31:34          3      0.97      0.00      2.91      1.94      0.00     94.17
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16:31:34	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:35	all	0.98	0.00	0.49	0.00	0.00	98.53
16:31:35	0	0.99	0.00	0.00	0.00	0.00	99.01
16:31:35	1	0.99	0.00	0.00	0.00	0.00	99.01
16:31:35	2	0.98	0.00	0.00	0.00	0.00	99.02
16:31:35	3	1.92	0.00	0.96	0.96	0.00	96.15
16:31:35	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:36	all	0.49	0.00	0.49	0.24	0.00	98.78
16:31:36	0	0.00	0.00	0.98	0.00	0.00	99.02
16:31:36	1	0.96	0.00	0.00	0.00	0.00	99.04
16:31:36	2	0.97	0.00	0.97	0.00	0.00	98.06
16:31:36	3	0.00	0.00	0.99	0.00	0.00	99.01
16:31:36	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:37	all	0.74	0.00	0.25	0.00	0.00	99.02
16:31:37	0	0.99	0.00	0.00	0.00	0.00	99.01
16:31:37	1	0.00	0.00	0.97	0.00	0.00	99.03
16:31:37	2	0.00	0.00	0.00	0.00	0.00	100.00
16:31:37	3	0.98	0.00	0.98	0.00	0.00	98.04
16:31:37	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:38	all	0.49	0.00	0.73	0.00	0.00	98.79
16:31:38	0	0.98	0.00	0.00	0.00	0.00	99.02
16:31:38	1	0.00	0.00	0.00	0.00	0.00	100.00
16:31:38	2	0.00	0.00	0.00	0.00	0.00	100.00
16:31:38	3	0.98	0.00	1.96	0.98	0.00	96.08
16:31:38	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:39	all	0.98	0.00	0.73	0.24	0.00	98.04
16:31:39	0	1.96	0.00	0.00	0.00	0.00	98.04
16:31:39	1	0.99	0.00	0.00	0.00	0.00	99.01
16:31:39	2	0.00	0.00	0.98	0.00	0.00	99.02
16:31:39	3	1.94	0.00	0.97	0.00	0.00	97.09
16:31:39	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:40	all	0.98	0.00	0.49	0.00	0.00	98.53
16:31:40	0	0.98	0.00	0.98	0.00	0.00	98.04
16:31:40	1	0.95	0.00	0.00	0.00	0.00	99.05
16:31:40	2	0.00	0.00	0.96	0.00	0.00	99.04
16:31:40	3	1.98	0.00	1.98	0.99	0.00	95.05
16:31:40	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:41	all	0.98	0.00	0.49	0.25	0.00	98.28
16:31:41	0	1.00	0.00	0.00	0.00	0.00	99.00
16:31:41	1	0.00	0.00	0.99	0.00	0.00	99.01
16:31:41	2	0.98	0.00	0.00	0.00	0.00	99.02
16:31:41	3	1.94	0.00	0.97	0.97	0.00	96.12
16:31:41	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:42	all	0.72	0.00	0.72	0.00	0.00	98.55
16:31:42	0	0.00	0.00	0.00	0.00	0.00	100.00
16:31:42	1	0.95	0.00	0.00	0.00	0.00	99.05
16:31:42	2	0.95	0.00	0.95	0.00	0.00	98.10
16:31:42	3	0.00	0.00	2.94	0.00	0.00	97.06
16:31:42	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:31:43	all	0.49	0.00	0.74	0.25	0.00	98.53

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16:31:43          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:43          1      0.99      0.00      0.99      0.00      0.00     98.02
16:31:43          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:43          3      0.98      0.00      0.98      0.00      0.00     98.04

16:31:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:44        all      1.46      0.00      0.49      0.24      0.00     97.82
16:31:44          0      1.98      0.00      0.00      0.00      0.00     98.02
16:31:44          1      1.92      0.00      0.00      0.00      0.00     98.08
16:31:44          2      1.89      0.00      0.00      0.00      0.00     98.11
16:31:44          3      0.98      0.00      1.96      0.98      0.00     96.08

16:31:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:45        all      0.73      0.00      1.21      0.24      0.00     97.82
16:31:45          0      0.97      0.00      0.97      0.00      0.00     98.06
16:31:45          1      0.98      0.00      0.00      0.00      0.00     99.02
16:31:45          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:45          3      0.99      0.00      0.99      0.99      0.00     97.03

16:31:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:46        all      0.49      0.00      0.25      0.25      0.00     99.01
16:31:46          0      0.98      0.00      0.98      0.00      0.00     98.04
16:31:46          1      0.00      0.00      0.98      0.00      0.00     99.02
16:31:46          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:46          3      0.00      0.00      0.98      0.98      0.00     98.04

16:31:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:47        all      0.25      0.00      1.00      0.00      0.00     98.76
16:31:47          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:47          1      1.00      0.00      1.00      0.00      0.00     98.00
16:31:47          2      1.00      0.00      0.00      0.00      0.00     99.00
16:31:47          3      0.00      0.00      1.98      0.00      0.00     98.02

16:31:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:48        all      0.73      0.00      0.00      0.24      0.00     99.02
16:31:48          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:48          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:48          2      0.95      0.00      0.00      0.00      0.00     99.05
16:31:48          3      1.96      0.00      0.00      0.98      0.00     97.06

16:31:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:49        all      0.73      0.00      0.24      0.24      0.00     98.79
16:31:49          0      0.95      0.00      0.00      0.00      0.00     99.05
16:31:49          1      0.97      0.00      0.00      0.00      0.00     99.03
16:31:49          2      0.96      0.00      0.00      0.00      0.00     99.04
16:31:49          3      0.00      0.00      0.99      0.99      0.00     98.02

16:31:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:50        all      0.49      0.00      0.25      0.00      0.00     99.26
16:31:50          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:50          1      0.00      0.00      0.00      0.00      0.00    100.00
16:31:50          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:50          3      0.97      0.00      1.94      0.97      0.00     96.12

16:31:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:51        all      0.49      0.00      0.49      0.24      0.00     98.79
16:31:51          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:51          1      0.00      0.00      0.96      0.00      0.00     99.04
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16:31:51          2      1.92      0.00      0.00      0.00      0.00     98.08
16:31:51          3      0.99      0.00      0.99      0.00      0.00     98.02

16:31:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:52        all      0.97      0.00      0.73      0.24      0.00     98.06
16:31:52          0      0.95      0.00      0.00      0.00      0.00     99.05
16:31:52          1      1.92      0.00      1.92      0.00      0.00     96.15
16:31:52          2      0.96      0.00      1.92      0.00      0.00     97.12
16:31:52          3      0.00      0.00      0.00      0.99      0.00     99.01

16:31:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:53        all      1.20      0.00      0.48      0.48      0.00     97.83
16:31:53          0      0.00      0.00      0.97      0.00      0.00     99.03
16:31:53          1      1.90      0.00      0.95      0.00      0.00     97.14
16:31:53          2      0.95      0.00      0.00      0.00      0.00     99.05
16:31:53          3      0.98      0.00      0.00      1.96      0.00     97.06

16:31:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:54        all      0.96      0.00      0.24      0.72      0.00     98.09
16:31:54          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:54          1      0.96      0.00      0.00      0.00      0.00     99.04
16:31:54          2      1.87      0.00      0.00      0.00      0.00     98.13
16:31:54          3      1.90      0.00      0.95      2.86      0.00     94.29

16:31:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:55        all      1.21      0.00      0.73      0.24      0.00     97.82
16:31:55          0      0.96      0.00      0.00      0.00      0.00     99.04
16:31:55          1      0.97      0.00      0.00      0.00      0.00     99.03
16:31:55          2      0.98      0.00      0.00      0.00      0.00     99.02
16:31:55          3      0.95      0.00      1.90      1.90      0.00     95.24

16:31:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:56        all      0.48      0.00      0.24      0.48      0.00     98.80
16:31:56          0      0.97      0.00      0.00      0.00      0.00     99.03
16:31:56          1      0.96      0.00      0.00      0.00      0.00     99.04
16:31:56          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:56          3      0.97      0.00      0.97      0.97      0.00     97.09

16:31:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:57        all      1.21      0.00      0.49      0.24      0.00     98.06
16:31:57          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:57          1      0.96      0.00      0.00      0.00      0.00     99.04
16:31:57          2      1.92      0.00      0.96      0.00      0.00     97.12
16:31:57          3      0.97      0.00      1.94      0.97      0.00     96.12

16:31:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:58        all      0.25      0.00      0.99      0.49      0.00     98.28
16:31:58          0      1.00      0.00      0.00      0.00      0.00     99.00
16:31:58          1      0.00      0.00      2.00      0.00      0.00     98.00
16:31:58          2      0.00      0.00      0.00      0.00      0.00    100.00
16:31:58          3      0.98      0.00      1.96      1.96      0.00     95.10

16:31:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:31:59        all      0.96      0.00      0.48      0.24      0.00     98.33
16:31:59          0      0.00      0.00      0.00      0.00      0.00    100.00
16:31:59          1      0.96      0.00      0.00      0.00      0.00     99.04
16:31:59          2      0.95      0.00      0.00      0.00      0.00     99.05
16:31:59          3      1.90      0.00      2.86      0.95      0.00     94.29
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16:31:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:00        all      0.24      0.00      0.49      0.49      0.00     98.78
16:32:00          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:00          1      0.97      0.00      0.00      0.00      0.00     99.03
16:32:00          2      0.00      0.00      0.95      0.00      0.00     99.05
16:32:00          3      0.00      0.00      0.98      1.96      0.00     97.06

16:32:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:01        all      1.20      0.00      0.48      0.48      0.00     97.85
16:32:01          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:01          1      0.96      0.00      0.00      0.00      0.00     99.04
16:32:01          2      0.96      0.00      0.00      0.00      0.00     99.04
16:32:01          3      2.88      0.00      1.92      1.92      0.00     93.27

16:32:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:02        all      0.97      0.00      0.97      0.48      0.00     97.58
16:32:02          0      0.97      0.00      0.00      0.00      0.00     99.03
16:32:02          1      0.00      0.00      0.00      0.97      0.00     99.03
16:32:02          2      0.00      0.00      0.00      0.00      0.00    100.00
16:32:02          3      2.86      0.00      2.86      1.90      0.00     92.38

16:32:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:03        all      0.49      0.00      0.73      0.49      0.00     98.30
16:32:03          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:03          1      0.97      0.00      0.97      0.00      0.00     98.06
16:32:03          2      0.00      0.00      1.92      0.00      0.00     98.08
16:32:03          3      0.97      0.00      0.97      0.97      0.00     97.09

16:32:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:04        all      0.49      0.00      0.73      0.24      0.00     98.54
16:32:04          0      0.00      0.00      1.00      0.00      0.00     99.00
16:32:04          1      0.00      0.00      0.00      0.00      0.00    100.00
16:32:04          2      0.95      0.00      0.00      0.00      0.00     99.05
16:32:04          3      0.98      0.00      0.98      0.98      0.00     97.06

16:32:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:05        all      1.22      0.00      0.97      0.24      0.00     97.57
16:32:05          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:05          1      0.97      0.00      0.00      0.00      0.00     99.03
16:32:05          2      0.00      0.00      0.00      0.00      0.00    100.00
16:32:05          3      2.94      0.00      1.96      0.98      0.00     94.12

16:32:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:06        all      0.74      0.00      0.00      0.00      0.00     99.26
16:32:06          0      1.01      0.00      0.00      0.00      0.00     98.99
16:32:06          1      0.00      0.00      0.00      0.00      0.00    100.00
16:32:06          2      0.00      0.00      0.00      0.00      0.00    100.00
16:32:06          3      1.92      0.00      0.96      0.96      0.00     96.15

16:32:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:07        all      0.49      0.00      0.49      0.25      0.00     98.77
16:32:07          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:07          1      0.98      0.00      0.00      0.00      0.00     99.02
16:32:07          2      0.00      0.00      0.97      0.00      0.00     99.03
16:32:07          3      1.00      0.00      1.00      1.00      0.00     97.00

16:32:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
16:32:08        all      0.25      0.00      0.25      0.25      0.00     99.25
16:32:08          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:08          1      0.00      0.00      0.00      0.00      0.00    100.00
16:32:08          2      0.00      0.00      0.98      0.00      0.00     99.02
16:32:08          3      0.99      0.00      0.00      0.00      0.00     99.01

16:32:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:09        all      0.25      0.00      0.25      0.00      0.00     99.50
16:32:09          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:09          1      0.00      0.00      0.00      0.00      0.00    100.00
16:32:09          2      0.00      0.00      0.00      0.00      0.00    100.00
16:32:09          3      0.98      0.00      0.98      0.00      0.00     98.04

16:32:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:10        all      0.00      0.00      0.00      0.00      0.00    100.00
16:32:10          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:10          1      0.00      0.00      0.00      0.00      0.00    100.00
16:32:10          2      0.00      0.00      0.00      0.00      0.00    100.00
16:32:10          3      0.00      0.00      0.00      0.00      0.00    100.00

16:32:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:32:11        all      0.00      0.00      0.00      0.00      0.00    100.00
16:32:11          0      0.00      0.00      0.00      0.00      0.00    100.00
16:32:11          1      0.00      0.00      0.00      0.00      0.00    100.00
16:32:11          2      0.00      0.00      0.00      0.00      0.00    100.00
16:32:11          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 12: Iostat monitoring for the 50 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.04    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.40     1.56    14.56    35.62     0.00    4.31   0.44   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    2.20     0.00    24.00    10.91     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.68    0.00    0.49    0.15    0.00   98.69

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.78    0.00    0.54    0.34    0.00   98.34

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     7.00    0.00    1.20     0.00    65.60    54.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.58    0.00    0.63    0.44    0.00   98.35

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    0.44    0.34    0.00   98.49

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.83    0.00    0.59    0.10    0.00   98.49

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    0.68    0.20    0.00   98.39

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.00     0.00    19.20    19.20     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.59    0.00    0.34    0.15    0.00   98.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.40    0.00    2.60     0.00    40.00    15.38     0.00    0.62   0.62   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.01    0.00    0.48    0.43    0.00   98.08

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    16.20    0.00    2.40     0.00   148.80    62.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    0.63    0.39    0.00   98.25

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    0.68    0.29    0.00   98.29

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00
```

Table 13: Jmeter 100 threads test first trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	100	73	42	511
19033-h-0.htm	100	388	107	856
1.css	100	56	42	297
i001_th.jpg	100	63	45	224
pgepub.css	100	54	43	88
0.css	100	56	42	298
i002_th.jpg	100	66	44	410
title.jpg	100	54	43	271
plate02_th.jpg	100	190	53	629
i008_th.jpg	100	94	47	423
plate01_th.jpg	100	187	58	546
i009_th.jpg	100	110	46	388
cover_th.jpg	100	166	52	515
i005_th.jpg	100	87	46	366
i003_th.jpg	100	85	46	459
i015_th.jpg	100	92	47	547
i011_th.jpg	100	90	48	260
i017_th.jpg	100	107	46	414
plate04_th.jpg	100	196	76	875
i022_th.jpg	100	90	47	223
i007_th.jpg	100	58	45	180
i020_th.jpg	100	83	47	151
i004_th.jpg	100	73	44	614
plate03_th.jpg	100	182	53	533
i018_th.jpg	100	91	47	439
i019_th.jpg	100	65	45	411
i016_th.jpg	100	91	46	372
i010_th.jpg	100	56	43	116
i012_th.jpg	100	108	47	510
i014_th.jpg	100	97	45	421
i021_th.jpg	100	71	45	378
i013_th.jpg	100	88	46	250
i006_th.jpg	100	104	49	588
TOTAL	3300	105	42	875

Table 14: Systat monitoring for the 100 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:34:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:08        all      0.00      0.00      0.00      0.00      0.00    100.00
16:34:08          0      0.00      0.00      0.00      0.00      0.00    100.00
16:34:08          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:08          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:08          3      0.00      0.00      0.00      0.00      0.00    100.00

16:34:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:09        all      0.00      0.00      0.23      0.00      0.00     99.77
16:34:09          0      0.00      0.00      0.00      0.00      0.00    100.00
16:34:09          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:09          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:09          3      0.00      0.00      1.00      0.00      0.00     99.00

16:34:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:10        all      0.00      0.00      0.00      0.00      0.00    100.00
16:34:10          0      0.00      0.00      0.00      0.00      0.00    100.00
16:34:10          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:10          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:10          3      0.00      0.00      0.00      0.00      0.00    100.00

16:34:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:11        all      0.00      0.00      0.00      0.00      0.00    100.00
16:34:11          0      0.00      0.00      0.00      0.00      0.00    100.00
16:34:11          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:11          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:11          3      0.00      0.00      0.00      0.00      0.00    100.00

16:34:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:12        all      0.00      0.00      0.27      0.00      0.00     99.73
16:34:12          0      0.00      0.00      0.00      0.00      0.00    100.00
16:34:12          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:12          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:12          3      0.00      0.00      0.99      0.00      0.00     99.01

16:34:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:13        all      0.00      0.00      0.00      0.00      0.00    100.00
16:34:13          0      0.00      0.00      0.00      0.00      0.00    100.00
16:34:13          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:13          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:13          3      0.00      0.00      0.00      0.00      0.00    100.00

16:34:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:14        all      0.00      0.00      0.22      0.00      0.00     99.78
16:34:14          0      0.00      0.00      0.00      0.00      0.00    100.00
16:34:14          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:14          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:14          3      0.00      0.00      0.99      0.00      0.00     99.01

16:34:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:15        all      0.24      0.00      0.24      0.00      0.00     99.53
16:34:15          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:34:15          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:15          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:15          3      0.00      0.00      0.00      0.99      0.00     99.01

16:34:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:16        all      0.24      0.00      0.48      0.72      0.00     98.55
16:34:16          0      0.96      0.00      0.00      0.00      0.00     99.04
16:34:16          1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:16          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:16          3      0.00      0.00      1.92      1.92      0.00     96.15

16:34:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:17        all      0.49      0.00      0.74      0.25      0.00     98.53
16:34:17          0      0.98      0.00      0.98      0.00      0.00     98.04
16:34:17          1      0.00      0.00      0.97      0.00      0.00     99.03
16:34:17          2      0.00      0.00      0.98      0.00      0.00     99.02
16:34:17          3      0.99      0.00      0.99      0.99      0.00     97.03

16:34:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:18        all      0.97      0.00      1.22      0.24      0.00     97.57
16:34:18          0      1.92      0.00      0.96      0.00      0.00     97.12
16:34:18          1      0.98      0.00      0.00      0.00      0.00     99.02
16:34:18          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:18          3      1.94      0.00      2.91      0.97      0.00     94.17

16:34:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:19        all      1.73      0.00      2.47      0.49      0.00     95.31
16:34:19          0      1.96      0.00      0.98      0.00      0.00     97.06
16:34:19          1      1.98      0.00      1.98      0.00      0.00     96.04
16:34:19          2      0.00      0.00      0.99      0.00      0.00     99.01
16:34:19          3      1.96      0.00      5.88      2.94      0.00     89.22

16:34:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:20        all      1.23      0.00      0.98      0.98      0.00     96.81
16:34:20          0      0.98      0.00      1.96      0.00      0.00     97.06
16:34:20          1      0.99      0.00      0.00      0.99      0.00     98.02
16:34:20          2      1.00      0.00      0.00      0.00      0.00     99.00
16:34:20          3      1.96      0.00      0.98      2.94      0.00     94.12

16:34:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:21        all      0.96      0.00      1.69      0.24      0.00     97.11
16:34:21          0      1.98      0.00      0.00      0.00      0.00     98.02
16:34:21          1      0.97      0.00      1.94      0.00      0.00     97.09
16:34:21          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:21          3      1.90      0.00      6.67      0.95      0.00     90.48

16:34:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:22        all      1.46      0.00      1.21      0.24      0.00     97.09
16:34:22          0      0.98      0.00      0.98      0.00      0.00     98.04
16:34:22          1      0.96      0.00      1.92      0.00      0.00     97.12
16:34:22          2      0.98      0.00      0.00      0.00      0.00     99.02
16:34:22          3      0.98      0.00      1.96      0.98      0.00     96.08

16:34:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:23        all      1.46      0.00      1.21      0.73      0.00     96.60
16:34:23          0      1.94      0.00      0.97      0.97      0.00     96.12
16:34:23          1      0.97      0.00      0.97      0.00      0.00     98.06
16:34:23          2      0.95      0.00      0.00      0.00      0.00     99.05
```

```
16:34:23          3      2.97      0.00      0.99      1.98      0.00     94.06

16:34:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:24        all      2.45      0.00      1.47      0.25      0.00     95.83
16:34:24          0      1.98      0.00      0.99      0.00      0.00     97.03
16:34:24          1      1.96      0.00      0.98      0.00      0.00     97.06
16:34:24          2      1.94      0.00      0.97      0.00      0.00     97.09
16:34:24          3      3.88      0.00      2.91      1.94      0.00     91.26

16:34:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:25        all      0.98      0.00      1.72      0.49      0.00     96.81
16:34:25          0      0.97      0.00      1.94      0.00      0.00     97.09
16:34:25          1      1.98      0.00      1.98      0.00      0.00     96.04
16:34:25          2      0.00      0.00      0.95      0.00      0.00     99.05
16:34:25          3      1.98      0.00      4.95      0.99      0.00     92.08

16:34:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:26        all      1.49      0.00      0.99      0.50      0.00     97.03
16:34:26          0      0.98      0.00      0.00      0.00      0.00     99.02
16:34:26          1      1.01      0.00      0.00      0.00      0.00     98.99
16:34:26          2      1.00      0.00      0.00      0.00      0.00     99.00
16:34:26          3      1.94      0.00      3.88      1.94      0.00     92.23

16:34:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:27        all      1.45      0.00      0.97      0.00      0.00     97.58
16:34:27          0      1.92      0.00      0.00      0.00      0.00     98.08
16:34:27          1      0.96      0.00      0.96      0.00      0.00     98.08
16:34:27          2      0.00      0.00      0.00      0.00      0.00    100.00
16:34:27          3      3.00      0.00      2.00      0.00      0.00     95.00

16:34:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:28        all      0.72      0.00      1.92      0.48      0.00     96.88
16:34:28          0      0.99      0.00      1.98      0.00      0.00     97.03
16:34:28          1      0.95      0.00      1.90      0.00      0.00     97.14
16:34:28          2      0.93      0.00      0.00      0.00      0.00     99.07
16:34:28          3      0.98      0.00      3.92      1.96      0.00     93.14

16:34:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:29        all      2.22      0.00      0.49      0.25      0.00     97.04
16:34:29          0      2.97      0.00      0.00      0.00      0.00     97.03
16:34:29          1      0.98      0.00      0.00      0.00      0.00     99.02
16:34:29          2      0.99      0.00      0.00      0.00      0.00     99.01
16:34:29          3      3.03      0.00      1.01      0.00      0.00     95.96

16:34:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:30        all      1.71      0.00      1.46      0.00      0.00     96.83
16:34:30          0      0.00      0.00      0.98      0.00      0.00     99.02
16:34:30          1      0.00      0.00      0.98      0.00      0.00     99.02
16:34:30          2      2.91      0.00      0.00      0.00      0.00     97.09
16:34:30          3      3.85      0.00      3.85      0.96      0.00     91.35

16:34:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:31        all      1.46      0.00      0.98      0.49      0.00     97.07
16:34:31          0      1.96      0.00      0.00      0.00      0.00     98.04
16:34:31          1      1.90      0.00      1.90      0.95      0.00     95.24
16:34:31          2      0.98      0.00      0.00      0.00      0.00     99.02
16:34:31          3      1.96      0.00      1.96      0.98      0.00     95.10
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16:34:31	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:32	all	1.24	0.00	0.74	0.50	0.00	97.52
16:34:32	0	1.01	0.00	0.00	0.00	0.00	98.99
16:34:32	1	1.96	0.00	0.98	0.00	0.00	97.06
16:34:32	2	0.00	0.00	0.00	0.00	0.00	100.00
16:34:32	3	0.97	0.00	2.91	1.94	0.00	94.17
16:34:32	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:33	all	0.96	0.00	1.20	0.72	0.00	97.13
16:34:33	0	0.93	0.00	0.00	0.00	0.00	99.07
16:34:33	1	0.93	0.00	2.80	0.00	0.00	96.26
16:34:33	2	1.92	0.00	0.00	0.00	0.00	98.08
16:34:33	3	0.99	0.00	2.97	1.98	0.00	94.06
16:34:33	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:34	all	1.20	0.00	0.96	0.00	0.00	97.85
16:34:34	0	0.00	0.00	0.00	0.00	0.00	100.00
16:34:34	1	1.90	0.00	0.95	0.00	0.00	97.14
16:34:34	2	0.93	0.00	0.00	0.00	0.00	99.07
16:34:34	3	1.96	0.00	0.98	0.98	0.00	96.08
16:34:34	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:35	all	1.69	0.00	0.96	0.72	0.00	96.63
16:34:35	0	0.00	0.00	0.00	0.00	0.00	100.00
16:34:35	1	1.89	0.00	0.94	0.00	0.00	97.17
16:34:35	2	1.94	0.00	0.97	0.00	0.00	97.09
16:34:35	3	2.91	0.00	2.91	2.91	0.00	91.26
16:34:35	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:36	all	1.69	0.00	0.97	0.48	0.00	96.85
16:34:36	0	0.00	0.00	1.98	0.00	0.00	98.02
16:34:36	1	2.88	0.00	0.00	0.00	0.00	97.12
16:34:36	2	0.96	0.00	0.96	0.00	0.00	98.08
16:34:36	3	0.98	0.00	0.98	1.96	0.00	96.08
16:34:36	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:37	all	1.20	0.00	2.17	0.48	0.00	96.14
16:34:37	0	1.92	0.00	0.96	0.00	0.00	97.12
16:34:37	1	1.94	0.00	1.94	0.00	0.00	96.12
16:34:37	2	1.87	0.00	0.93	0.00	0.00	97.20
16:34:37	3	0.97	0.00	4.85	1.94	0.00	92.23
16:34:37	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:38	all	1.70	0.00	0.97	0.00	0.00	97.32
16:34:38	0	0.95	0.00	0.95	0.00	0.00	98.10
16:34:38	1	0.00	0.00	0.96	0.00	0.00	99.04
16:34:38	2	1.98	0.00	0.00	0.00	0.00	98.02
16:34:38	3	2.91	0.00	3.88	0.00	0.00	93.20
16:34:38	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:39	all	1.70	0.00	1.70	1.22	0.00	95.38
16:34:39	0	0.99	0.00	0.99	0.00	0.00	98.02
16:34:39	1	2.00	0.00	0.00	0.00	0.00	98.00
16:34:39	2	1.90	0.00	1.90	0.00	0.00	96.19
16:34:39	3	2.94	0.00	2.94	3.92	0.00	90.20
16:34:39	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:34:40	all	0.97	0.00	1.45	0.48	0.00	97.09

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16:34:40          0      0.98      0.00      0.98      0.00      0.00     98.04
16:34:40          1      0.00      0.00      0.96      0.00      0.00     99.04
16:34:40          2      0.96      0.00      0.96      0.00      0.00     98.08
16:34:40          3      0.97      0.00      2.91      2.91      0.00     93.20

16:34:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:41        all      1.20      0.00      1.20      0.48      0.00     97.11
16:34:41          0      0.00      0.00      0.98      0.00      0.00     99.02
16:34:41          1      2.88      0.00      1.92      0.00      0.00     95.19
16:34:41          2      0.93      0.00      0.93      0.00      0.00     98.13
16:34:41          3      0.00      0.00      1.96      1.96      0.00     96.08

16:34:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:42        all      1.21      0.00      0.97      0.49      0.00     97.33
16:34:42          0      0.00      0.00      0.98      0.00      0.00     99.02
16:34:42          1      1.94      0.00      0.00      0.00      0.00     98.06
16:34:42          2      1.94      0.00      0.00      0.00      0.00     98.06
16:34:42          3      1.90      0.00      2.86      1.90      0.00     93.33

16:34:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:43        all      1.46      0.00      1.46      0.73      0.00     96.36
16:34:43          0      1.94      0.00      0.97      0.00      0.00     97.09
16:34:43          1      1.92      0.00      0.96      0.00      0.00     97.12
16:34:43          2      1.92      0.00      0.96      0.00      0.00     97.12
16:34:43          3      0.00      0.00      2.94      2.94      0.00     94.12

16:34:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:44        all      1.44      0.00      1.44      0.72      0.00     96.39
16:34:44          0      0.00      0.00      0.95      0.00      0.00     99.05
16:34:44          1      1.94      0.00      0.97      0.00      0.00     97.09
16:34:44          2      2.83      0.00      0.00      0.00      0.00     97.17
16:34:44          3      1.96      0.00      3.92      2.94      0.00     91.18

16:34:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:45        all      1.67      0.00      1.44      0.48      0.00     96.41
16:34:45          0      0.99      0.00      0.00      0.00      0.00     99.01
16:34:45          1      0.94      0.00      0.94      0.94      0.00     97.17
16:34:45          2      1.83      0.00      1.83      0.00      0.00     96.33
16:34:45          3      3.88      0.00      1.94      1.94      0.00     92.23

16:34:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:46        all      1.20      0.00      1.45      0.96      0.00     96.39
16:34:46          0      0.00      0.00      1.92      0.00      0.00     98.08
16:34:46          1      0.00      0.00      1.00      0.00      0.00     99.00
16:34:46          2      0.95      0.00      0.00      0.00      0.00     99.05
16:34:46          3      1.96      0.00      1.96      2.94      0.00     93.14

16:34:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:47        all      1.46      0.00      0.97      0.49      0.00     97.08
16:34:47          0      0.98      0.00      0.98      0.00      0.00     98.04
16:34:47          1      1.90      0.00      0.95      0.00      0.00     97.14
16:34:47          2      1.92      0.00      0.96      0.00      0.00     97.12
16:34:47          3      1.96      0.00      2.94      1.96      0.00     93.14

16:34:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:48        all      0.97      0.00      0.73      0.49      0.00     97.81
16:34:48          0      0.00      0.00      0.00      0.00      0.00    100.00
16:34:48          1      0.98      0.00      0.00      0.00      0.00     99.02
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16:34:48          2      1.92      0.00      0.00      0.00      0.00     98.08
16:34:48          3      0.97      0.00      2.91      1.94      0.00     94.17

16:34:48       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:49       all      1.22      0.00      0.98      0.24      0.00     97.56
16:34:49         0      0.00      0.00      1.98      0.00      0.00     98.02
16:34:49         1      0.00      0.00      0.00      0.00      0.00    100.00
16:34:49         2      1.94      0.00      0.00      0.00      0.00     98.06
16:34:49         3      1.94      0.00      1.94      0.97      0.00     95.15

16:34:49       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:50       all      1.46      0.00      0.73      0.49      0.00     97.32
16:34:50         0      0.97      0.00      0.97      0.00      0.00     98.06
16:34:50         1      0.97      0.00      0.00      0.00      0.00     99.03
16:34:50         2      1.98      0.00      0.00      0.00      0.00     98.02
16:34:50         3      1.98      0.00      0.99      1.98      0.00     95.05

16:34:50       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:51       all      1.69      0.00      1.21      0.48      0.00     96.61
16:34:51         0      0.96      0.00      0.96      0.00      0.00     98.08
16:34:51         1      1.92      0.00      0.00      0.00      0.00     98.08
16:34:51         2      1.92      0.00      0.96      0.00      0.00     97.12
16:34:51         3      2.91      0.00      2.91      1.94      0.00     92.23

16:34:51       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:52       all      1.74      0.00      2.24      0.75      0.00     95.27
16:34:52         0      0.00      0.00      1.01      0.00      0.00     98.99
16:34:52         1      2.02      0.00      3.03      0.00      0.00     94.95
16:34:52         2      1.00      0.00      2.00      0.00      0.00     97.00
16:34:52         3      2.88      0.00      3.85      2.88      0.00     90.38

16:34:52       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:53       all      1.68      0.00      1.20      0.24      0.00     96.88
16:34:53         0      2.86      0.00      1.90      0.00      0.00     95.24
16:34:53         1      0.95      0.00      0.95      0.00      0.00     98.10
16:34:53         2      1.89      0.00      0.00      0.00      0.00     98.11
16:34:53         3      0.99      0.00      1.98      0.99      0.00     96.04

16:34:53       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:54       all      1.00      0.00      1.99      0.25      0.00     96.77
16:34:54         0      1.96      0.00      1.96      0.00      0.00     96.08
16:34:54         1      0.99      0.00      1.98      0.00      0.00     97.03
16:34:54         2      1.00      0.00      0.00      0.00      0.00     99.00
16:34:54         3      0.99      0.00      3.96      0.99      0.00     94.06

16:34:54       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:55       all      1.20      0.00      1.92      0.48      0.00     96.40
16:34:55         0      0.97      0.00      0.00      0.00      0.00     99.03
16:34:55         1      0.96      0.00      1.92      0.00      0.00     97.12
16:34:55         2      0.95      0.00      0.95      0.00      0.00     98.10
16:34:55         3      0.98      0.00      3.92      1.96      0.00     93.14

16:34:55       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:56       all      1.70      0.00      1.46      0.24      0.00     96.60
16:34:56         0      1.96      0.00      0.00      0.00      0.00     98.04
16:34:56         1      0.97      0.00      0.00      0.00      0.00     99.03
16:34:56         2      1.89      0.00      0.00      0.00      0.00     98.11
16:34:56         3      3.81      0.00      5.71      0.95      0.00     89.52
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16:34:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:57        all      1.68      0.00      1.44      0.72      0.00     96.15
16:34:57          0      0.96      0.00      0.96      0.00      0.00     98.08
16:34:57          1      1.94      0.00      0.97      0.00      0.00     97.09
16:34:57          2      1.90      0.00      0.95      0.00      0.00     97.14
16:34:57          3      0.00      0.00      3.03      2.02      0.00     94.95

16:34:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:58        all      0.74      0.00      1.23      0.00      0.00     98.04
16:34:58          0      0.95      0.00      0.00      0.00      0.00     99.05
16:34:58          1      0.99      0.00      1.98      0.00      0.00     97.03
16:34:58          2      0.97      0.00      0.00      0.00      0.00     99.03
16:34:58          3      0.99      0.00      2.97      0.99      0.00     95.05

16:34:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:34:59        all      1.21      0.00      1.94      0.49      0.00     96.36
16:34:59          0      0.98      0.00      0.00      0.00      0.00     99.02
16:34:59          1      0.98      0.00      1.96      0.00      0.00     97.06
16:34:59          2      0.96      0.00      0.96      0.00      0.00     98.08
16:34:59          3      0.97      0.00      5.83      0.97      0.00     92.23

16:34:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:00        all      1.21      0.00      0.97      0.00      0.00     97.82
16:35:00          0      0.94      0.00      0.94      0.00      0.00     98.11
16:35:00          1      1.96      0.00      0.98      0.00      0.00     97.06
16:35:00          2      0.96      0.00      0.00      0.00      0.00     99.04
16:35:00          3      1.94      0.00      1.94      0.97      0.00     95.15

16:35:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:01        all      0.98      0.00      0.98      0.25      0.00     97.79
16:35:01          0      0.00      0.00      0.00      0.00      0.00    100.00
16:35:01          1      0.98      0.00      0.98      0.00      0.00     98.04
16:35:01          2      0.00      0.00      0.00      0.00      0.00    100.00
16:35:01          3      0.99      0.00      1.98      0.99      0.00     96.04

16:35:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:02        all      0.97      0.00      0.24      0.72      0.00     98.07
16:35:02          0      0.96      0.00      0.00      0.00      0.00     99.04
16:35:02          1      0.97      0.00      0.00      0.00      0.00     99.03
16:35:02          2      0.96      0.00      0.00      0.00      0.00     99.04
16:35:02          3      0.97      0.00      0.97      2.91      0.00     95.15

16:35:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:03        all      1.46      0.00      0.73      0.24      0.00     97.56
16:35:03          0      0.97      0.00      0.00      0.00      0.00     99.03
16:35:03          1      2.94      0.00      0.00      0.00      0.00     97.06
16:35:03          2      1.92      0.00      0.00      0.00      0.00     98.08
16:35:03          3      2.00      0.00      1.00      0.00      0.00     97.00

16:35:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:04        all      2.41      0.00      1.20      0.24      0.00     96.14
16:35:04          0      1.89      0.00      0.94      0.00      0.00     97.17
16:35:04          1      2.86      0.00      1.90      0.00      0.00     95.24
16:35:04          2      1.92      0.00      1.92      0.00      0.00     96.15
16:35:04          3      1.96      0.00      1.96      1.96      0.00     94.12

16:35:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
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16:35:05        all      1.00      0.00      0.25      0.25      0.00     98.51
16:35:05          0      0.00      0.00      0.98      0.00      0.00     99.02
16:35:05          1      1.03      0.00      0.00      0.00      0.00     98.97
16:35:05          2      0.99      0.00      0.00      0.00      0.00     99.01
16:35:05          3      1.96      0.00      0.98      0.00      0.00     97.06

16:35:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:06        all      0.24      0.00      0.49      0.00      0.00     99.27
16:35:06          0      0.00      0.00      0.00      0.00      0.00    100.00
16:35:06          1      0.94      0.00      0.00      0.00      0.00     99.06
16:35:06          2      0.00      0.00      0.00      0.00      0.00    100.00
16:35:06          3      1.00      0.00      1.00      0.00      0.00     98.00

16:35:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:07        all      0.49      0.00      0.73      0.00      0.00     98.78
16:35:07          0      0.00      0.00      0.00      0.00      0.00    100.00
16:35:07          1      0.00      0.00      1.98      0.00      0.00     98.02
16:35:07          2      0.96      0.00      0.00      0.00      0.00     99.04
16:35:07          3      0.00      0.00      0.99      0.99      0.00     98.02

16:35:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:08        all      0.00      0.00      0.00      0.00      0.00    100.00
16:35:08          0      0.00      0.00      0.00      0.00      0.00    100.00
16:35:08          1      0.00      0.00      0.00      0.00      0.00    100.00
16:35:08          2      0.00      0.00      0.00      0.00      0.00    100.00
16:35:08          3      0.00      0.00      0.99      0.00      0.00     99.01

16:35:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:09        all      0.00      0.00      0.31      0.00      0.00     99.69
16:35:09          0      0.00      0.00      0.00      0.00      0.00    100.00
16:35:09          1      0.00      0.00      0.00      0.00      0.00    100.00
16:35:09          2      0.00      0.00      0.00      0.00      0.00    100.00
16:35:09          3      0.00      0.00      0.00      0.00      0.00    100.00

16:35:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:35:10        all      0.21      0.00      0.43      0.00      0.00     99.36
16:35:10          0      0.00      0.00      0.00      0.00      0.00    100.00
16:35:10          1      0.93      0.00      0.93      0.00      0.00     98.15
16:35:10          2      0.00      0.00      0.65      0.00      0.00     99.35
16:35:10          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 15: Iostat monitoring for the 100 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.04    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.41     1.55    14.57    35.61     0.00    4.30   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.40     0.00    11.20    28.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.44    0.00    0.59    0.24    0.00   98.73

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.46    0.00    1.61    0.54    0.00   96.40

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.32    0.00    1.27    0.34    0.00   97.06

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    2.00   2.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.46    0.00    1.02    0.39    0.00   97.12

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.59    0.00    1.25    0.38    0.00   96.78

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    22.00    0.00    3.20     0.00   201.60    63.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.26    0.00    1.41    0.63    0.00   96.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    1.00     0.00    20.80    20.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.35    0.00    1.06    0.63    0.00   96.95

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    2.00   1.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.51    0.00    1.47    0.44    0.00   96.58

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.00    0.00    1.40     0.00    27.20    19.43     0.00    0.57   0.57   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.36    0.00    1.50    0.34    0.00   96.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.21    0.00    0.87    0.34    0.00   97.57

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.70    0.00    0.60    0.10    0.00   98.59

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    29.00    0.00    2.80     0.00   254.40    90.86     0.00    0.00   0.00   0.00
```

Table 16: Jmeter 100 threads test second trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	100	64	42	157
19033-h-0.htm	100	301	107	710
1.css	100	53	42	100
i001_th.jpg	100	56	44	150
pgepub.css	100	52	42	95
0.css	100	57	43	369
i002_th.jpg	100	56	45	116
title.jpg	100	54	43	107
plate02_th.jpg	100	154	53	363
i008_th.jpg	100	73	47	211
plate01_th.jpg	100	155	55	507
i009_th.jpg	100	93	47	253
cover_th.jpg	100	142	51	313
i005_th.jpg	100	80	46	437
i003_th.jpg	100	76	46	481
i015_th.jpg	100	80	45	418
i011_th.jpg	100	81	46	446
i017_th.jpg	100	86	45	161
plate04_th.jpg	100	162	52	385
i022_th.jpg	100	75	46	256
i007_th.jpg	100	62	45	349
i020_th.jpg	100	73	47	182
i004_th.jpg	100	63	44	266
plate03_th.jpg	100	161	58	390
i018_th.jpg	100	82	45	279
i019_th.jpg	100	60	43	164
i016_th.jpg	100	77	46	356
i010_th.jpg	100	55	44	215
i012_th.jpg	100	89	46	436
i014_th.jpg	100	74	46	278
i021_th.jpg	100	60	44	177
i013_th.jpg	100	75	46	208
i006_th.jpg	100	87	46	294
TOTAL	3300	90	42	710

Table 17: Systat monitoring for the 100 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:36:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:47        all      0.27      0.00      0.00      0.00      0.00     99.73
16:36:47          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:47          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:47          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:47          3      0.00      0.00      0.00      0.00      0.00    100.00

16:36:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:48        all      0.00      0.00      0.25      0.00      0.00     99.75
16:36:48          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:48          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:48          2      0.00      0.00      0.98      0.00      0.00     99.02
16:36:48          3      0.00      0.00      0.00      0.00      0.00    100.00

16:36:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:49        all      0.00      0.00      0.00      0.00      0.00    100.00
16:36:49          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:49          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:49          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:49          3      0.00      0.00      0.00      0.00      0.00    100.00

16:36:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:50        all      0.00      0.00      0.27      0.00      0.00     99.73
16:36:50          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:50          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:50          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:50          3      0.00      0.00      0.99      0.00      0.00     99.01

16:36:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:51        all      0.00      0.00      0.00      0.00      0.00    100.00
16:36:51          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:51          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:51          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:51          3      0.00      0.00      0.00      0.00      0.00    100.00

16:36:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:52        all      0.00      0.00      0.26      0.00      0.00     99.74
16:36:52          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:52          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:52          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:52          3      0.00      0.00      0.99      0.00      0.00     99.01

16:36:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:53        all      0.00      0.00      0.00      0.00      0.00    100.00
16:36:53          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:53          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:53          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:53          3      0.00      0.00      0.00      0.00      0.00    100.00

16:36:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:54        all      0.00      0.00      0.00      0.00      0.00    100.00
16:36:54          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:36:54          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:54          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:54          3      0.00      0.00      0.00      0.00      0.00    100.00

16:36:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:55        all      0.00      0.00      0.24      0.00      0.00     99.76
16:36:55          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:55          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:55          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:55          3      0.00      0.00      0.99      0.00      0.00     99.01

16:36:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:56        all      0.00      0.00      0.00      0.00      0.00    100.00
16:36:56          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:56          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:56          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:56          3      0.00      0.00      0.00      0.00      0.00    100.00

16:36:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:57        all      0.22      0.00      0.44      0.22      0.00     99.12
16:36:57          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:57          1      0.00      0.00      0.00      0.00      0.00    100.00
16:36:57          2      0.78      0.00      0.00      0.00      0.00     99.22
16:36:57          3      0.97      0.00      1.94      0.00      0.00     97.09

16:36:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:58        all      0.73      0.00      0.97      0.24      0.00     98.05
16:36:58          0      0.00      0.00      0.00      0.00      0.00    100.00
16:36:58          1      0.00      0.00      0.97      0.00      0.00     99.03
16:36:58          2      0.00      0.00      0.00      0.00      0.00    100.00
16:36:58          3      0.98      0.00      0.98      1.96      0.00     96.08

16:36:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:36:59        all      1.45      0.00      1.45      0.24      0.00     96.86
16:36:59          0      1.94      0.00      0.00      0.00      0.00     98.06
16:36:59          1      1.96      0.00      0.98      0.98      0.00     96.08
16:36:59          2      0.95      0.00      0.95      0.00      0.00     98.10
16:36:59          3      1.89      0.00      4.72      0.00      0.00     93.40

16:36:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:00        all      1.46      0.00      1.46      0.00      0.00     97.08
16:37:00          0      2.91      0.00      0.97      0.00      0.00     96.12
16:37:00          1      0.95      0.00      0.00      0.00      0.00     99.05
16:37:00          2      0.96      0.00      0.00      0.00      0.00     99.04
16:37:00          3      2.00      0.00      4.00      0.00      0.00     94.00

16:37:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:01        all      1.90      0.00      0.95      0.47      0.00     96.68
16:37:01          0      0.95      0.00      0.95      0.00      0.00     98.10
16:37:01          1      1.89      0.00      0.94      0.00      0.00     97.17
16:37:01          2      0.00      0.00      0.93      0.00      0.00     99.07
16:37:01          3      3.88      0.00      1.94      1.94      0.00     92.23

16:37:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:02        all      0.96      0.00      0.96      0.24      0.00     97.85
16:37:02          0      0.97      0.00      0.00      0.00      0.00     99.03
16:37:02          1      0.95      0.00      0.00      0.00      0.00     99.05
16:37:02          2      0.93      0.00      0.00      0.00      0.00     99.07
```

```
16:37:02          3      0.98      0.00      3.92      0.98      0.00     94.12

16:37:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:03        all      1.22      0.00      0.97      0.24      0.00     97.57
16:37:03          0      0.97      0.00      0.00      0.00      0.00     99.03
16:37:03          1      0.99      0.00      0.00      0.00      0.00     99.01
16:37:03          2      0.97      0.00      0.00      0.00      0.00     99.03
16:37:03          3      3.85      0.00      2.88      0.96      0.00     92.31

16:37:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:04        all      1.47      0.00      0.98      0.49      0.00     97.06
16:37:04          0      0.98      0.00      0.98      0.00      0.00     98.04
16:37:04          1      0.97      0.00      1.94      0.00      0.00     97.09
16:37:04          2      0.97      0.00      0.00      0.00      0.00     99.03
16:37:04          3      1.98      0.00      2.97      1.98      0.00     93.07

16:37:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:05        all      1.45      0.00      1.45      0.48      0.00     96.61
16:37:05          0      1.94      0.00      0.97      0.00      0.00     97.09
16:37:05          1      0.96      0.00      0.00      0.96      0.00     98.08
16:37:05          2      0.97      0.00      0.00      0.00      0.00     99.03
16:37:05          3      1.94      0.00      3.88      0.97      0.00     93.20

16:37:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:06        all      1.21      0.00      0.97      0.24      0.00     97.58
16:37:06          0      0.95      0.00      0.95      0.00      0.00     98.10
16:37:06          1      0.95      0.00      0.95      0.00      0.00     98.10
16:37:06          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:06          3      2.97      0.00      2.97      0.99      0.00     93.07

16:37:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:07        all      1.46      0.00      0.73      0.49      0.00     97.33
16:37:07          0      0.97      0.00      0.00      0.00      0.00     99.03
16:37:07          1      0.99      0.00      0.00      0.00      0.00     99.01
16:37:07          2      1.94      0.00      0.00      0.00      0.00     98.06
16:37:07          3      2.88      0.00      1.92      1.92      0.00     93.27

16:37:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:08        all      1.95      0.00      0.49      0.24      0.00     97.32
16:37:08          0      1.96      0.00      0.00      0.00      0.00     98.04
16:37:08          1      0.97      0.00      0.00      0.00      0.00     99.03
16:37:08          2      1.94      0.00      0.97      0.00      0.00     97.09
16:37:08          3      1.98      0.00      0.99      0.99      0.00     96.04

16:37:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:09        all      1.95      0.00      2.20      0.49      0.00     95.37
16:37:09          0      2.91      0.00      1.94      0.00      0.00     95.15
16:37:09          1      2.94      0.00      0.98      0.98      0.00     95.10
16:37:09          2      0.98      0.00      0.98      0.00      0.00     98.04
16:37:09          3      0.98      0.00      3.92      0.98      0.00     94.12

16:37:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:10        all      0.98      0.00      0.49      0.24      0.00     98.29
16:37:10          0      0.00      0.00      0.00      0.00      0.00    100.00
16:37:10          1      0.99      0.00      0.00      0.00      0.00     99.01
16:37:10          2      0.00      0.00      0.98      0.00      0.00     99.02
16:37:10          3      1.96      0.00      1.96      0.00      0.00     96.08
```

```
16:37:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:11        all      0.99      0.00      0.74      0.49      0.00     97.78
16:37:11          0      0.99      0.00      0.00      0.00      0.00     99.01
16:37:11          1      0.98      0.00      0.98      0.00      0.00     98.04
16:37:11          2      0.98      0.00      0.98      0.00      0.00     98.04
16:37:11          3      0.97      0.00      1.94      2.91      0.00     94.17

16:37:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:12        all      1.95      0.00      0.97      0.73      0.00     96.35
16:37:12          0      2.91      0.00      0.00      0.00      0.00     97.09
16:37:12          1      1.96      0.00      0.98      0.00      0.00     97.06
16:37:12          2      1.92      0.00      0.00      0.00      0.00     98.08
16:37:12          3      1.94      0.00      1.94      2.91      0.00     93.20

16:37:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:13        all      1.43      0.00      1.43      0.48      0.00     96.66
16:37:13          0      0.00      0.00      0.94      0.00      0.00     99.06
16:37:13          1      1.87      0.00      1.87      0.00      0.00     96.26
16:37:13          2      0.96      0.00      1.92      0.00      0.00     97.12
16:37:13          3      2.00      0.00      0.00      1.00      0.00     97.00

16:37:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:14        all      1.47      0.00      0.49      0.49      0.00     97.56
16:37:14          0      0.98      0.00      0.98      0.00      0.00     98.04
16:37:14          1      1.94      0.00      1.94      0.97      0.00     95.15
16:37:14          2      0.97      0.00      0.00      0.00      0.00     99.03
16:37:14          3      1.96      0.00      0.98      1.96      0.00     95.10

16:37:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:15        all      0.97      0.00      1.95      0.49      0.00     96.59
16:37:15          0      1.01      0.00      0.00      0.00      0.00     98.99
16:37:15          1      0.96      0.00      0.00      0.00      0.00     99.04
16:37:15          2      0.00      0.00      0.96      0.00      0.00     99.04
16:37:15          3      1.98      0.00      3.96      0.99      0.00     93.07

16:37:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:16        all      1.67      0.00      1.20      0.24      0.00     96.89
16:37:16          0      1.87      0.00      0.93      0.00      0.00     97.20
16:37:16          1      1.94      0.00      1.94      0.00      0.00     96.12
16:37:16          2      1.85      0.00      0.93      0.00      0.00     97.22
16:37:16          3      1.92      0.00      3.85      1.92      0.00     92.31

16:37:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:17        all      1.69      0.00      1.21      0.48      0.00     96.61
16:37:17          0      0.00      0.00      0.00      0.00      0.00    100.00
16:37:17          1      1.92      0.00      1.92      0.00      0.00     96.15
16:37:17          2      1.96      0.00      0.00      0.00      0.00     98.04
16:37:17          3      2.97      0.00      0.99      1.98      0.00     94.06

16:37:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:18        all      1.44      0.00      0.72      0.48      0.00     97.36
16:37:18          0      0.00      0.00      0.00      0.00      0.00    100.00
16:37:18          1      0.95      0.00      0.95      0.00      0.00     98.10
16:37:18          2      1.85      0.00      0.00      0.00      0.00     98.15
16:37:18          3      2.91      0.00      2.91      1.94      0.00     92.23

16:37:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:19        all      1.00      0.00      0.75      0.25      0.00     97.99
```

```
16:37:19          0      1.02      0.00      0.00      0.00      0.00     98.98
16:37:19          1      1.00      0.00      1.00      0.00      0.00     98.00
16:37:19          2      1.01      0.00      0.00      0.00      0.00     98.99
16:37:19          3      0.00      0.00      1.01      1.01      0.00     97.98

16:37:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:20        all      1.89      0.00      0.95      0.95      0.00     96.22
16:37:20          0      0.93      0.00      0.93      0.00      0.00     98.13
16:37:20          1      2.83      0.00      0.94      0.00      0.00     96.23
16:37:20          2      1.89      0.00      0.00      0.00      0.00     98.11
16:37:20          3      1.94      0.00      1.94      2.91      0.00     93.20

16:37:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:21        all      0.72      0.00      1.20      0.48      0.00     97.60
16:37:21          0      0.00      0.00      0.96      0.00      0.00     99.04
16:37:21          1      0.94      0.00      1.89      0.94      0.00     96.23
16:37:21          2      0.95      0.00      0.00      0.00      0.00     99.05
16:37:21          3      1.90      0.00      2.86      1.90      0.00     93.33

16:37:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:22        all      1.20      0.00      1.20      0.72      0.00     96.89
16:37:22          0      0.97      0.00      0.00      0.00      0.00     99.03
16:37:22          1      1.94      0.00      0.97      0.00      0.00     97.09
16:37:22          2      0.93      0.00      0.00      0.00      0.00     99.07
16:37:22          3      1.90      0.00      2.86      2.86      0.00     92.38

16:37:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:23        all      1.67      0.00      0.95      0.24      0.00     97.14
16:37:23          0      0.00      0.00      0.00      0.00      0.00    100.00
16:37:23          1      1.87      0.00      0.93      0.00      0.00     97.20
16:37:23          2      0.92      0.00      0.92      0.00      0.00     98.17
16:37:23          3      2.97      0.00      3.96      0.99      0.00     92.08

16:37:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:24        all      1.22      0.00      0.98      0.49      0.00     97.31
16:37:24          0      0.98      0.00      0.00      0.00      0.00     99.02
16:37:24          1      0.99      0.00      0.99      0.00      0.00     98.02
16:37:24          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:24          3      0.98      0.00      2.94      1.96      0.00     94.12

16:37:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:25        all      0.98      0.00      0.98      0.73      0.00     97.31
16:37:25          0      0.98      0.00      0.98      0.00      0.00     98.04
16:37:25          1      1.00      0.00      1.00      0.00      0.00     98.00
16:37:25          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:25          3      1.98      0.00      0.99      1.98      0.00     95.05

16:37:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:26        all      1.22      0.00      1.22      0.49      0.00     97.08
16:37:26          0      1.96      0.00      0.00      0.00      0.00     98.04
16:37:26          1      0.96      0.00      0.96      0.96      0.00     97.12
16:37:26          2      0.95      0.00      0.95      0.00      0.00     98.10
16:37:26          3      1.94      0.00      3.88      1.94      0.00     92.23

16:37:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:27        all      1.97      0.00      0.98      0.49      0.00     96.56
16:37:27          0      0.99      0.00      0.99      0.00      0.00     98.02
16:37:27          1      1.94      0.00      0.97      0.00      0.00     97.09
```

```
16:37:27          2      1.96      0.00      0.00      0.00      0.00     98.04
16:37:27          3      2.94      0.00      0.98      1.96      0.00     94.12

16:37:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:28        all      1.68      0.00      1.44      1.44      0.00     95.43
16:37:28          0      0.00      0.00      0.00      0.00      0.00    100.00
16:37:28          1      0.98      0.00      0.00      0.98      0.00     98.04
16:37:28          2      1.92      0.00      0.96      0.00      0.00     97.12
16:37:28          3      2.94      0.00      3.92      3.92      0.00     89.22

16:37:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:29        all      0.73      0.00      0.98      0.49      0.00     97.80
16:37:29          0      0.97      0.00      0.97      0.00      0.00     98.06
16:37:29          1      0.96      0.00      0.96      0.00      0.00     98.08
16:37:29          2      0.96      0.00      1.92      0.00      0.00     97.12
16:37:29          3      1.96      0.00      0.98      1.96      0.00     95.10

16:37:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:30        all      1.68      0.00      1.20      0.72      0.00     96.40
16:37:30          0      0.96      0.00      0.00      0.00      0.00     99.04
16:37:30          1      0.98      0.00      0.00      0.00      0.00     99.02
16:37:30          2      0.96      0.00      0.00      0.00      0.00     99.04
16:37:30          3      2.86      0.00      3.81      3.81      0.00     89.52

16:37:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:31        all      1.21      0.00      1.21      0.48      0.00     97.10
16:37:31          0      0.98      0.00      0.00      0.00      0.00     99.02
16:37:31          1      0.97      0.00      0.00      0.00      0.00     99.03
16:37:31          2      0.94      0.00      0.94      0.00      0.00     98.11
16:37:31          3      2.91      0.00      2.91      0.97      0.00     93.20

16:37:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:32        all      2.18      0.00      0.97      0.24      0.00     96.60
16:37:32          0      0.00      0.00      0.98      0.00      0.00     99.02
16:37:32          1      2.88      0.00      0.00      0.00      0.00     97.12
16:37:32          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:32          3      4.81      0.00      2.88      1.92      0.00     90.38

16:37:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:33        all      1.47      0.00      1.23      0.74      0.00     96.57
16:37:33          0      0.97      0.00      0.97      0.00      0.00     98.06
16:37:33          1      0.99      0.00      0.99      0.00      0.00     98.02
16:37:33          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:33          3      2.91      0.00      3.88      1.94      0.00     91.26

16:37:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:34        all      1.45      0.00      0.97      0.24      0.00     97.34
16:37:34          0      0.97      0.00      0.00      0.00      0.00     99.03
16:37:34          1      0.95      0.00      0.95      0.95      0.00     97.14
16:37:34          2      0.95      0.00      0.95      0.00      0.00     98.10
16:37:34          3      3.96      0.00      1.98      0.99      0.00     93.07

16:37:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:35        all      1.21      0.00      0.97      0.48      0.00     97.34
16:37:35          0      0.95      0.00      0.95      0.00      0.00     98.10
16:37:35          1      0.00      0.00      0.00      0.00      0.00    100.00
16:37:35          2      0.95      0.00      0.00      0.00      0.00     99.05
16:37:35          3      3.00      0.00      2.00      1.00      0.00     94.00
```

```
16:37:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:36        all      1.69      0.00      0.72      0.24      0.00     97.35
16:37:36          0      0.98      0.00      0.98      0.00      0.00     98.04
16:37:36          1      1.92      0.00      0.00      0.00      0.00     98.08
16:37:36          2      0.94      0.00      0.94      0.00      0.00     98.11
16:37:36          3      3.77      0.00      2.83      0.94      0.00     92.45

16:37:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:37        all      1.46      0.00      1.22      0.24      0.00     97.08
16:37:37          0      0.98      0.00      0.00      0.00      0.00     99.02
16:37:37          1      1.96      0.00      0.00      0.00      0.00     98.04
16:37:37          2      0.00      0.00      0.98      0.00      0.00     99.02
16:37:37          3      2.94      0.00      1.96      0.98      0.00     94.12

16:37:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:38        all      1.45      0.00      0.97      0.24      0.00     97.34
16:37:38          0      0.96      0.00      0.96      0.00      0.00     98.08
16:37:38          1      1.90      0.00      0.95      0.00      0.00     97.14
16:37:38          2      1.90      0.00      0.00      0.00      0.00     98.10
16:37:38          3      0.97      0.00      3.88      0.97      0.00     94.17

16:37:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:39        all      0.96      0.00      2.16      0.48      0.00     96.39
16:37:39          0      0.98      0.00      0.98      0.00      0.00     98.04
16:37:39          1      0.00      0.00      0.96      0.96      0.00     98.08
16:37:39          2      0.94      0.00      0.94      0.00      0.00     98.11
16:37:39          3      0.98      0.00      3.92      1.96      0.00     93.14

16:37:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:40        all      0.73      0.00      1.45      0.00      0.00     97.82
16:37:40          0      1.92      0.00      0.96      0.00      0.00     97.12
16:37:40          1      0.98      0.00      0.98      0.00      0.00     98.04
16:37:40          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:40          3      0.96      0.00      3.85      0.00      0.00     95.19

16:37:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:41        all      0.72      0.00      1.21      0.48      0.00     97.58
16:37:41          0      0.00      0.00      0.97      0.00      0.00     99.03
16:37:41          1      0.97      0.00      0.97      0.00      0.00     98.06
16:37:41          2      0.94      0.00      0.94      0.00      0.00     98.11
16:37:41          3      0.99      0.00      1.98      0.99      0.00     96.04

16:37:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:42        all      1.22      0.00      0.97      0.00      0.00     97.81
16:37:42          0      0.98      0.00      0.00      0.00      0.00     99.02
16:37:42          1      0.00      0.00      0.98      0.00      0.00     99.02
16:37:42          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:42          3      3.85      0.00      2.88      0.96      0.00     92.31

16:37:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:43        all      1.22      0.00      0.98      0.49      0.00     97.31
16:37:43          0      0.98      0.00      1.96      0.00      0.00     97.06
16:37:43          1      1.00      0.00      1.00      0.00      0.00     98.00
16:37:43          2      0.00      0.00      0.96      0.00      0.00     99.04
16:37:43          3      1.00      0.00      0.00      1.00      0.00     98.00

16:37:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
16:37:44        all      1.45      0.00      1.45      0.48      0.00     96.61
16:37:44          0      1.94      0.00      0.97      0.00      0.00     97.09
16:37:44          1      2.86      0.00      0.95      1.90      0.00     94.29
16:37:44          2      0.94      0.00      0.94      0.00      0.00     98.11
16:37:44          3      0.96      0.00      3.85      0.96      0.00     94.23

16:37:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:45        all      1.22      0.00      1.22      0.49      0.00     97.08
16:37:45          0      0.99      0.00      0.99      0.00      0.00     98.02
16:37:45          1      0.97      0.00      0.97      0.00      0.00     98.06
16:37:45          2      0.96      0.00      0.00      0.00      0.00     99.04
16:37:45          3      1.98      0.00      2.97      1.98      0.00     93.07

16:37:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:46        all      1.20      0.00      0.96      0.00      0.00     97.83
16:37:46          0      0.96      0.00      0.00      0.00      0.00     99.04
16:37:46          1      2.86      0.00      0.00      0.00      0.00     97.14
16:37:46          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:46          3      1.96      0.00      2.94      0.00      0.00     95.10

16:37:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:47        all      0.97      0.00      0.49      0.49      0.00     98.06
16:37:47          0      0.00      0.00      0.97      0.00      0.00     99.03
16:37:47          1      0.00      0.00      0.97      0.00      0.00     99.03
16:37:47          2      0.00      0.00      0.94      0.00      0.00     99.06
16:37:47          3      1.98      0.00      0.99      1.98      0.00     95.05

16:37:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:48        all      1.23      0.00      0.98      0.25      0.00     97.54
16:37:48          0      2.00      0.00      1.00      0.00      0.00     97.00
16:37:48          1      1.00      0.00      0.00      0.00      0.00     99.00
16:37:48          2      0.98      0.00      0.00      0.00      0.00     99.02
16:37:48          3      1.94      0.00      1.94      0.97      0.00     95.15

16:37:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:49        all      0.49      0.00      0.25      0.00      0.00     99.26
16:37:49          0      0.00      0.00      0.00      0.00      0.00    100.00
16:37:49          1      0.97      0.00      0.00      0.00      0.00     99.03
16:37:49          2      0.97      0.00      0.00      0.00      0.00     99.03
16:37:49          3      0.98      0.00      0.98      0.00      0.00     98.04

16:37:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:50        all      0.27      0.00      0.00      0.00      0.00     99.73
16:37:50          0      0.00      0.00      0.00      0.00      0.00    100.00
16:37:50          1      0.00      0.00      0.00      0.00      0.00    100.00
16:37:50          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:50          3      1.00      0.00      0.00      0.00      0.00     99.00

16:37:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:51        all      0.00      0.00      0.00      0.00      0.00    100.00
16:37:51          0      0.00      0.00      0.00      0.00      0.00    100.00
16:37:51          1      0.00      0.00      0.00      0.00      0.00    100.00
16:37:51          2      0.00      0.00      0.00      0.00      0.00    100.00
16:37:51          3      0.00      0.00      0.00      0.00      0.00    100.00

16:37:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:37:52        all      0.00      0.00      0.00      0.00      0.00    100.00
16:37:52          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:37:52          1       0.00       0.00       0.00       0.00       0.00     100.00
16:37:52          2       0.00       0.00       0.00       0.00       0.00     100.00
16:37:52          3       0.00       0.00       0.00       0.00       0.00     100.00
```

Table 18: Iostat monitoring for the 100 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.04    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.41     1.55    14.58    35.60     0.00    4.29   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.40    0.00    1.20     0.00    28.80    24.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.20    0.05    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    2.60     0.00    24.00     9.23     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.35    0.00    1.20    0.29    0.00   97.16

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.41    0.00    0.97    0.39    0.00   97.23

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     9.40    0.00    1.40     0.00    86.40    61.71     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.61    0.00    1.03    0.39    0.00   96.97

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    1.33   1.33   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.40    0.00    1.21    0.48    0.00   96.91

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.80     0.00    14.40    18.00     0.00    1.00   1.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.26    0.00    0.92    0.53    0.00   97.29

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.80     0.00    12.80    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.36    0.00    1.02    0.54    0.00   97.08

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.60     0.00    11.20    18.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.45    0.00    1.26    0.68    0.00   96.62

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.60     0.00    16.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.59    0.00    0.97    0.34    0.00   97.10

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    30.60    0.00    3.40     0.00   272.00    80.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.92    0.00    1.36    0.29    0.00   97.43

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.80     0.00    14.40    18.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.17    0.00    1.02    0.34    0.00   97.47

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    1.00     0.00    14.40    14.40     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.41    0.00    0.25    0.05    0.00   99.29

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.60    0.00    1.40     0.00    32.00    22.86     0.00    1.14   1.14   0.16
```

Table 19: Jmeter 100 threads test third trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	100	68	42	359
19033-h-0.htm	100	371	108	984
1.css	100	50	42	87
i001_th.jpg	100	55	44	138
pgepub.css	100	53	42	106
0.css	100	57	43	304
i002_th.jpg	100	56	43	142
title.jpg	100	54	43	121
plate02_th.jpg	100	172	89	484
i008_th.jpg	100	89	46	405
plate01_th.jpg	100	178	76	595
i009_th.jpg	100	105	47	407
cover_th.jpg	100	168	55	645
i005_th.jpg	100	87	46	380
i003_th.jpg	100	86	45	584
i015_th.jpg	100	83	45	217
i011_th.jpg	100	84	47	367
i017_th.jpg	100	106	48	372
plate04_th.jpg	100	207	53	770
i022_th.jpg	100	92	45	447
i007_th.jpg	100	60	44	345
i020_th.jpg	100	85	46	263
i004_th.jpg	100	72	44	250
plate03_th.jpg	100	181	90	372
i018_th.jpg	100	81	47	300
i019_th.jpg	100	58	44	363
i016_th.jpg	100	88	47	234
i010_th.jpg	100	54	43	110
i012_th.jpg	100	108	48	513
i014_th.jpg	100	94	46	380
i021_th.jpg	100	65	44	188
i013_th.jpg	100	88	46	213
i006_th.jpg	100	115	48	548
TOTAL	3300	102	42	984

Table 20: Systat monitoring for the 100 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:39:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:37        all      0.00      0.00      0.00      0.00      0.00    100.00
16:39:37          0      0.00      0.00      0.00      0.00      0.00    100.00
16:39:37          1      0.00      0.00      0.00      0.00      0.00    100.00
16:39:37          2      0.00      0.00      0.00      0.00      0.00    100.00
16:39:37          3      0.00      0.00      0.00      0.00      0.00    100.00

16:39:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:38        all      0.00      0.00      0.00      0.00      0.00    100.00
16:39:38          0      0.00      0.00      0.00      0.00      0.00    100.00
16:39:38          1      0.00      0.00      0.00      0.00      0.00    100.00
16:39:38          2      0.00      0.00      0.00      0.00      0.00    100.00
16:39:38          3      0.00      0.00      0.00      0.00      0.00    100.00

16:39:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:39        all      0.00      0.00      0.25      0.00      0.00     99.75
16:39:39          0      0.00      0.00      0.00      0.00      0.00    100.00
16:39:39          1      0.00      0.00      0.00      0.00      0.00    100.00
16:39:39          2      0.00      0.00      0.00      0.00      0.00    100.00
16:39:39          3      0.00      0.00      0.99      0.00      0.00     99.01

16:39:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:40        all      0.00      0.00      0.00      0.00      0.00    100.00
16:39:40          0      0.00      0.00      0.00      0.00      0.00    100.00
16:39:40          1      0.00      0.00      0.00      0.00      0.00    100.00
16:39:40          2      0.00      0.00      0.00      0.00      0.00    100.00
16:39:40          3      0.00      0.00      0.00      0.00      0.00    100.00

16:39:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:41        all      0.00      0.00      0.25      0.00      0.00     99.75
16:39:41          0      0.00      0.00      0.00      0.00      0.00    100.00
16:39:41          1      0.00      0.00      0.00      0.00      0.00    100.00
16:39:41          2      0.00      0.00      0.00      0.00      0.00    100.00
16:39:41          3      0.00      0.00      0.99      0.00      0.00     99.01

16:39:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:42        all      0.00      0.00      0.00      0.00      0.00    100.00
16:39:42          0      0.00      0.00      0.00      0.00      0.00    100.00
16:39:42          1      0.00      0.00      0.00      0.00      0.00    100.00
16:39:42          2      0.00      0.00      0.00      0.00      0.00    100.00
16:39:42          3      0.00      0.00      0.00      0.00      0.00    100.00

16:39:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:43        all      0.22      0.00      0.43      0.22      0.00     99.13
16:39:43          0      0.00      0.00      0.00      0.00      0.00    100.00
16:39:43          1      0.00      0.00      0.00      0.00      0.00    100.00
16:39:43          2      0.79      0.00      0.00      0.00      0.00     99.21
16:39:43          3      0.96      0.00      1.92      0.96      0.00     96.15

16:39:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:44        all      0.49      0.00      0.49      0.00      0.00     99.01
16:39:44          0      1.00      0.00      0.00      0.00      0.00     99.00
```

```
16:39:44          1      0.98      0.00      0.00      0.00      0.00     99.02
16:39:44          2      0.00      0.00      0.00      0.00      0.00    100.00
16:39:44          3      0.00      0.00      2.91      0.00      0.00     97.09

16:39:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:45        all      0.97      0.00      0.97      0.24      0.00     97.81
16:39:45          0      1.90      0.00      0.95      0.00      0.00     97.14
16:39:45          1      0.98      0.00      0.00      0.00      0.00     99.02
16:39:45          2      0.96      0.00      0.00      0.96      0.00     98.08
16:39:45          3      0.99      0.00      1.98      0.99      0.00     96.04

16:39:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:46        all      1.20      0.00      1.20      0.24      0.00     97.36
16:39:46          0      0.97      0.00      0.00      0.00      0.00     99.03
16:39:46          1      0.00      0.00      0.96      0.00      0.00     99.04
16:39:46          2      0.95      0.00      0.00      0.00      0.00     99.05
16:39:46          3      2.91      0.00      3.88      0.00      0.00     93.20

16:39:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:47        all      1.99      0.00      1.24      0.00      0.00     96.77
16:39:47          0      1.00      0.00      1.00      0.00      0.00     98.00
16:39:47          1      1.04      0.00      0.00      0.00      0.00     98.96
16:39:47          2      0.98      0.00      0.98      0.00      0.00     98.04
16:39:47          3      3.85      0.00      3.85      0.96      0.00     91.35

16:39:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:48        all      1.17      0.00      1.41      0.94      0.00     96.49
16:39:48          0      0.94      0.00      0.94      0.00      0.00     98.11
16:39:48          1      2.78      0.00      0.93      0.00      0.00     96.30
16:39:48          2      0.00      0.00      0.00      0.00      0.00    100.00
16:39:48          3      0.98      0.00      2.94      3.92      0.00     92.16

16:39:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:49        all      1.70      0.00      1.46      0.49      0.00     96.35
16:39:49          0      1.92      0.00      1.92      0.00      0.00     96.15
16:39:49          1      2.91      0.00      0.97      0.00      0.00     96.12
16:39:49          2      0.96      0.00      0.00      0.00      0.00     99.04
16:39:49          3      1.96      0.00      2.94      1.96      0.00     93.14

16:39:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:50        all      1.45      0.00      1.69      0.72      0.00     96.14
16:39:50          0      0.97      0.00      1.94      0.00      0.00     97.09
16:39:50          1      1.94      0.00      1.94      0.00      0.00     96.12
16:39:50          2      0.95      0.00      0.00      0.00      0.00     99.05
16:39:50          3      0.99      0.00      2.97      1.98      0.00     94.06

16:39:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:51        all      2.17      0.00      1.45      0.48      0.00     95.89
16:39:51          0      0.99      0.00      0.00      0.00      0.00     99.01
16:39:51          1      1.92      0.00      1.92      0.96      0.00     95.19
16:39:51          2      1.89      0.00      0.00      0.00      0.00     98.11
16:39:51          3      4.81      0.00      1.92      1.92      0.00     91.35

16:39:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:52        all      1.70      0.00      1.21      0.49      0.00     96.60
16:39:52          0      1.94      0.00      0.97      0.00      0.00     97.09
16:39:52          1      1.96      0.00      0.98      0.00      0.00     97.06
16:39:52          2      0.00      0.00      0.97      0.00      0.00     99.03
```

```
16:39:52          3      1.96      0.00      2.94      1.96      0.00     93.14

16:39:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:53        all      1.71      0.00      1.22      0.49      0.00     96.58
16:39:53          0      1.94      0.00      0.97      0.00      0.00     97.09
16:39:53          1      1.98      0.00      0.99      0.00      0.00     97.03
16:39:53          2      1.92      0.00      0.00      0.00      0.00     98.08
16:39:53          3      0.98      0.00      2.94      1.96      0.00     94.12

16:39:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:54        all      1.46      0.00      0.98      0.73      0.00     96.83
16:39:54          0      1.94      0.00      0.97      0.00      0.00     97.09
16:39:54          1      1.96      0.00      1.96      0.00      0.00     96.08
16:39:54          2      0.96      0.00      0.00      0.00      0.00     99.04
16:39:54          3      0.98      0.00      1.96      2.94      0.00     94.12

16:39:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:55        all      1.25      0.00      0.75      0.00      0.00     97.99
16:39:55          0      1.01      0.00      0.00      0.00      0.00     98.99
16:39:55          1      1.02      0.00      0.00      0.00      0.00     98.98
16:39:55          2      1.00      0.00      0.00      0.00      0.00     99.00
16:39:55          3      1.98      0.00      2.97      0.00      0.00     95.05

16:39:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:56        all      0.95      0.00      1.89      0.47      0.00     96.69
16:39:56          0      0.94      0.00      0.94      0.00      0.00     98.11
16:39:56          1      1.90      0.00      0.95      0.00      0.00     97.14
16:39:56          2      0.91      0.00      0.91      0.00      0.00     98.18
16:39:56          3      0.97      0.00      3.88      1.94      0.00     93.20

16:39:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:57        all      1.94      0.00      0.73      0.49      0.00     96.84
16:39:57          0      2.00      0.00      0.00      0.00      0.00     98.00
16:39:57          1      1.94      0.00      0.00      0.00      0.00     98.06
16:39:57          2      0.96      0.00      0.00      0.00      0.00     99.04
16:39:57          3      1.96      0.00      2.94      0.98      0.00     94.12

16:39:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:58        all      0.99      0.00      1.24      0.50      0.00     97.28
16:39:58          0      1.96      0.00      1.96      0.00      0.00     96.08
16:39:58          1      0.97      0.00      0.97      0.97      0.00     97.09
16:39:58          2      0.98      0.00      0.00      0.00      0.00     99.02
16:39:58          3      0.00      0.00      3.00      2.00      0.00     95.00

16:39:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:39:59        all      0.97      0.00      1.21      0.49      0.00     97.33
16:39:59          0      0.00      0.00      0.00      0.00      0.00    100.00
16:39:59          1      1.94      0.00      2.91      0.00      0.00     95.15
16:39:59          2      0.96      0.00      0.96      0.00      0.00     98.08
16:39:59          3      0.98      0.00      1.96      1.96      0.00     95.10

16:39:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:00        all      0.73      0.00      0.97      0.49      0.00     97.82
16:40:00          0      0.98      0.00      0.00      0.00      0.00     99.02
16:40:00          1      0.95      0.00      1.90      0.00      0.00     97.14
16:40:00          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:00          3      1.92      0.00      1.92      1.92      0.00     94.23
```

```
16:40:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:01        all      2.14      0.00      1.43      0.48      0.00     95.96
16:40:01          0      0.96      0.00      0.00      0.00      0.00     99.04
16:40:01          1      2.91      0.00      0.00      0.00      0.00     97.09
16:40:01          2      1.87      0.00      0.93      0.00      0.00     97.20
16:40:01          3      1.92      0.00      3.85      1.92      0.00     92.31

16:40:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:02        all      2.42      0.00      1.45      0.48      0.00     95.65
16:40:02          0      1.98      0.00      0.00      0.00      0.00     98.02
16:40:02          1      2.83      0.00      0.94      0.00      0.00     96.23
16:40:02          2      2.88      0.00      0.96      0.00      0.00     96.15
16:40:02          3      3.88      0.00      2.91      0.97      0.00     92.23

16:40:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:03        all      1.68      0.00      0.48      0.48      0.00     97.36
16:40:03          0      1.94      0.00      0.00      0.00      0.00     98.06
16:40:03          1      1.92      0.00      1.92      0.00      0.00     96.15
16:40:03          2      0.00      0.00      0.92      0.00      0.00     99.08
16:40:03          3      1.94      0.00      0.00      2.91      0.00     95.15

16:40:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:04        all      1.44      0.00      0.96      0.72      0.00     96.88
16:40:04          0      0.99      0.00      0.00      0.00      0.00     99.01
16:40:04          1      1.89      0.00      0.00      0.00      0.00     98.11
16:40:04          2      0.94      0.00      0.00      0.00      0.00     99.06
16:40:04          3      1.00      0.00      3.00      2.00      0.00     94.00

16:40:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:05        all      0.72      0.00      1.20      0.48      0.00     97.61
16:40:05          0      0.98      0.00      1.96      0.00      0.00     97.06
16:40:05          1      0.93      0.00      1.87      0.00      0.00     97.20
16:40:05          2      0.00      0.00      0.93      0.00      0.00     99.07
16:40:05          3      0.95      0.00      2.86      2.86      0.00     93.33

16:40:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:06        all      0.97      0.00      1.45      0.73      0.00     96.85
16:40:06          0      0.99      0.00      0.00      0.00      0.00     99.01
16:40:06          1      0.00      0.00      0.98      0.00      0.00     99.02
16:40:06          2      0.94      0.00      0.00      0.00      0.00     99.06
16:40:06          3      2.91      0.00      3.88      1.94      0.00     91.26

16:40:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:07        all      1.47      0.00      0.98      0.25      0.00     97.30
16:40:07          0      0.99      0.00      0.00      0.00      0.00     99.01
16:40:07          1      2.94      0.00      0.98      0.00      0.00     96.08
16:40:07          2      0.98      0.00      0.00      0.00      0.00     99.02
16:40:07          3      0.99      0.00      1.98      0.99      0.00     96.04

16:40:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:08        all      1.98      0.00      1.49      0.74      0.00     95.79
16:40:08          0      2.04      0.00      0.00      0.00      0.00     97.96
16:40:08          1      2.02      0.00      1.01      1.01      0.00     95.96
16:40:08          2      0.98      0.00      0.00      0.00      0.00     99.02
16:40:08          3      1.92      0.00      3.85      2.88      0.00     91.35

16:40:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:09        all      0.96      0.00      1.69      0.24      0.00     97.11
```

```
16:40:09          0      1.89      0.00      1.89      0.00      0.00     96.23
16:40:09          1      0.95      0.00      1.90      0.00      0.00     97.14
16:40:09          2      0.00      0.00      1.89      0.00      0.00     98.11
16:40:09          3      1.96      0.00      2.94      0.98      0.00     94.12

16:40:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:10        all      1.47      0.00      0.74      0.74      0.00     97.05
16:40:10          0      1.98      0.00      0.99      0.00      0.00     97.03
16:40:10          1      1.01      0.00      0.00      0.00      0.00     98.99
16:40:10          2      0.98      0.00      0.00      0.00      0.00     99.02
16:40:10          3      0.98      0.00      0.98      2.94      0.00     95.10

16:40:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:11        all      1.93      0.00      0.96      0.72      0.00     96.39
16:40:11          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:11          1      1.94      0.00      0.00      0.97      0.00     97.09
16:40:11          2      0.95      0.00      0.00      0.00      0.00     99.05
16:40:11          3      3.81      0.00      3.81      1.90      0.00     90.48

16:40:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:12        all      1.93      0.00      0.96      0.72      0.00     96.39
16:40:12          0      1.94      0.00      0.00      0.00      0.00     98.06
16:40:12          1      1.92      0.00      1.92      0.00      0.00     96.15
16:40:12          2      0.94      0.00      0.94      0.00      0.00     98.11
16:40:12          3      3.88      0.00      0.97      2.91      0.00     92.23

16:40:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:13        all      1.71      0.00      0.98      0.73      0.00     96.58
16:40:13          0      1.92      0.00      0.96      0.00      0.00     97.12
16:40:13          1      0.97      0.00      0.00      0.00      0.00     99.03
16:40:13          2      2.00      0.00      0.00      0.00      0.00     98.00
16:40:13          3      1.96      0.00      2.94      2.94      0.00     92.16

16:40:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:14        all      0.73      0.00      0.49      0.24      0.00     98.54
16:40:14          0      0.98      0.00      0.00      0.00      0.00     99.02
16:40:14          1      1.94      0.00      0.00      0.00      0.00     98.06
16:40:14          2      0.00      0.00      0.94      0.00      0.00     99.06
16:40:14          3      1.94      0.00      1.94      0.97      0.00     95.15

16:40:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:15        all      1.98      0.00      1.48      0.49      0.00     96.05
16:40:15          0      0.98      0.00      0.98      0.00      0.00     98.04
16:40:15          1      1.01      0.00      2.02      0.00      0.00     96.97
16:40:15          2      1.98      0.00      0.00      0.00      0.00     98.02
16:40:15          3      2.00      0.00      2.00      2.00      0.00     94.00

16:40:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:16        all      1.20      0.00      1.69      0.48      0.00     96.63
16:40:16          0      0.98      0.00      0.00      0.00      0.00     99.02
16:40:16          1      0.00      0.00      0.93      0.00      0.00     99.07
16:40:16          2      1.94      0.00      0.97      0.00      0.00     97.09
16:40:16          3      2.91      0.00      3.88      1.94      0.00     91.26

16:40:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:17        all      1.68      0.00      0.96      0.48      0.00     96.88
16:40:17          0      0.94      0.00      0.00      0.00      0.00     99.06
16:40:17          1      0.95      0.00      0.00      0.00      0.00     99.05
```

```
16:40:17          2      2.86      0.00      0.95      0.00      0.00     96.19
16:40:17          3      2.94      0.00      2.94      1.96      0.00     92.16

16:40:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:18        all      1.68      0.00      1.44      0.24      0.00     96.63
16:40:18          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:18          1      1.89      0.00      1.89      0.00      0.00     96.23
16:40:18          2      0.97      0.00      0.97      0.00      0.00     98.06
16:40:18          3      1.90      0.00      4.76      0.95      0.00     92.38

16:40:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:19        all      0.97      0.00      1.21      0.24      0.00     97.57
16:40:19          0      0.00      0.00      0.96      0.00      0.00     99.04
16:40:19          1      0.99      0.00      0.00      0.00      0.00     99.01
16:40:19          2      1.89      0.00      0.94      0.00      0.00     97.17
16:40:19          3      1.96      0.00      2.94      0.98      0.00     94.12

16:40:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:20        all      1.70      0.00      0.97      0.24      0.00     97.08
16:40:20          0      0.98      0.00      0.00      0.00      0.00     99.02
16:40:20          1      0.98      0.00      0.00      0.00      0.00     99.02
16:40:20          2      0.98      0.00      0.00      0.00      0.00     99.02
16:40:20          3      2.94      0.00      1.96      0.98      0.00     94.12

16:40:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:21        all      1.20      0.00      2.40      0.48      0.00     95.91
16:40:21          0      0.00      0.00      0.98      0.00      0.00     99.02
16:40:21          1      1.89      0.00      2.83      0.94      0.00     94.34
16:40:21          2      0.93      0.00      0.93      0.00      0.00     98.13
16:40:21          3      2.94      0.00      4.90      0.98      0.00     91.18

16:40:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:22        all      1.71      0.00      0.98      0.24      0.00     97.07
16:40:22          0      1.01      0.00      0.00      0.00      0.00     98.99
16:40:22          1      1.94      0.00      0.97      0.00      0.00     97.09
16:40:22          2      0.00      0.00      0.95      0.00      0.00     99.05
16:40:22          3      2.97      0.00      1.98      0.99      0.00     94.06

16:40:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:23        all      1.21      0.00      0.97      0.73      0.00     97.09
16:40:23          0      0.94      0.00      0.94      0.00      0.00     98.11
16:40:23          1      1.98      0.00      0.00      0.00      0.00     98.02
16:40:23          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:23          3      2.86      0.00      3.81      2.86      0.00     90.48

16:40:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:24        all      1.20      0.00      1.45      0.00      0.00     97.35
16:40:24          0      0.96      0.00      0.00      0.00      0.00     99.04
16:40:24          1      2.83      0.00      0.94      0.00      0.00     96.23
16:40:24          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:24          3      0.99      0.00      3.96      0.00      0.00     95.05

16:40:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:25        all      0.74      0.00      0.74      0.00      0.00     98.51
16:40:25          0      1.00      0.00      1.00      0.00      0.00     98.00
16:40:25          1      0.00      0.00      1.00      0.00      0.00     99.00
16:40:25          2      0.00      0.00      0.97      0.00      0.00     99.03
16:40:25          3      0.99      0.00      1.98      0.00      0.00     97.03
```

16:40:25	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:40:26	all	1.21	0.00	0.73	0.48	0.00	97.58
16:40:26	0	0.98	0.00	0.00	0.00	0.00	99.02
16:40:26	1	0.94	0.00	0.94	0.00	0.00	98.11
16:40:26	2	1.94	0.00	0.00	0.00	0.00	98.06
16:40:26	3	1.96	0.00	0.98	1.96	0.00	95.10
16:40:26	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:40:27	all	1.74	0.00	1.49	0.50	0.00	96.28
16:40:27	0	1.00	0.00	1.00	0.00	0.00	98.00
16:40:27	1	1.00	0.00	1.00	0.00	0.00	98.00
16:40:27	2	2.00	0.00	0.00	0.00	0.00	98.00
16:40:27	3	2.94	0.00	2.94	1.96	0.00	92.16
16:40:27	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:40:28	all	1.21	0.00	0.97	0.49	0.00	97.33
16:40:28	0	0.96	0.00	0.00	0.00	0.00	99.04
16:40:28	1	0.97	0.00	1.94	0.00	0.00	97.09
16:40:28	2	1.89	0.00	0.94	0.00	0.00	97.17
16:40:28	3	1.00	0.00	2.00	2.00	0.00	95.00
16:40:28	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:40:29	all	0.73	0.00	0.73	0.24	0.00	98.31
16:40:29	0	0.00	0.00	0.98	0.00	0.00	99.02
16:40:29	1	0.93	0.00	0.00	0.00	0.00	99.07
16:40:29	2	0.97	0.00	0.00	0.00	0.00	99.03
16:40:29	3	0.97	0.00	3.88	0.97	0.00	94.17
16:40:29	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:40:30	all	1.22	0.00	0.98	0.24	0.00	97.56
16:40:30	0	0.00	0.00	0.00	0.00	0.00	100.00
16:40:30	1	1.98	0.00	0.99	0.00	0.00	97.03
16:40:30	2	0.98	0.00	0.00	0.00	0.00	99.02
16:40:30	3	1.00	0.00	2.00	1.00	0.00	96.00
16:40:30	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:40:31	all	0.74	0.00	1.23	0.49	0.00	97.53
16:40:31	0	1.00	0.00	0.00	0.00	0.00	99.00
16:40:31	1	0.00	0.00	0.00	0.00	0.00	100.00
16:40:31	2	0.98	0.00	0.98	0.00	0.00	98.04
16:40:31	3	0.99	0.00	2.97	0.99	0.00	95.05
16:40:31	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:40:32	all	1.67	0.00	0.96	0.72	0.00	96.65
16:40:32	0	1.90	0.00	0.00	0.00	0.00	98.10
16:40:32	1	2.83	0.00	0.94	0.94	0.00	95.28
16:40:32	2	0.00	0.00	0.00	0.00	0.00	100.00
16:40:32	3	1.90	0.00	3.81	3.81	0.00	90.48
16:40:32	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:40:33	all	0.74	0.00	0.98	0.49	0.00	97.79
16:40:33	0	0.99	0.00	0.99	0.00	0.00	98.02
16:40:33	1	0.00	0.00	1.98	0.00	0.00	98.02
16:40:33	2	0.98	0.00	0.00	0.00	0.00	99.02
16:40:33	3	1.98	0.00	0.00	0.00	0.00	98.02
16:40:33	CPU	%user	%nice	%system	%iowait	%steal	%idle

```
16:40:34        all      0.77      0.00      0.51      0.00      0.00     98.72
16:40:34          0      1.04      0.00      0.00      0.00      0.00     98.96
16:40:34          1      1.02      0.00      1.02      0.00      0.00     97.96
16:40:34          2      0.00      0.00      1.00      0.00      0.00     99.00
16:40:34          3      0.99      0.00      0.99      0.99      0.00     97.03

16:40:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:35        all      0.48      0.00      0.00      0.00      0.00     99.52
16:40:35          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:35          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:35          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:35          3      0.99      0.00      0.00      0.00      0.00     99.01

16:40:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:36        all      0.50      0.00      1.26      0.25      0.00     97.98
16:40:36          0      0.00      0.00      1.03      0.00      0.00     98.97
16:40:36          1      1.01      0.00      2.02      0.00      0.00     96.97
16:40:36          2      1.03      0.00      0.00      0.00      0.00     98.97
16:40:36          3      0.00      0.00      1.94      0.00      0.00     98.06

16:40:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:37        all      0.00      0.00      0.00      0.00      0.00    100.00
16:40:37          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:37          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:37          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:37          3      0.00      0.00      1.00      0.00      0.00     99.00

16:40:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:38        all      0.00      0.00      0.27      0.00      0.00     99.73
16:40:38          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:38          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:38          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:38          3      0.00      0.00      0.00      0.00      0.00    100.00

16:40:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:39        all      0.23      0.00      0.46      0.00      0.00     99.31
16:40:39          0      0.76      0.00      0.00      0.00      0.00     99.24
16:40:39          1      0.98      0.00      0.98      0.00      0.00     98.04
16:40:39          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:39          3      0.00      0.00      0.99      0.00      0.00     99.01

16:40:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:40        all      0.00      0.00      0.00      0.00      0.00    100.00
16:40:40          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:40          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:40          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:40          3      0.99      0.00      0.00      0.00      0.00     99.01

16:40:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:41        all      0.00      0.00      0.00      0.00      0.00    100.00
16:40:41          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:41          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:41          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:41          3      0.00      0.00      0.00      0.00      0.00    100.00

16:40:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:42        all      0.27      0.00      0.54      0.00      0.00     99.19
16:40:42          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:40:42          1      0.00      0.00      1.01      0.00      0.00     98.99
16:40:42          2      0.00      0.00      0.98      0.00      0.00     99.02
16:40:42          3      0.00      0.00      0.00      0.00      0.00    100.00

16:40:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:43        all      0.00      0.00      0.00      0.00      0.00    100.00
16:40:43          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:43          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:43          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:43          3      0.00      0.00      0.98      0.00      0.00     99.02

16:40:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:44        all      0.00      0.00      0.00      0.00      0.00    100.00
16:40:44          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:44          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:44          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:44          3      0.00      0.00      0.00      0.00      0.00    100.00

16:40:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:45        all      0.00      0.00      0.00      0.00      0.00    100.00
16:40:45          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:45          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:45          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:45          3      0.00      0.00      0.00      0.00      0.00    100.00

16:40:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:40:46        all      0.00      0.00      0.25      0.00      0.00     99.75
16:40:46          0      0.00      0.00      0.00      0.00      0.00    100.00
16:40:46          1      0.00      0.00      0.00      0.00      0.00    100.00
16:40:46          2      0.00      0.00      0.00      0.00      0.00    100.00
16:40:46          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 21: Iostat monitoring for the 100 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11        _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.04    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.41     1.55    14.59    35.59     0.00    4.29   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.40     0.00    12.80    32.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.07    0.00    1.02    0.24    0.00   97.67

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.79    0.00    1.40    0.63    0.00   96.18

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.00    0.00    1.80     0.00    30.40    16.89     0.00    1.78   0.89   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.36    0.00    1.17    0.44    0.00   97.03

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.55    0.00    1.16    0.48    0.00   96.81

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.31    0.00    1.11    0.48    0.00   97.10

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.65    0.00    1.12    0.63    0.00   96.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    1.00     0.00    14.40    14.40     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.46    0.00    1.21    0.44    0.00   96.89

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    34.80    0.00    4.00     0.00   310.40    77.60     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.40    0.00    1.36    0.39    0.00   96.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.17    0.00    0.98    0.29    0.00   97.56

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    2.20     0.00    24.00    10.91     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.07    0.00    1.07    0.49    0.00   97.37

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.36    0.00    0.41    0.05    0.00   99.19

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    1.00     0.00    16.00    16.00     0.00    0.00   0.00   0.00
```

Table 22: Jmeter 150 threads test first trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	150	72	42	407
19033-h-0.htm	150	348	112	878
1.css	150	54	43	109
i001_th.jpg	150	60	44	166
pgepub.css	150	57	43	291
0.css	150	57	43	111
i002_th.jpg	150	60	43	139
title.jpg	150	58	42	124
plate02_th.jpg	150	167	67	432
i008_th.jpg	150	78	47	361
plate01_th.jpg	150	159	60	356
i009_th.jpg	150	84	46	246
cover_th.jpg	150	143	51	327
i005_th.jpg	150	78	45	379
i003_th.jpg	150	75	46	371
i015_th.jpg	150	77	46	262
i011_th.jpg	150	76	47	349
i017_th.jpg	150	94	48	504
plate04_th.jpg	150	174	94	510
i022_th.jpg	150	84	46	622
i007_th.jpg	150	58	45	165
i020_th.jpg	150	83	46	392
i004_th.jpg	150	73	46	340
plate03_th.jpg	150	174	61	632
i018_th.jpg	150	80	46	602
i019_th.jpg	150	63	44	436
i016_th.jpg	150	77	45	229
i010_th.jpg	150	59	44	393
i012_th.jpg	150	97	48	279
i014_th.jpg	150	78	48	269
i021_th.jpg	150	65	43	174
i013_th.jpg	150	84	46	357
i006_th.jpg	150	98	48	551
TOTAL	4950	95	42	878

Table 23: Systat monitoring for the 150 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:44:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:51        all      0.00      0.00      0.26      0.00      0.00     99.74
16:44:51          0      0.00      0.00      0.00      0.00      0.00    100.00
16:44:51          1      0.00      0.00      0.00      0.00      0.00    100.00
16:44:51          2      0.00      0.00      0.00      0.00      0.00    100.00
16:44:51          3      0.00      0.00      0.00      0.00      0.00    100.00

16:44:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:52        all      0.00      0.00      0.00      0.00      0.00    100.00
16:44:52          0      0.00      0.00      0.00      0.00      0.00    100.00
16:44:52          1      0.00      0.00      0.00      0.00      0.00    100.00
16:44:52          2      0.00      0.00      0.99      0.00      0.00     99.01
16:44:52          3      0.00      0.00      0.00      0.00      0.00    100.00

16:44:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:53        all      0.00      0.00      0.25      0.00      0.00     99.75
16:44:53          0      0.00      0.00      0.00      0.00      0.00    100.00
16:44:53          1      0.00      0.00      0.00      0.00      0.00    100.00
16:44:53          2      0.00      0.00      0.00      0.00      0.00    100.00
16:44:53          3      0.00      0.00      0.00      0.00      0.00    100.00

16:44:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:54        all      0.00      0.00      0.00      0.00      0.00    100.00
16:44:54          0      0.00      0.00      0.00      0.00      0.00    100.00
16:44:54          1      0.00      0.00      0.00      0.00      0.00    100.00
16:44:54          2      0.00      0.00      0.00      0.00      0.00    100.00
16:44:54          3      0.00      0.00      0.00      0.00      0.00    100.00

16:44:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:55        all      0.71      0.00      0.71      0.47      0.00     98.11
16:44:55          0      0.00      0.00      0.00      0.00      0.00    100.00
16:44:55          1      0.96      0.00      0.96      0.00      0.00     98.08
16:44:55          2      0.96      0.00      0.96      0.00      0.00     98.08
16:44:55          3      0.97      0.00      0.00      1.94      0.00     97.09

16:44:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:56        all      0.72      0.00      0.96      0.48      0.00     97.84
16:44:56          0      0.97      0.00      0.00      0.00      0.00     99.03
16:44:56          1      0.93      0.00      0.93      0.00      0.00     98.13
16:44:56          2      1.87      0.00      0.93      0.00      0.00     97.20
16:44:56          3      0.96      0.00      2.88      1.92      0.00     94.23

16:44:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:57        all      2.63      0.00      1.19      0.72      0.00     95.47
16:44:57          0      1.92      0.00      0.96      0.00      0.00     97.12
16:44:57          1      2.83      0.00      0.00      0.00      0.00     97.17
16:44:57          2      2.83      0.00      0.94      0.00      0.00     96.23
16:44:57          3      1.96      0.00      2.94      2.94      0.00     92.16

16:44:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:58        all      1.98      0.00      1.73      0.25      0.00     96.04
16:44:58          0      1.00      0.00      0.00      0.00      0.00     99.00
```

```
16:44:58          1      2.00      0.00      1.00      0.00      0.00     97.00
16:44:58          2      2.97      0.00      0.99      0.00      0.00     96.04
16:44:58          3      1.00      0.00      4.00      1.00      0.00     94.00

16:44:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:44:59        all      1.68      0.00      1.92      0.00      0.00     96.39
16:44:59          0      1.94      0.00      0.97      0.00      0.00     97.09
16:44:59          1      0.95      0.00      0.95      0.00      0.00     98.10
16:44:59          2      0.95      0.00      1.90      0.00      0.00     97.14
16:44:59          3      2.88      0.00      3.85      0.00      0.00     93.27

16:44:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:00        all      2.22      0.00      2.47      0.74      0.00     94.57
16:45:00          0      1.98      0.00      0.99      0.00      0.00     97.03
16:45:00          1      1.94      0.00      2.91      0.97      0.00     94.17
16:45:00          2      0.99      0.00      0.00      0.00      0.00     99.01
16:45:00          3      5.15      0.00      4.12      2.06      0.00     88.66

16:45:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:01        all      2.17      0.00      1.93      0.72      0.00     95.18
16:45:01          0      3.88      0.00      0.97      0.00      0.00     95.15
16:45:01          1      1.90      0.00      2.86      0.00      0.00     95.24
16:45:01          2      0.94      0.00      1.89      0.00      0.00     97.17
16:45:01          3      1.90      0.00      4.76      2.86      0.00     90.48

16:45:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:02        all      1.68      0.00      1.44      0.72      0.00     96.16
16:45:02          0      0.95      0.00      0.95      0.00      0.00     98.10
16:45:02          1      0.96      0.00      0.00      0.00      0.00     99.04
16:45:02          2      0.00      0.00      0.95      0.00      0.00     99.05
16:45:02          3      4.85      0.00      2.91      2.91      0.00     89.32

16:45:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:03        all      2.18      0.00      2.18      0.48      0.00     95.16
16:45:03          0      1.94      0.00      0.00      0.00      0.00     98.06
16:45:03          1      1.90      0.00      1.90      0.95      0.00     95.24
16:45:03          2      0.00      0.00      1.96      0.00      0.00     98.04
16:45:03          3      4.72      0.00      6.60      1.89      0.00     86.79

16:45:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:04        all      1.93      0.00      2.90      1.69      0.00     93.48
16:45:04          0      0.96      0.00      1.92      0.00      0.00     97.12
16:45:04          1      0.98      0.00      0.98      0.00      0.00     98.04
16:45:04          2      3.85      0.00      1.92      0.00      0.00     94.23
16:45:04          3      1.98      0.00      5.94      4.95      0.00     87.13

16:45:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:05        all      2.44      0.00      1.22      0.49      0.00     95.85
16:45:05          0      1.98      0.00      0.99      0.00      0.00     97.03
16:45:05          1      3.85      0.00      0.96      0.96      0.00     94.23
16:45:05          2      0.96      0.00      0.00      0.00      0.00     99.04
16:45:05          3      1.98      0.00      2.97      1.98      0.00     93.07

16:45:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:06        all      2.43      0.00      1.46      0.73      0.00     95.38
16:45:06          0      0.96      0.00      0.96      0.00      0.00     98.08
16:45:06          1      2.97      0.00      1.98      0.00      0.00     95.05
16:45:06          2      1.92      0.00      0.96      0.00      0.00     97.12
```

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16:45:06          3      3.88      0.00      2.91      2.91      0.00     90.29

16:45:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:07        all      1.45      0.00      1.94      0.73      0.00     95.88
16:45:07          0      0.95      0.00      0.00      0.00      0.00     99.05
16:45:07          1      0.96      0.00      0.96      0.96      0.00     97.12
16:45:07          2      1.94      0.00      0.00      0.00      0.00     98.06
16:45:07          3      3.00      0.00      5.00      2.00      0.00     90.00

16:45:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:08        all      1.92      0.00      1.92      0.24      0.00     95.91
16:45:08          0      1.92      0.00      0.96      0.00      0.00     97.12
16:45:08          1      1.94      0.00      0.97      0.00      0.00     97.09
16:45:08          2      0.00      0.00      0.95      0.00      0.00     99.05
16:45:08          3      2.91      0.00      5.83      0.97      0.00     90.29

16:45:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:09        all      1.75      0.00      3.00      1.00      0.00     94.25
16:45:09          0      3.03      0.00      3.03      0.00      0.00     93.94
16:45:09          1      1.96      0.00      1.96      0.00      0.00     96.08
16:45:09          2      0.97      0.00      0.97      0.00      0.00     98.06
16:45:09          3      2.06      0.00      5.15      4.12      0.00     88.66

16:45:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:10        all      1.89      0.00      1.89      0.95      0.00     95.27
16:45:10          0      2.80      0.00      1.87      0.00      0.00     95.33
16:45:10          1      0.97      0.00      1.94      0.97      0.00     96.12
16:45:10          2      0.00      0.00      0.00      0.00      0.00    100.00
16:45:10          3      3.74      0.00      3.74      2.80      0.00     89.72

16:45:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:11        all      3.39      0.00      1.94      0.24      0.00     94.43
16:45:11          0      3.85      0.00      0.96      0.00      0.00     95.19
16:45:11          1      1.92      0.00      1.92      0.00      0.00     96.15
16:45:11          2      1.90      0.00      1.90      0.00      0.00     96.19
16:45:11          3      4.90      0.00      5.88      0.98      0.00     88.24

16:45:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:12        all      1.72      0.00      2.22      0.99      0.00     95.07
16:45:12          0      1.98      0.00      0.99      0.00      0.00     97.03
16:45:12          1      2.97      0.00      1.98      0.99      0.00     94.06
16:45:12          2      0.98      0.00      0.98      0.00      0.00     98.04
16:45:12          3      1.98      0.00      2.97      2.97      0.00     92.08

16:45:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:13        all      2.19      0.00      1.22      0.00      0.00     96.59
16:45:13          0      2.88      0.00      0.96      0.00      0.00     96.15
16:45:13          1      1.96      0.00      1.96      0.00      0.00     96.08
16:45:13          2      0.97      0.00      0.97      0.00      0.00     98.06
16:45:13          3      2.94      0.00      1.96      0.00      0.00     95.10

16:45:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:14        all      2.93      0.00      1.47      0.49      0.00     95.11
16:45:14          0      0.99      0.00      0.99      0.00      0.00     98.02
16:45:14          1      2.88      0.00      0.96      0.00      0.00     96.15
16:45:14          2      3.88      0.00      0.00      0.00      0.00     96.12
16:45:14          3      3.96      0.00      2.97      0.99      0.00     92.08
```

16:45:14	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:15	all	2.43	0.00	1.95	0.49	0.00	95.13
16:45:15	0	1.94	0.00	1.94	0.00	0.00	96.12
16:45:15	1	1.94	0.00	0.97	0.97	0.00	96.12
16:45:15	2	3.81	0.00	0.00	0.00	0.00	96.19
16:45:15	3	1.96	0.00	6.86	1.96	0.00	89.22
16:45:15	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:16	all	2.17	0.00	1.69	0.48	0.00	95.65
16:45:16	0	1.96	0.00	1.96	0.00	0.00	96.08
16:45:16	1	2.88	0.00	0.96	0.00	0.00	96.15
16:45:16	2	0.00	0.00	0.96	0.00	0.00	99.04
16:45:16	3	3.92	0.00	1.96	1.96	0.00	92.16
16:45:16	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:17	all	1.70	0.00	1.22	0.49	0.00	96.59
16:45:17	0	1.94	0.00	0.00	0.00	0.00	98.06
16:45:17	1	1.96	0.00	0.00	0.98	0.00	97.06
16:45:17	2	0.96	0.00	0.96	0.00	0.00	98.08
16:45:17	3	1.00	0.00	3.00	1.00	0.00	95.00
16:45:17	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:18	all	2.67	0.00	2.43	0.49	0.00	94.42
16:45:18	0	1.94	0.00	1.94	0.00	0.00	96.12
16:45:18	1	1.94	0.00	0.97	0.00	0.00	97.09
16:45:18	2	2.86	0.00	0.95	0.00	0.00	96.19
16:45:18	3	3.96	0.00	5.94	0.99	0.00	89.11
16:45:18	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:19	all	3.37	0.00	1.92	0.96	0.00	93.75
16:45:19	0	0.97	0.00	0.00	0.00	0.00	99.03
16:45:19	1	2.88	0.00	0.96	0.00	0.00	96.15
16:45:19	2	4.76	0.00	1.90	0.00	0.00	93.33
16:45:19	3	4.85	0.00	3.88	4.85	0.00	86.41
16:45:19	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:20	all	1.45	0.00	1.45	0.97	0.00	96.13
16:45:20	0	0.00	0.00	0.97	0.00	0.00	99.03
16:45:20	1	1.87	0.00	2.80	0.00	0.00	95.33
16:45:20	2	1.96	0.00	0.98	0.00	0.00	97.06
16:45:20	3	2.94	0.00	1.96	2.94	0.00	92.16
16:45:20	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:21	all	2.42	0.00	2.42	0.24	0.00	94.92
16:45:21	0	1.96	0.00	0.98	0.00	0.00	97.06
16:45:21	1	1.87	0.00	0.00	0.00	0.00	98.13
16:45:21	2	1.96	0.00	1.96	0.00	0.00	96.08
16:45:21	3	2.91	0.00	7.77	0.97	0.00	88.35
16:45:21	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:22	all	1.45	0.00	1.93	0.24	0.00	96.38
16:45:22	0	1.94	0.00	0.97	0.00	0.00	97.09
16:45:22	1	0.00	0.00	0.95	0.00	0.00	99.05
16:45:22	2	2.88	0.00	0.96	0.00	0.00	96.15
16:45:22	3	1.94	0.00	3.88	1.94	0.00	92.23
16:45:22	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:45:23	all	3.15	0.00	1.94	0.73	0.00	94.19

```
16:45:23          0      2.94      0.00      0.00      0.00      0.00     97.06
16:45:23          1      2.83      0.00      0.94      0.00      0.00     96.23
16:45:23          2      2.88      0.00      1.92      0.00      0.00     95.19
16:45:23          3      3.00      0.00      7.00      2.00      0.00     88.00

16:45:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:24        all      1.70      0.00      2.68      0.24      0.00     95.38
16:45:24          0      0.98      0.00      1.96      0.00      0.00     97.06
16:45:24          1      0.98      0.00      1.96      0.00      0.00     97.06
16:45:24          2      1.90      0.00      1.90      0.00      0.00     96.19
16:45:24          3      2.94      0.00      3.92      1.96      0.00     91.18

16:45:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:25        all      1.94      0.00      1.69      0.73      0.00     95.64
16:45:25          0      2.86      0.00      0.95      0.00      0.00     96.19
16:45:25          1      1.94      0.00      0.97      0.97      0.00     96.12
16:45:25          2      0.98      0.00      0.00      0.00      0.00     99.02
16:45:25          3      3.85      0.00      3.85      1.92      0.00     90.38

16:45:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:26        all      1.71      0.00      1.71      0.73      0.00     95.85
16:45:26          0      2.00      0.00      1.00      0.00      0.00     97.00
16:45:26          1      1.92      0.00      1.92      0.96      0.00     95.19
16:45:26          2      0.00      0.00      0.96      0.00      0.00     99.04
16:45:26          3      0.99      0.00      3.96      1.98      0.00     93.07

16:45:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:27        all      1.71      0.00      2.44      0.73      0.00     95.12
16:45:27          0      1.96      0.00      1.96      0.00      0.00     96.08
16:45:27          1      2.94      0.00      0.98      0.00      0.00     96.08
16:45:27          2      0.96      0.00      0.96      0.00      0.00     98.08
16:45:27          3      1.94      0.00      4.85      2.91      0.00     90.29

16:45:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:28        all      1.94      0.00      1.94      1.21      0.00     94.90
16:45:28          0      0.98      0.00      0.98      0.00      0.00     98.04
16:45:28          1      2.94      0.00      2.94      0.98      0.00     93.14
16:45:28          2      0.96      0.00      0.96      0.00      0.00     98.08
16:45:28          3      2.91      0.00      2.91      2.91      0.00     91.26

16:45:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:29        all      1.48      0.00      1.73      0.99      0.00     95.80
16:45:29          0      2.94      0.00      0.00      0.00      0.00     97.06
16:45:29          1      1.98      0.00      1.98      0.00      0.00     96.04
16:45:29          2      0.00      0.00      0.00      0.00      0.00    100.00
16:45:29          3      1.94      0.00      5.83      3.88      0.00     88.35

16:45:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:30        all      2.22      0.00      1.97      0.49      0.00     95.32
16:45:30          0      0.00      0.00      1.98      0.00      0.00     98.02
16:45:30          1      3.03      0.00      1.01      0.00      0.00     95.96
16:45:30          2      0.98      0.00      0.00      0.00      0.00     99.02
16:45:30          3      3.88      0.00      2.91      2.91      0.00     90.29

16:45:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:31        all      1.49      0.00      1.24      0.74      0.00     96.53
16:45:31          0      0.00      0.00      0.99      0.00      0.00     99.01
16:45:31          1      1.96      0.00      0.98      0.00      0.00     97.06
```

```
16:45:31          2      0.00      0.00      0.00      0.00      0.00    100.00
16:45:31          3      3.96      0.00      2.97      2.97      0.00     90.10

16:45:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:32        all      1.24      0.00      1.24      0.25      0.00     97.28
16:45:32          0      0.00      0.00      0.00      0.00      0.00    100.00
16:45:32          1      0.99      0.00      0.99      0.99      0.00     97.03
16:45:32          2      0.99      0.00      0.00      0.00      0.00     99.01
16:45:32          3      2.94      0.00      5.88      0.00      0.00     91.18

16:45:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:33        all      2.21      0.00      1.72      0.98      0.00     95.10
16:45:33          0      0.98      0.00      0.98      0.00      0.00     98.04
16:45:33          1      1.98      0.00      0.99      0.00      0.00     97.03
16:45:33          2      0.00      0.00      0.00      0.00      0.00    100.00
16:45:33          3      5.77      0.00      3.85      2.88      0.00     87.50

16:45:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:34        all      2.21      0.00      1.72      0.74      0.00     95.34
16:45:34          0      1.94      0.00      0.97      0.00      0.00     97.09
16:45:34          1      1.96      0.00      1.96      0.98      0.00     95.10
16:45:34          2      0.00      0.00      0.00      0.00      0.00    100.00
16:45:34          3      4.90      0.00      3.92      2.94      0.00     88.24

16:45:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:35        all      2.47      0.00      1.73      0.74      0.00     95.06
16:45:35          0      0.00      0.00      0.99      0.00      0.00     99.01
16:45:35          1      3.00      0.00      2.00      0.00      0.00     95.00
16:45:35          2      0.98      0.00      0.00      0.00      0.00     99.02
16:45:35          3      5.88      0.00      3.92      1.96      0.00     88.24

16:45:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:36        all      3.21      0.00      2.22      0.99      0.00     93.58
16:45:36          0      2.94      0.00      0.98      0.00      0.00     96.08
16:45:36          1      3.96      0.00      2.97      0.99      0.00     92.08
16:45:36          2      0.00      0.00      0.00      0.00      0.00    100.00
16:45:36          3      5.83      0.00      4.85      3.88      0.00     85.44

16:45:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:37        all      3.70      0.00      1.23      0.49      0.00     94.57
16:45:37          0      0.99      0.00      0.99      0.00      0.00     98.02
16:45:37          1      4.00      0.00      1.00      0.00      0.00     95.00
16:45:37          2      0.98      0.00      0.00      0.00      0.00     99.02
16:45:37          3      8.82      0.00      3.92      1.96      0.00     85.29

16:45:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:38        all      1.72      0.00      1.72      1.23      0.00     95.32
16:45:38          0      0.96      0.00      0.00      0.00      0.00     99.04
16:45:38          1      2.00      0.00      2.00      0.00      0.00     96.00
16:45:38          2      0.00      0.00      0.00      0.00      0.00    100.00
16:45:38          3      2.94      0.00      5.88      4.90      0.00     86.27

16:45:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:39        all      2.70      0.00      1.72      0.74      0.00     94.84
16:45:39          0      1.94      0.00      1.94      0.00      0.00     96.12
16:45:39          1      3.00      0.00      1.00      0.00      0.00     96.00
16:45:39          2      0.00      0.00      0.98      0.00      0.00     99.02
16:45:39          3      6.93      0.00      1.98      1.98      0.00     89.11
```

```
16:45:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:40        all      2.64      0.00      2.40      0.00      0.00     94.95
16:45:40          0      1.90      0.00      0.95      0.00      0.00     97.14
16:45:40          1      0.99      0.00      0.99      0.00      0.00     98.02
16:45:40          2      0.00      0.00      0.94      0.00      0.00     99.06
16:45:40          3      6.86      0.00      5.88      0.00      0.00     87.25

16:45:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:41        all      1.20      0.00      1.93      0.48      0.00     96.39
16:45:41          0      0.99      0.00      0.00      0.00      0.00     99.01
16:45:41          1      0.95      0.00      2.86      0.95      0.00     95.24
16:45:41          2      0.00      0.00      1.83      0.00      0.00     98.17
16:45:41          3      2.97      0.00      3.96      1.98      0.00     91.09

16:45:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:42        all      2.18      0.00      1.21      0.48      0.00     96.13
16:45:42          0      1.90      0.00      1.90      0.00      0.00     96.19
16:45:42          1      2.88      0.00      0.00      0.00      0.00     97.12
16:45:42          2      0.97      0.00      0.00      0.00      0.00     99.03
16:45:42          3      3.92      0.00      2.94      0.98      0.00     92.16

16:45:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:43        all      1.69      0.00      1.69      0.48      0.00     96.14
16:45:43          0      1.87      0.00      0.93      0.00      0.00     97.20
16:45:43          1      1.94      0.00      0.97      0.97      0.00     96.12
16:45:43          2      0.97      0.00      0.97      0.00      0.00     98.06
16:45:43          3      1.98      0.00      3.96      0.99      0.00     93.07

16:45:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:44        all      2.90      0.00      1.93      0.24      0.00     94.93
16:45:44          0      2.91      0.00      0.97      0.00      0.00     96.12
16:45:44          1      1.92      0.00      1.92      0.00      0.00     96.15
16:45:44          2      1.90      0.00      0.95      0.00      0.00     97.14
16:45:44          3      4.04      0.00      3.03      1.01      0.00     91.92

16:45:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:45        all      1.95      0.00      1.22      0.24      0.00     96.59
16:45:45          0      1.90      0.00      1.90      0.00      0.00     96.19
16:45:45          1      1.94      0.00      0.97      0.00      0.00     97.09
16:45:45          2      0.99      0.00      0.00      0.00      0.00     99.01
16:45:45          3      2.88      0.00      2.88      0.96      0.00     93.27

16:45:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:46        all      1.74      0.00      1.00      0.00      0.00     97.26
16:45:46          0      1.02      0.00      0.00      0.00      0.00     98.98
16:45:46          1      1.00      0.00      1.00      0.00      0.00     98.00
16:45:46          2      0.97      0.00      0.97      0.00      0.00     98.06
16:45:46          3      4.00      0.00      2.00      0.00      0.00     94.00

16:45:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:47        all      0.25      0.00      0.99      0.00      0.00     98.76
16:45:47          0      0.00      0.00      0.00      0.00      0.00    100.00
16:45:47          1      1.00      0.00      0.00      0.00      0.00     99.00
16:45:47          2      0.00      0.00      0.99      0.00      0.00     99.01
16:45:47          3      0.00      0.00      1.98      0.00      0.00     98.02

16:45:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
16:45:48        all      0.51      0.00      0.51      0.00      0.00     98.97
16:45:48          0      0.00      0.00      1.03      0.00      0.00     98.97
16:45:48          1      0.00      0.00      0.00      0.00      0.00    100.00
16:45:48          2      0.98      0.00      0.98      0.00      0.00     98.04
16:45:48          3      2.13      0.00      1.06      0.00      0.00     96.81

16:45:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:49        all      0.00      0.00      0.00      0.00      0.00    100.00
16:45:49          0      0.00      0.00      0.00      0.00      0.00    100.00
16:45:49          1      0.00      0.00      0.00      0.00      0.00    100.00
16:45:49          2      0.00      0.00      1.00      0.00      0.00     99.00
16:45:49          3      0.00      0.00      0.00      0.00      0.00    100.00

16:45:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:50        all      0.00      0.00      0.24      0.00      0.00     99.76
16:45:50          0      0.00      0.00      0.00      0.00      0.00    100.00
16:45:50          1      0.00      0.00      0.00      0.00      0.00    100.00
16:45:50          2      0.00      0.00      0.00      0.00      0.00    100.00
16:45:50          3      0.00      0.00      0.00      0.00      0.00    100.00

16:45:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:45:51        all      0.51      0.00      0.51      0.00      0.00     98.97
16:45:51          0      0.00      0.00      0.00      0.00      0.00    100.00
16:45:51          1      0.00      0.00      1.02      0.00      0.00     98.98
16:45:51          2      0.98      0.00      0.98      0.00      0.00     98.04
16:45:51          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 24: Iostat monitoring for the 100 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.04    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.41     1.55    14.61    35.58     0.00    4.28   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.60    0.00    1.00     0.00    28.80    28.80     0.00    1.60   1.60   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.42    0.00    1.04    0.38    0.00   97.16

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.80    0.00    2.04    0.58    0.00   95.58

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    2.00   2.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.18    0.00    1.94    0.82    0.00   95.06

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    2.60     0.00    22.40     8.62     0.00    0.62   0.31   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.24    0.00    1.95    0.54    0.00   95.27

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.23    0.00    1.79    0.53    0.00   95.44

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.42    0.00    2.03    0.58    0.00   94.98

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.00     0.00    19.20    19.20     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.75    0.00    1.90    0.83    0.00   95.52

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    49.00    0.00    5.20     0.00   433.60    83.38     0.01    1.08   0.15   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.83    0.00    1.68    0.64    0.00   95.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.61    0.00    1.73    0.84    0.00   94.82

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.13    0.00    1.64    0.39    0.00   95.84

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.40     0.00    14.40    10.29     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.32    0.00    1.12    0.10    0.00   97.46

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00
```

Table 25: Jmeter 150 threads test second trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	150	73	43	515
19033-h-0.htm	150	332	98	884
1.css	150	58	43	299
i001_th.jpg	150	73	44	541
pgepub.css	150	57	42	322
0.css	150	61	43	363
i002_th.jpg	150	60	43	122
title.jpg	150	56	43	114
plate02_th.jpg	150	169	54	434
i008_th.jpg	150	82	46	607
plate01_th.jpg	150	173	56	1420
i009_th.jpg	150	107	47	1182
cover_th.jpg	150	147	51	400
i005_th.jpg	150	83	46	246
i003_th.jpg	150	78	46	363
i015_th.jpg	150	87	46	470
i011_th.jpg	150	81	46	264
i017_th.jpg	150	98	48	505
plate04_th.jpg	150	184	57	571
i022_th.jpg	150	88	46	399
i007_th.jpg	150	64	43	233
i020_th.jpg	150	87	45	359
i004_th.jpg	150	65	46	189
plate03_th.jpg	150	172	59	532
i018_th.jpg	150	80	46	449
i019_th.jpg	150	59	44	177
i016_th.jpg	150	86	47	1131
i010_th.jpg	150	61	43	299
i012_th.jpg	150	92	46	351
i014_th.jpg	150	75	46	239
i021_th.jpg	150	69	44	396
i013_th.jpg	150	79	46	260
i006_th.jpg	150	97	47	557
TOTAL	4950	98	42	1420

Table 26: Systat monitoring for the 150 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:47:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:35        all      0.27      0.00      0.00      0.00      0.00     99.73
16:47:35          0      0.00      0.00      0.00      0.00      0.00    100.00
16:47:35          1      0.00      0.00      0.00      0.00      0.00    100.00
16:47:35          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:35          3      0.00      0.00      0.00      0.00      0.00    100.00

16:47:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:36        all      0.00      0.00      0.25      0.00      0.00     99.75
16:47:36          0      0.00      0.00      0.00      0.00      0.00    100.00
16:47:36          1      0.00      0.00      0.00      0.00      0.00    100.00
16:47:36          2      0.00      0.00      0.99      0.00      0.00     99.01
16:47:36          3      0.00      0.00      0.00      0.00      0.00    100.00

16:47:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:37        all      0.00      0.00      0.00      0.00      0.00    100.00
16:47:37          0      0.00      0.00      0.00      0.00      0.00    100.00
16:47:37          1      0.00      0.00      0.00      0.00      0.00    100.00
16:47:37          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:37          3      0.00      0.00      0.00      0.00      0.00    100.00

16:47:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:38        all      0.00      0.00      0.27      0.00      0.00     99.73
16:47:38          0      0.00      0.00      0.00      0.00      0.00    100.00
16:47:38          1      0.00      0.00      0.00      0.00      0.00    100.00
16:47:38          2      0.00      0.00      0.99      0.00      0.00     99.01
16:47:38          3      0.00      0.00      0.00      0.00      0.00    100.00

16:47:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:39        all      0.00      0.00      0.00      0.00      0.00    100.00
16:47:39          0      0.00      0.00      0.00      0.00      0.00    100.00
16:47:39          1      0.00      0.00      0.00      0.00      0.00    100.00
16:47:39          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:39          3      0.82      0.00      0.00      0.00      0.00     99.18

16:47:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:40        all      0.45      0.00      0.22      0.00      0.00     99.33
16:47:40          0      0.00      0.00      0.00      0.00      0.00    100.00
16:47:40          1      0.86      0.00      0.00      0.00      0.00     99.14
16:47:40          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:40          3      0.00      0.00      0.00      0.00      0.00    100.00

16:47:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:41        all      0.49      0.00      0.73      0.00      0.00     98.78
16:47:41          0      0.96      0.00      0.96      0.00      0.00     98.08
16:47:41          1      0.98      0.00      0.00      0.00      0.00     99.02
16:47:41          2      0.00      0.00      0.98      0.00      0.00     99.02
16:47:41          3      0.96      0.00      2.88      0.00      0.00     96.15

16:47:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:42        all      1.69      0.00      1.45      0.97      0.00     95.89
16:47:42          0      0.00      0.00      0.96      0.00      0.00     99.04
```

```
16:47:42          1      1.92      0.00      0.96      0.96      0.00     96.15
16:47:42          2      1.92      0.00      0.96      0.00      0.00     97.12
16:47:42          3      1.96      0.00      2.94      3.92      0.00     91.18

16:47:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:43        all      2.17      0.00      2.41      0.96      0.00     94.46
16:47:43          0      0.98      0.00      0.98      0.00      0.00     98.04
16:47:43          1      1.90      0.00      0.95      0.00      0.00     97.14
16:47:43          2      0.94      0.00      1.89      0.00      0.00     97.17
16:47:43          3      4.85      0.00      5.83      3.88      0.00     85.44

16:47:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:44        all      1.68      0.00      1.68      0.48      0.00     96.15
16:47:44          0      1.94      0.00      0.00      0.00      0.00     98.06
16:47:44          1      1.90      0.00      1.90      0.00      0.00     96.19
16:47:44          2      1.90      0.00      0.95      0.00      0.00     97.14
16:47:44          3      2.91      0.00      3.88      0.97      0.00     92.23

16:47:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:45        all      1.20      0.00      1.69      0.96      0.00     96.14
16:47:45          0      0.96      0.00      0.00      0.00      0.00     99.04
16:47:45          1      1.92      0.00      0.96      0.96      0.00     96.15
16:47:45          2      0.00      0.00      0.95      0.00      0.00     99.05
16:47:45          3      0.97      0.00      4.85      3.88      0.00     90.29

16:47:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:46        all      1.69      0.00      1.93      0.97      0.00     95.41
16:47:46          0      0.96      0.00      0.00      0.00      0.00     99.04
16:47:46          1      1.92      0.00      1.92      0.00      0.00     96.15
16:47:46          2      0.00      0.00      0.98      0.00      0.00     99.02
16:47:46          3      2.94      0.00      4.90      2.94      0.00     89.22

16:47:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:47        all      1.72      0.00      2.70      0.74      0.00     94.85
16:47:47          0      0.98      0.00      0.98      0.00      0.00     98.04
16:47:47          1      0.99      0.00      0.99      0.00      0.00     98.02
16:47:47          2      0.00      0.00      0.99      0.00      0.00     99.01
16:47:47          3      3.88      0.00      6.80      3.88      0.00     85.44

16:47:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:48        all      3.17      0.00      1.46      1.22      0.00     94.15
16:47:48          0      3.85      0.00      0.96      0.00      0.00     95.19
16:47:48          1      3.88      0.00      1.94      0.00      0.00     94.17
16:47:48          2      0.98      0.00      0.00      0.00      0.00     99.02
16:47:48          3      5.83      0.00      3.88      4.85      0.00     85.44

16:47:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:49        all      2.89      0.00      0.96      1.69      0.00     94.46
16:47:49          0      3.88      0.00      0.00      0.00      0.00     96.12
16:47:49          1      0.96      0.00      0.00      0.96      0.00     98.08
16:47:49          2      0.93      0.00      0.93      0.00      0.00     98.13
16:47:49          3      4.90      0.00      3.92      5.88      0.00     85.29

16:47:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:50        all      0.98      0.00      2.20      0.73      0.00     96.09
16:47:50          0      2.00      0.00      1.00      0.00      0.00     97.00
16:47:50          1      0.99      0.00      0.99      0.00      0.00     98.02
16:47:50          2      0.93      0.00      0.93      0.00      0.00     98.13
```

```
16:47:50          3      1.00      0.00      4.00      3.00      0.00     92.00

16:47:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:51        all      1.94      0.00      1.21      0.73      0.00     96.13
16:47:51          0      3.81      0.00      0.95      0.00      0.00     95.24
16:47:51          1      0.97      0.00      0.97      0.00      0.00     98.06
16:47:51          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:51          3      2.88      0.00      4.81      2.88      0.00     89.42

16:47:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:52        all      1.94      0.00      1.46      0.24      0.00     96.36
16:47:52          0      1.96      0.00      0.98      0.00      0.00     97.06
16:47:52          1      1.96      0.00      0.00      0.00      0.00     98.04
16:47:52          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:52          3      2.94      0.00      3.92      0.98      0.00     92.16

16:47:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:53        all      1.70      0.00      1.22      0.73      0.00     96.35
16:47:53          0      2.94      0.00      0.98      0.00      0.00     96.08
16:47:53          1      0.98      0.00      0.98      0.00      0.00     98.04
16:47:53          2      0.98      0.00      0.00      0.00      0.00     99.02
16:47:53          3      1.94      0.00      2.91      1.94      0.00     93.20

16:47:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:54        all      1.97      0.00      1.72      0.25      0.00     96.07
16:47:54          0      4.90      0.00      2.94      0.00      0.00     92.16
16:47:54          1      0.97      0.00      1.94      0.97      0.00     96.12
16:47:54          2      0.00      0.00      0.98      0.00      0.00     99.02
16:47:54          3      1.94      0.00      1.94      0.97      0.00     95.15

16:47:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:55        all      2.23      0.00      1.99      0.50      0.00     95.29
16:47:55          0      4.00      0.00      2.00      0.00      0.00     94.00
16:47:55          1      3.00      0.00      2.00      0.00      0.00     95.00
16:47:55          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:55          3      2.00      0.00      3.00      1.00      0.00     94.00

16:47:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:56        all      1.74      0.00      1.99      0.50      0.00     95.77
16:47:56          0      3.96      0.00      0.99      0.00      0.00     95.05
16:47:56          1      1.00      0.00      1.00      0.00      0.00     98.00
16:47:56          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:56          3      2.97      0.00      5.94      1.98      0.00     89.11

16:47:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:57        all      2.24      0.00      2.00      0.25      0.00     95.51
16:47:57          0      5.00      0.00      3.00      0.00      0.00     92.00
16:47:57          1      3.00      0.00      1.00      0.00      0.00     96.00
16:47:57          2      0.00      0.00      0.98      0.00      0.00     99.02
16:47:57          3      0.00      0.00      5.00      1.00      0.00     94.00

16:47:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:47:58        all      2.70      0.00      1.97      0.49      0.00     94.84
16:47:58          0      3.96      0.00      1.98      0.00      0.00     94.06
16:47:58          1      2.97      0.00      0.00      0.99      0.00     96.04
16:47:58          2      0.00      0.00      0.00      0.00      0.00    100.00
16:47:58          3      4.81      0.00      3.85      0.96      0.00     90.38
```

16:47:58	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:47:59	all	1.24	0.00	0.99	0.50	0.00	97.27
16:47:59	0	1.00	0.00	2.00	0.00	0.00	97.00
16:47:59	1	2.00	0.00	2.00	1.00	0.00	95.00
16:47:59	2	0.00	0.00	0.00	0.00	0.00	100.00
16:47:59	3	0.00	0.00	0.00	2.00	0.00	98.00
16:47:59	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:48:00	all	2.16	0.00	0.96	0.96	0.00	95.91
16:48:00	0	3.88	0.00	0.00	0.00	0.00	96.12
16:48:00	1	1.92	0.00	0.96	0.96	0.00	96.15
16:48:00	2	0.94	0.00	0.94	0.00	0.00	98.11
16:48:00	3	3.88	0.00	1.94	2.91	0.00	91.26
16:48:00	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:48:01	all	2.71	0.00	1.48	0.74	0.00	95.07
16:48:01	0	2.94	0.00	0.98	0.00	0.00	96.08
16:48:01	1	5.88	0.00	1.96	0.00	0.00	92.16
16:48:01	2	0.00	0.00	0.00	0.00	0.00	100.00
16:48:01	3	1.98	0.00	2.97	1.98	0.00	93.07
16:48:01	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:48:02	all	1.73	0.00	0.99	0.50	0.00	96.78
16:48:02	0	0.99	0.00	0.99	0.00	0.00	98.02
16:48:02	1	1.01	0.00	1.01	0.00	0.00	97.98
16:48:02	2	0.97	0.00	0.00	0.00	0.00	99.03
16:48:02	3	3.00	0.00	1.00	2.00	0.00	94.00
16:48:02	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:48:03	all	1.91	0.00	1.43	0.24	0.00	96.42
16:48:03	0	0.94	0.00	1.89	0.00	0.00	97.17
16:48:03	1	3.77	0.00	0.94	0.00	0.00	95.28
16:48:03	2	0.94	0.00	0.94	0.00	0.00	98.11
16:48:03	3	1.96	0.00	3.92	0.98	0.00	93.14
16:48:03	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:48:04	all	1.94	0.00	0.97	0.24	0.00	96.84
16:48:04	0	2.94	0.00	0.98	0.00	0.00	96.08
16:48:04	1	2.94	0.00	0.98	0.00	0.00	96.08
16:48:04	2	0.00	0.00	0.00	0.00	0.00	100.00
16:48:04	3	1.96	0.00	1.96	0.98	0.00	95.10
16:48:04	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:48:05	all	1.94	0.00	1.69	0.97	0.00	95.40
16:48:05	0	2.94	0.00	0.00	0.00	0.00	97.06
16:48:05	1	1.90	0.00	1.90	0.95	0.00	95.24
16:48:05	2	1.90	0.00	0.95	0.00	0.00	97.14
16:48:05	3	1.94	0.00	2.91	2.91	0.00	92.23
16:48:05	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:48:06	all	0.98	0.00	1.22	0.49	0.00	97.32
16:48:06	0	0.99	0.00	0.00	0.00	0.00	99.01
16:48:06	1	0.98	0.00	0.98	0.98	0.00	97.06
16:48:06	2	0.94	0.00	0.94	0.00	0.00	98.11
16:48:06	3	0.99	0.00	1.98	1.98	0.00	95.05
16:48:06	CPU	%user	%nice	%system	%iowait	%steal	%idle
16:48:07	all	0.97	0.00	1.22	0.73	0.00	97.08

```
16:48:07          0      0.00      0.00      0.98      0.00      0.00     99.02
16:48:07          1      0.98      0.00      0.98      0.00      0.00     98.04
16:48:07          2      0.00      0.00      0.98      0.00      0.00     99.02
16:48:07          3      1.96      0.00      1.96      1.96      0.00     94.12

16:48:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:08        all      1.94      0.00      1.45      0.97      0.00     95.64
16:48:08          0      2.86      0.00      0.95      0.00      0.00     96.19
16:48:08          1      2.88      0.00      1.92      0.96      0.00     94.23
16:48:08          2      0.97      0.00      0.97      0.00      0.00     98.06
16:48:08          3      0.97      0.00      1.94      3.88      0.00     93.20

16:48:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:09        all      2.43      0.00      1.70      0.73      0.00     95.13
16:48:09          0      2.88      0.00      0.00      0.00      0.00     97.12
16:48:09          1      4.85      0.00      0.97      0.97      0.00     93.20
16:48:09          2      0.99      0.00      0.00      0.00      0.00     99.01
16:48:09          3      1.94      0.00      4.85      1.94      0.00     91.26

16:48:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:10        all      2.21      0.00      1.47      0.74      0.00     95.58
16:48:10          0      2.97      0.00      0.99      0.00      0.00     96.04
16:48:10          1      1.98      0.00      1.98      0.00      0.00     96.04
16:48:10          2      0.97      0.00      0.97      0.00      0.00     98.06
16:48:10          3      1.94      0.00      3.88      2.91      0.00     91.26

16:48:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:11        all      2.48      0.00      1.24      0.74      0.00     95.54
16:48:11          0      2.97      0.00      0.00      0.00      0.00     97.03
16:48:11          1      3.96      0.00      1.98      0.00      0.00     94.06
16:48:11          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:11          3      3.92      0.00      1.96      2.94      0.00     91.18

16:48:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:12        all      1.24      0.00      1.99      0.75      0.00     96.02
16:48:12          0      0.00      0.00      1.00      0.00      0.00     99.00
16:48:12          1      0.00      0.00      2.04      0.00      0.00     97.96
16:48:12          2      0.00      0.00      0.99      0.00      0.00     99.01
16:48:12          3      3.92      0.00      5.88      1.96      0.00     88.24

16:48:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:13        all      1.73      0.00      1.23      0.74      0.00     96.30
16:48:13          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:13          1      3.96      0.00      0.00      0.00      0.00     96.04
16:48:13          2      0.99      0.00      0.00      0.00      0.00     99.01
16:48:13          3      2.94      0.00      2.94      2.94      0.00     91.18

16:48:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:14        all      1.48      0.00      1.23      0.49      0.00     96.80
16:48:14          0      0.00      0.00      0.99      0.00      0.00     99.01
16:48:14          1      1.94      0.00      1.94      0.97      0.00     95.15
16:48:14          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:14          3      3.85      0.00      3.85      0.96      0.00     91.35

16:48:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:15        all      1.74      0.00      1.00      1.00      0.00     96.27
16:48:15          0      2.00      0.00      0.00      0.00      0.00     98.00
16:48:15          1      0.00      0.00      0.00      1.01      0.00     98.99
```

```
16:48:15          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:15          3      3.96      0.00      1.98      3.96      0.00     90.10

16:48:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:16        all      1.47      0.00      1.97      0.98      0.00     95.58
16:48:16          0      0.00      0.00      1.96      0.98      0.00     97.06
16:48:16          1      2.00      0.00      2.00      0.00      0.00     96.00
16:48:16          2      0.98      0.00      0.00      0.00      0.00     99.02
16:48:16          3      2.94      0.00      3.92      1.96      0.00     91.18

16:48:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:17        all      2.96      0.00      1.72      0.99      0.00     94.33
16:48:17          0      2.00      0.00      1.00      0.00      0.00     97.00
16:48:17          1      2.94      0.00      0.98      1.96      0.00     94.12
16:48:17          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:17          3      7.55      0.00      5.66      2.83      0.00     83.96

16:48:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:18        all      1.97      0.00      1.97      0.74      0.00     95.33
16:48:18          0      0.99      0.00      0.00      0.00      0.00     99.01
16:48:18          1      0.00      0.00      1.01      0.00      0.00     98.99
16:48:18          2      0.00      0.00      0.99      0.00      0.00     99.01
16:48:18          3      5.83      0.00      4.85      1.94      0.00     87.38

16:48:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:19        all      2.46      0.00      1.23      0.49      0.00     95.81
16:48:19          0      2.94      0.00      0.00      0.00      0.00     97.06
16:48:19          1      2.97      0.00      0.99      0.99      0.00     95.05
16:48:19          2      0.99      0.00      0.00      0.00      0.00     99.01
16:48:19          3      2.94      0.00      3.92      1.96      0.00     91.18

16:48:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:20        all      2.70      0.00      1.47      0.74      0.00     95.09
16:48:20          0      2.00      0.00      1.00      0.00      0.00     97.00
16:48:20          1      3.96      0.00      0.99      0.00      0.00     95.05
16:48:20          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:20          3      5.71      0.00      3.81      2.86      0.00     87.62

16:48:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:21        all      1.97      0.00      1.72      0.49      0.00     95.81
16:48:21          0      3.96      0.00      0.99      0.00      0.00     95.05
16:48:21          1      1.98      0.00      0.99      0.00      0.00     97.03
16:48:21          2      0.00      0.00      0.98      0.00      0.00     99.02
16:48:21          3      0.98      0.00      3.92      1.96      0.00     93.14

16:48:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:22        all      1.71      0.00      0.98      0.49      0.00     96.82
16:48:22          0      0.98      0.00      0.98      0.00      0.00     98.04
16:48:22          1      1.98      0.00      0.99      0.00      0.00     97.03
16:48:22          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:22          3      2.97      0.00      1.98      0.99      0.00     94.06

16:48:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:23        all      1.96      0.00      2.44      0.49      0.00     95.11
16:48:23          0      0.96      0.00      0.96      0.00      0.00     98.08
16:48:23          1      2.94      0.00      0.98      0.98      0.00     95.10
16:48:23          2      1.89      0.00      0.94      0.00      0.00     97.17
16:48:23          3      3.03      0.00      7.07      1.01      0.00     88.89
```

```
16:48:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:24        all      3.13      0.00      1.69      0.48      0.00     94.70
16:48:24          0      2.86      0.00      0.00      0.00      0.00     97.14
16:48:24          1      2.97      0.00      0.99      0.00      0.00     96.04
16:48:24          2      0.97      0.00      0.00      0.00      0.00     99.03
16:48:24          3      5.71      0.00      5.71      1.90      0.00     86.67

16:48:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:25        all      1.69      0.00      1.69      0.97      0.00     95.65
16:48:25          0      0.95      0.00      0.00      0.00      0.00     99.05
16:48:25          1      1.94      0.00      0.97      0.97      0.00     96.12
16:48:25          2      0.95      0.00      0.00      0.00      0.00     99.05
16:48:25          3      3.92      0.00      4.90      2.94      0.00     88.24

16:48:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:26        all      1.96      0.00      1.47      0.49      0.00     96.09
16:48:26          0      0.00      0.00      0.99      0.00      0.00     99.01
16:48:26          1      1.92      0.00      0.00      1.92      0.00     96.15
16:48:26          2      1.94      0.00      0.97      0.00      0.00     97.09
16:48:26          3      2.97      0.00      3.96      0.99      0.00     92.08

16:48:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:27        all      1.22      0.00      1.22      0.49      0.00     97.07
16:48:27          0      1.89      0.00      0.94      0.00      0.00     97.17
16:48:27          1      1.96      0.00      0.98      0.98      0.00     96.08
16:48:27          2      0.98      0.00      0.00      0.00      0.00     99.02
16:48:27          3      1.00      0.00      3.00      1.00      0.00     95.00

16:48:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:28        all      2.71      0.00      1.72      0.74      0.00     94.83
16:48:28          0      2.00      0.00      1.00      0.00      0.00     97.00
16:48:28          1      1.98      0.00      1.98      0.00      0.00     96.04
16:48:28          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:28          3      5.83      0.00      3.88      2.91      0.00     87.38

16:48:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:29        all      2.98      0.00      1.49      0.74      0.00     94.79
16:48:29          0      5.05      0.00      2.02      0.00      0.00     92.93
16:48:29          1      2.97      0.00      1.98      0.00      0.00     95.05
16:48:29          2      0.98      0.00      0.00      0.00      0.00     99.02
16:48:29          3      3.96      0.00      2.97      1.98      0.00     91.09

16:48:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:30        all      2.21      0.00      2.46      0.49      0.00     94.84
16:48:30          0      3.88      0.00      0.00      0.00      0.00     96.12
16:48:30          1      2.97      0.00      0.00      0.99      0.00     96.04
16:48:30          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:30          3      1.96      0.00      7.84      1.96      0.00     88.24

16:48:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:31        all      1.75      0.00      0.75      0.00      0.00     97.51
16:48:31          0      2.02      0.00      1.01      0.00      0.00     96.97
16:48:31          1      2.00      0.00      0.00      0.00      0.00     98.00
16:48:31          2      0.97      0.00      0.97      0.00      0.00     98.06
16:48:31          3      1.00      0.00      2.00      0.00      0.00     97.00

16:48:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
16:48:32        all      0.74      0.00      0.25      0.00      0.00     99.01
16:48:32          0      0.98      0.00      0.00      0.00      0.00     99.02
16:48:32          1      0.98      0.00      0.00      0.00      0.00     99.02
16:48:32          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:32          3      0.97      0.00      0.97      0.00      0.00     98.06

16:48:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:33        all      0.25      0.00      0.25      0.25      0.00     99.24
16:48:33          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:33          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:33          2      0.99      0.00      0.99      0.00      0.00     98.02
16:48:33          3      0.99      0.00      0.99      0.99      0.00     97.03

16:48:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:34        all      0.28      0.00      0.56      0.00      0.00     99.17
16:48:34          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:34          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:34          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:34          3      0.00      0.00      1.52      0.00      0.00     98.48

16:48:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:35        all      0.24      0.00      0.00      0.00      0.00     99.76
16:48:35          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:35          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:35          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:35          3      0.86      0.00      0.00      0.00      0.00     99.14

16:48:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:36        all      0.00      0.00      0.25      0.00      0.00     99.75
16:48:36          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:36          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:36          2      0.00      0.00      0.99      0.00      0.00     99.01
16:48:36          3      0.00      0.00      0.00      0.00      0.00    100.00

16:48:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:37        all      0.00      0.00      0.25      0.00      0.00     99.75
16:48:37          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:37          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:37          2      0.00      0.00      1.00      0.00      0.00     99.00
16:48:37          3      0.00      0.00      0.00      0.00      0.00    100.00

16:48:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:38        all      0.00      0.00      0.00      0.00      0.00    100.00
16:48:38          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:38          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:38          2      0.99      0.00      0.00      0.00      0.00     99.01
16:48:38          3      0.00      0.00      0.00      0.00      0.00    100.00

16:48:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:39        all      0.00      0.00      0.00      0.00      0.00    100.00
16:48:39          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:39          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:39          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:39          3      0.00      0.00      0.00      0.00      0.00    100.00

16:48:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:40        all      0.00      0.00      0.25      0.00      0.00     99.75
16:48:40          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:48:40          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:40          2      0.00      0.00      0.99      0.00      0.00     99.01
16:48:40          3      0.00      0.00      0.00      0.00      0.00    100.00

16:48:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:41        all      0.25      0.00      0.25      0.00      0.00     99.50
16:48:41          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:41          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:41          2      0.98      0.00      0.98      0.00      0.00     98.04
16:48:41          3      0.00      0.00      0.00      0.00      0.00    100.00

16:48:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:48:42        all      0.00      0.00      0.00      0.00      0.00    100.00
16:48:42          0      0.00      0.00      0.00      0.00      0.00    100.00
16:48:42          1      0.00      0.00      0.00      0.00      0.00    100.00
16:48:42          2      0.00      0.00      0.00      0.00      0.00    100.00
16:48:42          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 27: Iostat monitoring for the 150 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.04    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.41     1.55    14.62    35.57     0.00    4.27   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.15    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    1.40     0.00    19.20    13.71     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.50    0.00    1.74    0.77    0.00   95.99

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.19    0.00    1.80    1.02    0.00   94.99

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.00     0.00    12.80    12.80     0.00    1.60   0.80   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.96    0.00    1.61    0.44    0.00   95.99

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    0.60     0.00    17.60    29.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.02    0.00    1.52    0.59    0.00   95.87

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.85    0.00    1.22    0.54    0.00   96.39

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.85    0.00    1.32    0.78    0.00   96.05

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.00     0.00    19.20    19.20     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.68    0.00    1.48    0.74    0.00   96.09

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    48.20    0.00    6.60     0.00   438.40    66.42     0.00    0.24   0.12   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.36    0.00    1.62    0.74    0.00   95.28

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.15    0.00    1.71    0.54    0.00   95.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.26    0.00    1.57    0.59    0.00   95.58

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.42    0.00    0.42    0.05    0.00   99.11

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    2.00   0.67   0.08
```

Table 28: Jmeter 150 threads test third trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	150	72	42	537
19033-h-0.htm	150	338	108	889
1.css	150	56	42	313
i001_th.jpg	150	66	44	390
pgepub.css	150	56	42	309
0.css	150	60	43	373
i002_th.jpg	150	61	46	354
title.jpg	150	61	44	367
plate02_th.jpg	150	177	67	444
i008_th.jpg	150	78	46	258
plate01_th.jpg	150	170	90	453
i009_th.jpg	150	94	47	263
cover_th.jpg	150	142	52	392
i005_th.jpg	150	73	45	261
i003_th.jpg	150	74	45	244
i015_th.jpg	150	82	47	587
i011_th.jpg	150	80	46	422
i017_th.jpg	150	94	47	255
plate04_th.jpg	150	176	90	541
i022_th.jpg	150	76	46	217
i007_th.jpg	150	59	45	134
i020_th.jpg	150	71	46	182
i004_th.jpg	150	64	45	197
plate03_th.jpg	150	166	96	476
i018_th.jpg	150	75	46	208
i019_th.jpg	150	67	44	562
i016_th.jpg	150	79	47	277
i010_th.jpg	150	59	43	574
i012_th.jpg	150	92	47	361
i014_th.jpg	150	76	45	537
i021_th.jpg	150	66	45	478
i013_th.jpg	150	81	48	472
i006_th.jpg	150	98	46	484
TOTAL	4950	95	42	889

Table 29: Systat monitoring for the 150 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:53:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:33        all      0.00      0.00      0.00      0.00      0.00    100.00
16:53:33          0      0.00      0.00      0.00      0.00      0.00    100.00
16:53:33          1      0.00      0.00      0.00      0.00      0.00    100.00
16:53:33          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:33          3      0.00      0.00      0.00      0.00      0.00    100.00

16:53:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:34        all      0.00      0.00      0.00      0.00      0.00    100.00
16:53:34          0      0.00      0.00      0.00      0.00      0.00    100.00
16:53:34          1      0.00      0.00      0.00      0.00      0.00    100.00
16:53:34          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:34          3      0.00      0.00      0.98      0.00      0.00     99.02

16:53:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:35        all      0.00      0.00      0.25      0.00      0.00     99.75
16:53:35          0      0.00      0.00      0.00      0.00      0.00    100.00
16:53:35          1      0.00      0.00      0.00      0.00      0.00    100.00
16:53:35          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:35          3      0.00      0.00      0.00      0.00      0.00    100.00

16:53:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:36        all      0.00      0.00      0.00      0.00      0.00    100.00
16:53:36          0      0.00      0.00      0.00      0.00      0.00    100.00
16:53:36          1      0.00      0.00      0.00      0.00      0.00    100.00
16:53:36          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:36          3      0.00      0.00      0.99      0.00      0.00     99.01

16:53:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:37        all      0.00      0.00      0.22      0.00      0.00     99.78
16:53:37          0      0.00      0.00      0.00      0.00      0.00    100.00
16:53:37          1      0.00      0.00      0.00      0.00      0.00    100.00
16:53:37          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:37          3      0.00      0.00      0.00      0.00      0.00    100.00

16:53:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:38        all      0.47      0.00      0.00      0.00      0.00     99.53
16:53:38          0      0.00      0.00      0.00      0.00      0.00    100.00
16:53:38          1      0.00      0.00      0.00      0.00      0.00    100.00
16:53:38          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:38          3      0.99      0.00      0.00      0.00      0.00     99.01

16:53:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:39        all      1.23      0.00      1.23      0.49      0.00     97.04
16:53:39          0      0.98      0.00      0.00      0.00      0.00     99.02
16:53:39          1      1.94      0.00      1.94      0.00      0.00     96.12
16:53:39          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:39          3      1.98      0.00      2.97      0.99      0.00     94.06

16:53:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:40        all      1.72      0.00      1.72      0.49      0.00     96.07
16:53:40          0      1.96      0.00      0.98      0.00      0.00     97.06
```

```
16:53:40          1      2.00      0.00      2.00      0.00      0.00     96.00
16:53:40          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:40          3      3.81      0.00      3.81      1.90      0.00     90.48

16:53:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:41        all      2.43      0.00      2.67      0.49      0.00     94.42
16:53:41          0      0.00      0.00      0.97      0.00      0.00     99.03
16:53:41          1      3.92      0.00      2.94      0.98      0.00     92.16
16:53:41          2      0.00      0.00      0.95      0.00      0.00     99.05
16:53:41          3      5.77      0.00      6.73      1.92      0.00     85.58

16:53:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:42        all      1.49      0.00      0.99      1.49      0.00     96.03
16:53:42          0      1.00      0.00      0.00      0.00      0.00     99.00
16:53:42          1      0.00      0.00      1.00      1.00      0.00     98.00
16:53:42          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:42          3      3.88      0.00      2.91      4.85      0.00     88.35

16:53:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:43        all      1.95      0.00      1.46      0.73      0.00     95.86
16:53:43          0      0.97      0.00      0.00      0.00      0.00     99.03
16:53:43          1      3.96      0.00      0.99      0.99      0.00     94.06
16:53:43          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:43          3      3.88      0.00      4.85      1.94      0.00     89.32

16:53:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:44        all      1.48      0.00      1.48      0.49      0.00     96.54
16:53:44          0      0.99      0.00      0.00      0.00      0.00     99.01
16:53:44          1      1.00      0.00      3.00      1.00      0.00     95.00
16:53:44          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:44          3      3.88      0.00      2.91      0.97      0.00     92.23

16:53:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:45        all      2.25      0.00      1.50      0.75      0.00     95.50
16:53:45          0      3.03      0.00      1.01      0.00      0.00     95.96
16:53:45          1      2.04      0.00      0.00      0.00      0.00     97.96
16:53:45          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:45          3      3.85      0.00      4.81      2.88      0.00     88.46

16:53:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:46        all      2.17      0.00      1.69      0.97      0.00     95.17
16:53:46          0      2.88      0.00      0.96      0.00      0.00     96.15
16:53:46          1      1.92      0.00      1.92      0.96      0.00     95.19
16:53:46          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:46          3      2.97      0.00      4.95      2.97      0.00     89.11

16:53:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:47        all      2.99      0.00      1.24      0.75      0.00     95.02
16:53:47          0      3.00      0.00      1.00      0.00      0.00     96.00
16:53:47          1      3.00      0.00      1.00      0.00      0.00     96.00
16:53:47          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:47          3      6.86      0.00      1.96      2.94      0.00     88.24

16:53:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:48        all      1.97      0.00      1.72      0.49      0.00     95.81
16:53:48          0      3.92      0.00      1.96      0.00      0.00     94.12
16:53:48          1      0.97      0.00      0.97      0.97      0.00     97.09
16:53:48          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
16:53:48          3      1.98      0.00      3.96      1.98      0.00     92.08

16:53:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:49        all      2.18      0.00      1.94      0.73      0.00     95.15
16:53:49          0      1.92      0.00      1.92      0.00      0.00     96.15
16:53:49          1      0.98      0.00      1.96      0.00      0.00     97.06
16:53:49          2      2.86      0.00      0.95      0.00      0.00     96.19
16:53:49          3      3.00      0.00      3.00      2.00      0.00     92.00

16:53:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:50        all      2.20      0.00      1.46      0.73      0.00     95.61
16:53:50          0      0.99      0.00      0.00      0.00      0.00     99.01
16:53:50          1      1.92      0.00      1.92      0.96      0.00     95.19
16:53:50          2      1.92      0.00      0.96      0.00      0.00     97.12
16:53:50          3      4.90      0.00      3.92      1.96      0.00     89.22

16:53:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:51        all      2.41      0.00      1.69      0.24      0.00     95.66
16:53:51          0      2.86      0.00      0.95      0.00      0.00     96.19
16:53:51          1      1.94      0.00      0.00      0.00      0.00     98.06
16:53:51          2      0.96      0.00      0.96      0.00      0.00     98.08
16:53:51          3      3.88      0.00      4.85      0.97      0.00     90.29

16:53:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:52        all      2.15      0.00      2.15      0.72      0.00     94.99
16:53:52          0      0.95      0.00      0.95      0.00      0.00     98.10
16:53:52          1      1.92      0.00      0.96      0.96      0.00     96.15
16:53:52          2      0.00      0.00      0.93      0.00      0.00     99.07
16:53:52          3      3.92      0.00      5.88      2.94      0.00     87.25

16:53:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:53        all      1.96      0.00      2.20      0.49      0.00     95.35
16:53:53          0      0.99      0.00      1.98      0.00      0.00     97.03
16:53:53          1      1.96      0.00      0.98      0.00      0.00     97.06
16:53:53          2      1.92      0.00      1.92      0.96      0.00     95.19
16:53:53          3      3.92      0.00      3.92      0.98      0.00     91.18

16:53:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:54        all      2.16      0.00      2.40      0.24      0.00     95.19
16:53:54          0      1.94      0.00      0.97      0.00      0.00     97.09
16:53:54          1      1.96      0.00      0.98      0.00      0.00     97.06
16:53:54          2      0.96      0.00      0.00      0.00      0.00     99.04
16:53:54          3      2.91      0.00      5.83      0.97      0.00     90.29

16:53:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:55        all      2.67      0.00      0.97      0.73      0.00     95.63
16:53:55          0      1.96      0.00      0.98      0.00      0.00     97.06
16:53:55          1      2.86      0.00      0.95      0.00      0.00     96.19
16:53:55          2      1.87      0.00      0.00      0.00      0.00     98.13
16:53:55          3      4.95      0.00      1.98      2.97      0.00     90.10

16:53:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:56        all      2.19      0.00      2.68      0.73      0.00     94.40
16:53:56          0      0.97      0.00      1.94      0.00      0.00     97.09
16:53:56          1      2.94      0.00      2.94      0.00      0.00     94.12
16:53:56          2      0.97      0.00      1.94      0.00      0.00     97.09
16:53:56          3      3.85      0.00      6.73      2.88      0.00     86.54
```

```
16:53:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:57        all      2.18      0.00      1.45      0.48      0.00     95.88
16:53:57          0      0.96      0.00      0.96      0.00      0.00     98.08
16:53:57          1      2.91      0.00      0.00      0.00      0.00     97.09
16:53:57          2      0.95      0.00      0.00      0.00      0.00     99.05
16:53:57          3      3.96      0.00      3.96      0.99      0.00     91.09

16:53:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:58        all      2.71      0.00      1.97      0.49      0.00     94.83
16:53:58          0      4.00      0.00      2.00      0.00      0.00     94.00
16:53:58          1      3.00      0.00      2.00      0.00      0.00     95.00
16:53:58          2      0.00      0.00      0.00      0.00      0.00    100.00
16:53:58          3      4.95      0.00      2.97      1.98      0.00     90.10

16:53:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:53:59        all      1.70      0.00      0.97      0.49      0.00     96.84
16:53:59          0      1.92      0.00      1.92      0.00      0.00     96.15
16:53:59          1      1.94      0.00      0.00      0.00      0.00     98.06
16:53:59          2      0.97      0.00      0.97      0.00      0.00     98.06
16:53:59          3      1.96      0.00      1.96      1.96      0.00     94.12

16:53:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:00        all      2.67      0.00      1.94      0.49      0.00     94.90
16:54:00          0      1.98      0.00      0.00      0.00      0.00     98.02
16:54:00          1      2.91      0.00      0.97      0.00      0.00     96.12
16:54:00          2      0.96      0.00      0.00      0.00      0.00     99.04
16:54:00          3      3.96      0.00      5.94      1.98      0.00     88.12

16:54:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:01        all      0.97      0.00      0.73      0.49      0.00     97.82
16:54:01          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:01          1      0.97      0.00      0.00      0.97      0.00     98.06
16:54:01          2      0.94      0.00      0.00      0.00      0.00     99.06
16:54:01          3      0.98      0.00      1.96      1.96      0.00     95.10

16:54:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:02        all      3.17      0.00      1.95      0.49      0.00     94.39
16:54:02          0      1.92      0.00      1.92      0.00      0.00     96.15
16:54:02          1      5.88      0.00      1.96      0.00      0.00     92.16
16:54:02          2      0.97      0.00      0.97      0.00      0.00     98.06
16:54:02          3      4.90      0.00      3.92      1.96      0.00     89.22

16:54:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:03        all      2.20      0.00      0.98      0.24      0.00     96.58
16:54:03          0      1.96      0.00      0.00      0.00      0.00     98.04
16:54:03          1      3.88      0.00      1.94      0.00      0.00     94.17
16:54:03          2      1.92      0.00      0.00      0.00      0.00     98.08
16:54:03          3      1.98      0.00      1.98      0.99      0.00     95.05

16:54:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:04        all      2.18      0.00      1.94      0.49      0.00     95.39
16:54:04          0      1.98      0.00      0.00      0.00      0.00     98.02
16:54:04          1      3.88      0.00      0.97      0.00      0.00     95.15
16:54:04          2      0.00      0.00      0.00      0.00      0.00    100.00
16:54:04          3      1.94      0.00      6.80      1.94      0.00     89.32

16:54:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:05        all      2.39      0.00      2.63      1.20      0.00     93.78
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16:54:05          0      1.90      0.00      2.86      0.00      0.00     95.24
16:54:05          1      2.97      0.00      1.98      0.00      0.00     95.05
16:54:05          2      2.70      0.00      1.80      0.00      0.00     95.50
16:54:05          3      2.91      0.00      4.85      4.85      0.00     87.38

16:54:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:06        all      2.21      0.00      1.23      1.47      0.00     95.09
16:54:06          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:06          1      2.86      0.00      0.95      0.95      0.00     95.24
16:54:06          2      4.90      0.00      0.98      0.00      0.00     94.12
16:54:06          3      1.98      0.00      2.97      4.95      0.00     90.10

16:54:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:07        all      2.68      0.00      1.70      0.49      0.00     95.13
16:54:07          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:07          1      2.80      0.00      1.87      0.00      0.00     95.33
16:54:07          2      3.85      0.00      0.96      0.00      0.00     95.19
16:54:07          3      3.03      0.00      2.02      1.01      0.00     93.94

16:54:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:08        all      1.69      0.00      1.45      0.48      0.00     96.37
16:54:08          0      0.00      0.00      0.96      0.00      0.00     99.04
16:54:08          1      2.80      0.00      1.87      0.00      0.00     95.33
16:54:08          2      1.96      0.00      0.00      0.00      0.00     98.04
16:54:08          3      0.98      0.00      4.90      2.94      0.00     91.18

16:54:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:09        all      1.45      0.00      1.21      0.72      0.00     96.62
16:54:09          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:09          1      0.93      0.00      1.85      0.00      0.00     97.22
16:54:09          2      1.94      0.00      0.00      0.00      0.00     98.06
16:54:09          3      2.94      0.00      2.94      1.96      0.00     92.16

16:54:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:10        all      2.42      0.00      1.21      0.48      0.00     95.88
16:54:10          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:10          1      1.87      0.00      0.00      0.00      0.00     98.13
16:54:10          2      3.92      0.00      0.00      0.00      0.00     96.08
16:54:10          3      3.88      0.00      3.88      1.94      0.00     90.29

16:54:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:11        all      2.43      0.00      1.94      0.49      0.00     95.15
16:54:11          0      1.01      0.00      0.00      0.00      0.00     98.99
16:54:11          1      1.85      0.00      2.78      0.93      0.00     94.44
16:54:11          2      2.91      0.00      1.94      0.00      0.00     95.15
16:54:11          3      3.92      0.00      2.94      1.96      0.00     91.18

16:54:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:12        all      1.95      0.00      1.22      0.73      0.00     96.10
16:54:12          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:12          1      1.90      0.00      0.00      0.00      0.00     98.10
16:54:12          2      0.97      0.00      1.94      0.00      0.00     97.09
16:54:12          3      4.90      0.00      2.94      1.96      0.00     90.20

16:54:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:13        all      1.49      0.00      1.24      0.75      0.00     96.52
16:54:13          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:13          1      0.96      0.00      0.96      0.00      0.00     98.08
```

```
16:54:13          2      2.94      0.00      0.00      0.00      0.00     97.06
16:54:13          3      3.92      0.00      3.92      3.92      0.00     88.24

16:54:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:14        all      2.16      0.00      2.64      1.20      0.00     94.00
16:54:14          0      0.00      0.00      1.92      0.00      0.00     98.08
16:54:14          1      0.92      0.00      0.92      0.92      0.00     97.25
16:54:14          2      1.96      0.00      2.94      0.00      0.00     95.10
16:54:14          3      4.95      0.00      4.95      3.96      0.00     86.14

16:54:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:15        all      2.24      0.00      1.25      1.00      0.00     95.51
16:54:15          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:15          1      1.00      0.00      1.00      0.00      0.00     98.00
16:54:15          2      2.02      0.00      1.01      0.00      0.00     96.97
16:54:15          3      4.95      0.00      2.97      2.97      0.00     89.11

16:54:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:16        all      2.13      0.00      1.89      0.95      0.00     95.04
16:54:16          0      0.97      0.00      0.00      0.00      0.00     99.03
16:54:16          1      1.82      0.00      1.82      0.91      0.00     95.45
16:54:16          2      0.93      0.00      0.93      0.00      0.00     98.15
16:54:16          3      5.77      0.00      4.81      2.88      0.00     86.54

16:54:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:17        all      1.69      0.00      1.20      0.96      0.00     96.14
16:54:17          0      0.99      0.00      0.00      0.00      0.00     99.01
16:54:17          1      0.97      0.00      0.97      0.97      0.00     97.09
16:54:17          2      1.85      0.00      0.93      0.00      0.00     97.22
16:54:17          3      1.92      0.00      3.85      3.85      0.00     90.38

16:54:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:18        all      1.69      0.00      2.17      0.97      0.00     95.17
16:54:18          0      1.94      0.00      0.97      0.00      0.00     97.09
16:54:18          1      1.89      0.00      0.94      0.00      0.00     97.17
16:54:18          2      1.94      0.00      1.94      0.00      0.00     96.12
16:54:18          3      1.98      0.00      2.97      3.96      0.00     91.09

16:54:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:19        all      2.64      0.00      0.96      0.48      0.00     95.91
16:54:19          0      4.85      0.00      0.97      0.00      0.00     94.17
16:54:19          1      0.96      0.00      0.00      0.00      0.00     99.04
16:54:19          2      1.89      0.00      0.94      0.00      0.00     97.17
16:54:19          3      1.96      0.00      2.94      0.98      0.00     94.12

16:54:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:20        all      2.43      0.00      2.18      1.94      0.00     93.45
16:54:20          0      0.97      0.00      0.97      0.00      0.00     98.06
16:54:20          1      2.83      0.00      0.94      0.94      0.00     95.28
16:54:20          2      3.88      0.00      1.94      0.00      0.00     94.17
16:54:20          3      3.92      0.00      4.90      6.86      0.00     84.31

16:54:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:21        all      1.67      0.00      2.15      0.96      0.00     95.22
16:54:21          0      0.96      0.00      1.92      0.00      0.00     97.12
16:54:21          1      0.95      0.00      0.00      0.00      0.00     99.05
16:54:21          2      1.92      0.00      1.92      0.00      0.00     96.15
16:54:21          3      1.94      0.00      4.85      3.88      0.00     89.32
```

```
16:54:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:22        all      2.15      0.00      2.39      1.20      0.00     94.26
16:54:22          0      0.98      0.00      0.98      0.00      0.00     98.04
16:54:22          1      0.95      0.00      0.00      0.00      0.00     99.05
16:54:22          2      1.87      0.00      0.00      0.00      0.00     98.13
16:54:22          3      3.92      0.00      8.82      3.92      0.00     83.33

16:54:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:23        all      2.21      0.00      1.47      0.74      0.00     95.59
16:54:23          0      5.00      0.00      1.00      0.00      0.00     94.00
16:54:23          1      1.94      0.00      0.97      0.97      0.00     96.12
16:54:23          2      0.95      0.00      0.95      0.00      0.00     98.10
16:54:23          3      1.94      0.00      3.88      1.94      0.00     92.23

16:54:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:24        all      1.95      0.00      2.93      0.49      0.00     94.63
16:54:24          0      2.91      0.00      1.94      0.00      0.00     95.15
16:54:24          1      2.00      0.00      1.00      0.00      0.00     97.00
16:54:24          2      0.00      0.00      0.97      0.00      0.00     99.03
16:54:24          3      1.98      0.00      5.94      1.98      0.00     90.10

16:54:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:25        all      2.66      0.00      1.45      0.48      0.00     95.41
16:54:25          0      2.91      0.00      1.94      0.00      0.00     95.15
16:54:25          1      1.92      0.00      0.96      0.00      0.00     97.12
16:54:25          2      0.94      0.00      0.00      0.00      0.00     99.06
16:54:25          3      5.83      0.00      3.88      1.94      0.00     88.35

16:54:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:26        all      2.67      0.00      1.94      0.24      0.00     95.15
16:54:26          0      5.83      0.00      0.97      0.00      0.00     93.20
16:54:26          1      0.98      0.00      0.00      0.00      0.00     99.02
16:54:26          2      0.95      0.00      0.95      0.00      0.00     98.10
16:54:26          3      2.97      0.00      4.95      0.99      0.00     91.09

16:54:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:27        all      2.69      0.00      2.20      0.49      0.00     94.62
16:54:27          0      3.81      0.00      1.90      0.00      0.00     94.29
16:54:27          1      2.94      0.00      1.96      0.98      0.00     94.12
16:54:27          2      0.97      0.00      0.97      0.00      0.00     98.06
16:54:27          3      3.00      0.00      5.00      2.00      0.00     90.00

16:54:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:28        all      1.92      0.00      1.20      0.48      0.00     96.39
16:54:28          0      1.94      0.00      0.97      0.00      0.00     97.09
16:54:28          1      1.90      0.00      0.95      0.00      0.00     97.14
16:54:28          2      0.95      0.00      0.00      0.00      0.00     99.05
16:54:28          3      2.91      0.00      2.91      0.97      0.00     93.20

16:54:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:29        all      0.99      0.00      0.49      0.25      0.00     98.27
16:54:29          0      1.96      0.00      0.00      0.00      0.00     98.04
16:54:29          1      0.00      0.00      0.00      0.00      0.00    100.00
16:54:29          2      0.99      0.00      0.99      0.00      0.00     98.02
16:54:29          3      0.97      0.00      1.94      1.94      0.00     95.15

16:54:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
16:54:30        all      0.73      0.00      0.97      0.24      0.00     98.06
16:54:30          0      0.99      0.00      0.99      0.00      0.00     98.02
16:54:30          1      0.96      0.00      0.96      0.00      0.00     98.08
16:54:30          2      0.95      0.00      0.00      0.00      0.00     99.05
16:54:30          3      0.00      0.00      1.94      0.97      0.00     97.09

16:54:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:31        all      0.27      0.00      0.27      0.00      0.00     99.45
16:54:31          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:31          1      0.00      0.00      0.00      0.00      0.00    100.00
16:54:31          2      1.18      0.00      0.00      0.00      0.00     98.82
16:54:31          3      0.00      0.00      0.00      0.00      0.00    100.00

16:54:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:32        all      0.00      0.00      0.00      0.00      0.00    100.00
16:54:32          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:32          1      0.00      0.00      0.00      0.00      0.00    100.00
16:54:32          2      0.00      0.00      0.00      0.00      0.00    100.00
16:54:32          3      0.00      0.00      0.99      0.00      0.00     99.01

16:54:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:33        all      0.22      0.00      0.45      0.00      0.00     99.33
16:54:33          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:33          1      0.00      0.00      0.99      0.00      0.00     99.01
16:54:33          2      0.00      0.00      0.00      0.00      0.00    100.00
16:54:33          3      0.00      0.00      0.00      0.00      0.00    100.00

16:54:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:34        all      0.00      0.00      0.00      0.00      0.00    100.00
16:54:34          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:34          1      0.00      0.00      0.00      0.00      0.00    100.00
16:54:34          2      0.00      0.00      0.00      0.00      0.00    100.00
16:54:34          3      0.00      0.00      0.00      0.00      0.00    100.00

16:54:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:54:35        all      0.00      0.00      0.00      0.00      0.00    100.00
16:54:35          0      0.00      0.00      0.00      0.00      0.00    100.00
16:54:35          1      0.00      0.00      0.00      0.00      0.00    100.00
16:54:35          2      0.00      0.00      0.00      0.00      0.00    100.00
16:54:35          3      0.00      0.00      1.00      0.00      0.00     99.00
```

Table 30: Iostat monitoring for the 150 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.03    0.00    0.04    0.01    0.00   99.92

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.41     1.55    14.64    35.56     0.00    4.26   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.30    0.00    0.00   99.56

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    0.60     0.00    16.00    26.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.91    0.00    1.52    0.78    0.00   95.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.80     0.00    17.60     9.78     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.07    0.00    1.58    0.74    0.00   95.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.18    0.00    1.84    0.53    0.00   95.44

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.80    0.00    1.20     0.00    24.00    20.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.38    0.00    1.85    0.49    0.00   95.28

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.24    0.00    1.51    0.49    0.00   95.77

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.13    0.00    1.70    0.87    0.00   95.29

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.20     0.00    20.80    17.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.95    0.00    1.31    0.68    0.00   96.06

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    51.00    0.00    5.00     0.00   448.00    89.60     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.08    0.00    1.79    0.92    0.00   95.22

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    2.40     0.00    24.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.23    0.00    1.98    1.02    0.00   94.77

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.23    0.00    1.79    0.44    0.00   95.54

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.41    0.00    0.41    0.10    0.00   99.07

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00
```

Table 31: Jmeter 200 threads test first trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	200	78	43	1108
19033-h-0.htm	200	356	102	990
1.css	200	55	42	108
i001_th.jpg	200	68	43	585
pgepub.css	200	55	44	104
0.css	200	58	43	138
i002_th.jpg	200	65	44	364
title.jpg	200	57	44	255
plate02_th.jpg	200	187	54	607
i008_th.jpg	200	79	47	247
plate01_th.jpg	200	175	55	415
i009_th.jpg	200	105	48	306
cover_th.jpg	200	162	52	595
i005_th.jpg	200	83	46	393
i003_th.jpg	200	79	46	520
i015_th.jpg	200	81	47	363
i011_th.jpg	200	83	47	530
i017_th.jpg	200	102	46	395
plate04_th.jpg	200	191	57	602
i022_th.jpg	200	84	46	249
i007_th.jpg	200	59	45	228
i020_th.jpg	200	81	46	425
i004_th.jpg	200	70	45	209
plate03_th.jpg	200	176	59	546
i018_th.jpg	200	81	46	484
i019_th.jpg	200	61	44	211
i016_th.jpg	200	82	46	372
i010_th.jpg	200	59	44	414
i012_th.jpg	200	99	47	351
i014_th.jpg	200	87	47	400
i021_th.jpg	200	67	45	239
i013_th.jpg	200	84	47	258
i006_th.jpg	200	104	48	551
TOTAL	6600	100	42	1108

Table 32: Systat monitoring for the 200 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:56:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:26        all      0.00      0.00      0.32      0.00      0.00     99.68
16:56:26          0      0.00      0.00      0.00      0.00      0.00    100.00
16:56:26          1      0.00      0.00      0.00      0.00      0.00    100.00
16:56:26          2      0.00      0.00      0.00      0.00      0.00    100.00
16:56:26          3      0.00      0.00      0.00      0.00      0.00    100.00

16:56:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:27        all      0.00      0.00      0.00      0.00      0.00    100.00
16:56:27          0      0.00      0.00      0.00      0.00      0.00    100.00
16:56:27          1      0.00      0.00      0.00      0.00      0.00    100.00
16:56:27          2      0.00      0.00      0.00      0.00      0.00    100.00
16:56:27          3      0.00      0.00      0.99      0.00      0.00     99.01

16:56:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:28        all      0.00      0.00      0.27      0.00      0.00     99.73
16:56:28          0      0.00      0.00      0.00      0.00      0.00    100.00
16:56:28          1      0.00      0.00      0.00      0.00      0.00    100.00
16:56:28          2      0.00      0.00      0.00      0.00      0.00    100.00
16:56:28          3      0.00      0.00      0.00      0.00      0.00    100.00

16:56:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:29        all      0.00      0.00      0.00      0.00      0.00    100.00
16:56:29          0      0.00      0.00      0.00      0.00      0.00    100.00
16:56:29          1      0.00      0.00      0.00      0.00      0.00    100.00
16:56:29          2      0.00      0.00      0.00      0.00      0.00    100.00
16:56:29          3      0.00      0.00      0.00      0.00      0.00    100.00

16:56:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:30        all      0.73      0.00      0.73      0.24      0.00     98.29
16:56:30          0      1.01      0.00      0.00      0.00      0.00     98.99
16:56:30          1      0.00      0.00      0.00      0.00      0.00    100.00
16:56:30          2      0.93      0.00      0.93      0.00      0.00     98.15
16:56:30          3      0.98      0.00      1.96      0.98      0.00     96.08

16:56:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:31        all      1.67      0.00      1.44      0.48      0.00     96.41
16:56:31          0      0.00      0.00      0.96      0.00      0.00     99.04
16:56:31          1      3.70      0.00      0.93      0.00      0.00     95.37
16:56:31          2      0.94      0.00      0.94      0.00      0.00     98.11
16:56:31          3      2.91      0.00      3.88      1.94      0.00     91.26

16:56:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:32        all      2.15      0.00      3.11      0.48      0.00     94.26
16:56:32          0      1.92      0.00      0.96      0.00      0.00     97.12
16:56:32          1      0.00      0.00      1.98      0.00      0.00     98.02
16:56:32          2      1.85      0.00      1.85      0.00      0.00     96.30
16:56:32          3      3.92      0.00      6.86      1.96      0.00     87.25

16:56:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:33        all      3.18      0.00      3.18      0.49      0.00     93.15
16:56:33          0      1.98      0.00      0.99      0.00      0.00     97.03
```

```
16:56:33          1      2.91      0.00      0.97      0.00      0.00     96.12
16:56:33          2      1.92      0.00      1.92      0.00      0.00     96.15
16:56:33          3      5.88      0.00      8.82      1.96      0.00     83.33

16:56:33       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:34       all      2.70      0.00      3.19      0.49      0.00     93.63
16:56:34         0      1.98      0.00      1.98      0.00      0.00     96.04
16:56:34         1      4.81      0.00      2.88      0.00      0.00     92.31
16:56:34         2      2.91      0.00      1.94      0.00      0.00     95.15
16:56:34         3      2.00      0.00      6.00      1.00      0.00     91.00

16:56:34       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:35       all      2.18      0.00      2.18      0.48      0.00     95.16
16:56:35         0      1.96      0.00      1.96      0.00      0.00     96.08
16:56:35         1      1.96      0.00      0.98      0.98      0.00     96.08
16:56:35         2      0.00      0.00      0.00      0.00      0.00    100.00
16:56:35         3      4.95      0.00      5.94      0.99      0.00     88.12

16:56:35       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:36       all      3.41      0.00      2.19      0.97      0.00     93.43
16:56:36         0      4.67      0.00      0.93      0.00      0.00     94.39
16:56:36         1      1.89      0.00      3.77      0.94      0.00     93.40
16:56:36         2      1.00      0.00      0.00      0.00      0.00     99.00
16:56:36         3      5.88      0.00      5.88      3.92      0.00     84.31

16:56:36       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:37       all      3.66      0.00      3.17      0.73      0.00     92.44
16:56:37         0      2.91      0.00      3.88      0.00      0.00     93.20
16:56:37         1      5.94      0.00      1.98      0.00      0.00     92.08
16:56:37         2      0.98      0.00      0.98      0.00      0.00     98.04
16:56:37         3      4.95      0.00      3.96      2.97      0.00     88.12

16:56:37       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:38       all      2.67      0.00      2.43      0.24      0.00     94.66
16:56:38         0      1.90      0.00      0.95      0.00      0.00     97.14
16:56:38         1      1.94      0.00      0.97      0.00      0.00     97.09
16:56:38         2      0.00      0.00      0.99      0.00      0.00     99.01
16:56:38         3      5.88      0.00      5.88      0.98      0.00     87.25

16:56:38       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:39       all      1.97      0.00      2.22      0.49      0.00     95.32
16:56:39         0      1.96      0.00      1.96      0.98      0.00     95.10
16:56:39         1      0.98      0.00      1.96      0.00      0.00     97.06
16:56:39         2      1.92      0.00      0.96      0.00      0.00     97.12
16:56:39         3      3.96      0.00      5.94      1.98      0.00     88.12

16:56:39       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:40       all      2.67      0.00      1.70      0.73      0.00     94.90
16:56:40         0      3.85      0.00      0.96      0.00      0.00     95.19
16:56:40         1      2.86      0.00      1.90      0.00      0.00     95.24
16:56:40         2      0.98      0.00      0.00      0.00      0.00     99.02
16:56:40         3      2.02      0.00      3.03      2.02      0.00     92.93

16:56:40       CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:41       all      1.94      0.00      1.94      0.73      0.00     95.40
16:56:41         0      1.96      0.00      0.98      0.00      0.00     97.06
16:56:41         1      1.90      0.00      0.95      0.00      0.00     97.14
16:56:41         2      0.96      0.00      1.92      0.00      0.00     97.12
```

```
16:56:41          3      2.91      0.00      4.85      2.91      0.00     89.32

16:56:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:42        all      3.26      0.00      1.50      0.75      0.00     94.49
16:56:42          0      4.08      0.00      1.02      0.00      0.00     94.90
16:56:42          1      2.02      0.00      1.01      0.00      0.00     96.97
16:56:42          2      6.06      0.00      0.00      0.00      0.00     93.94
16:56:42          3      0.99      0.00      3.96      2.97      0.00     92.08

16:56:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:43        all      2.61      0.00      1.66      1.19      0.00     94.54
16:56:43          0      1.87      0.00      0.00      0.00      0.00     98.13
16:56:43          1      2.86      0.00      1.90      0.00      0.00     95.24
16:56:43          2      3.70      0.00      1.85      0.00      0.00     94.44
16:56:43          3      1.98      0.00      2.97      3.96      0.00     91.09

16:56:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:44        all      1.96      0.00      2.44      1.22      0.00     94.38
16:56:44          0      1.98      0.00      0.99      0.00      0.00     97.03
16:56:44          1      0.97      0.00      1.94      0.97      0.00     96.12
16:56:44          2      1.89      0.00      2.83      0.00      0.00     95.28
16:56:44          3      3.88      0.00      4.85      4.85      0.00     86.41

16:56:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:45        all      2.64      0.00      3.84      0.48      0.00     93.05
16:56:45          0      1.94      0.00      1.94      0.00      0.00     96.12
16:56:45          1      2.88      0.00      2.88      0.96      0.00     93.27
16:56:45          2      2.86      0.00      0.95      0.00      0.00     96.19
16:56:45          3      1.98      0.00      7.92      0.99      0.00     89.11

16:56:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:46        all      3.18      0.00      1.96      0.73      0.00     94.13
16:56:46          0      1.96      0.00      0.00      0.00      0.00     98.04
16:56:46          1      4.85      0.00      1.94      0.00      0.00     93.20
16:56:46          2      2.91      0.00      0.97      0.00      0.00     96.12
16:56:46          3      2.91      0.00      5.83      2.91      0.00     88.35

16:56:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:47        all      2.43      0.00      1.70      0.73      0.00     95.15
16:56:47          0      1.94      0.00      1.94      0.00      0.00     96.12
16:56:47          1      1.96      0.00      1.96      0.00      0.00     96.08
16:56:47          2      3.85      0.00      0.00      0.00      0.00     96.15
16:56:47          3      0.99      0.00      1.98      2.97      0.00     94.06

16:56:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:48        all      3.18      0.00      1.71      1.22      0.00     93.89
16:56:48          0      2.00      0.00      0.00      0.00      0.00     98.00
16:56:48          1      3.85      0.00      1.92      0.96      0.00     93.27
16:56:48          2      3.77      0.00      0.94      0.00      0.00     95.28
16:56:48          3      4.85      0.00      5.83      3.88      0.00     85.44

16:56:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:49        all      2.89      0.00      2.89      0.96      0.00     93.25
16:56:49          0      2.94      0.00      0.98      0.00      0.00     96.08
16:56:49          1      2.91      0.00      2.91      0.00      0.00     94.17
16:56:49          2      3.77      0.00      1.89      0.00      0.00     94.34
16:56:49          3      1.92      0.00      5.77      3.85      0.00     88.46
```

```
16:56:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:50        all      1.72      0.00      1.23      1.23      0.00     95.83
16:56:50          0      0.97      0.00      0.97      0.00      0.00     98.06
16:56:50          1      0.97      0.00      0.00      0.97      0.00     98.06
16:56:50          2      2.94      0.00      0.98      0.00      0.00     96.08
16:56:50          3      2.00      0.00      3.00      4.00      0.00     91.00

16:56:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:51        all      2.16      0.00      1.92      0.96      0.00     94.96
16:56:51          0      1.96      0.00      0.98      0.00      0.00     97.06
16:56:51          1      1.90      0.00      1.90      0.00      0.00     96.19
16:56:51          2      0.95      0.00      0.00      0.00      0.00     99.05
16:56:51          3      2.97      0.00      1.98      3.96      0.00     91.09

16:56:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:52        all      3.65      0.00      2.68      1.22      0.00     92.46
16:56:52          0      2.97      0.00      0.99      0.00      0.00     96.04
16:56:52          1      3.88      0.00      2.91      0.00      0.00     93.20
16:56:52          2      3.85      0.00      0.96      0.00      0.00     95.19
16:56:52          3      3.88      0.00      6.80      3.88      0.00     85.44

16:56:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:53        all      2.65      0.00      2.89      1.20      0.00     93.25
16:56:53          0      1.94      0.00      2.91      0.00      0.00     95.15
16:56:53          1      3.85      0.00      1.92      0.00      0.00     94.23
16:56:53          2      2.86      0.00      0.95      0.00      0.00     96.19
16:56:53          3      1.94      0.00      6.80      4.85      0.00     86.41

16:56:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:54        all      2.70      0.00      1.72      0.98      0.00     94.61
16:56:54          0      0.99      0.00      0.99      0.00      0.00     98.02
16:56:54          1      2.86      0.00      1.90      0.00      0.00     95.24
16:56:54          2      1.94      0.00      0.97      0.00      0.00     97.09
16:56:54          3      5.88      0.00      3.92      4.90      0.00     85.29

16:56:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:55        all      2.63      0.00      1.67      1.43      0.00     94.27
16:56:55          0      1.89      0.00      0.00      0.00      0.00     98.11
16:56:55          1      2.91      0.00      1.94      0.97      0.00     94.17
16:56:55          2      2.83      0.00      0.94      0.00      0.00     96.23
16:56:55          3      1.98      0.00      2.97      3.96      0.00     91.09

16:56:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:56        all      1.48      0.00      1.98      0.99      0.00     95.56
16:56:56          0      0.98      0.00      0.98      0.00      0.00     98.04
16:56:56          1      1.94      0.00      1.94      0.97      0.00     95.15
16:56:56          2      2.00      0.00      1.00      0.00      0.00     97.00
16:56:56          3      1.92      0.00      4.81      3.85      0.00     89.42

16:56:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:57        all      1.90      0.00      1.66      0.95      0.00     95.49
16:56:57          0      1.87      0.00      0.93      0.00      0.00     97.20
16:56:57          1      0.97      0.00      1.94      0.00      0.00     97.09
16:56:57          2      0.00      0.00      0.00      0.00      0.00    100.00
16:56:57          3      3.96      0.00      2.97      3.96      0.00     89.11

16:56:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:58        all      1.21      0.00      1.45      0.48      0.00     96.86
```

```
16:56:58          0      0.00      0.00      0.00      0.00      0.00    100.00
16:56:58          1      0.99      0.00      0.00      0.00      0.00     99.01
16:56:58          2      2.80      0.00      0.93      0.00      0.00     96.26
16:56:58          3      0.98      0.00      4.90      1.96      0.00     92.16

16:56:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:56:59        all      2.89      0.00      3.61      1.45      0.00     92.05
16:56:59          0      0.98      0.00      0.98      0.00      0.00     98.04
16:56:59          1      2.83      0.00      2.83      0.00      0.00     94.34
16:56:59          2      2.88      0.00      1.92      0.00      0.00     95.19
16:56:59          3      5.77      0.00      9.62      4.81      0.00     79.81

16:56:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:00        all      2.41      0.00      1.93      1.69      0.00     93.98
16:57:00          0      2.80      0.00      0.93      0.00      0.00     96.26
16:57:00          1      2.91      0.00      0.00      0.97      0.00     96.12
16:57:00          2      0.96      0.00      2.88      0.00      0.00     96.15
16:57:00          3      2.94      0.00      3.92      5.88      0.00     87.25

16:57:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:01        all      4.82      0.00      2.89      1.93      0.00     90.36
16:57:01          0      0.93      0.00      1.87      0.00      0.00     97.20
16:57:01          1      2.97      0.00      0.99      0.00      0.00     96.04
16:57:01          2      3.74      0.00      0.93      0.93      0.00     94.39
16:57:01          3     12.00      0.00      8.00      8.00      0.00     72.00

16:57:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:02        all      3.14      0.00      2.42      1.21      0.00     93.24
16:57:02          0      3.88      0.00      0.97      0.00      0.00     95.15
16:57:02          1      0.98      0.00      1.96      0.00      0.00     97.06
16:57:02          2      2.83      0.00      0.00      0.00      0.00     97.17
16:57:02          3      3.88      0.00      7.77      4.85      0.00     83.50

16:57:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:03        all      2.17      0.00      1.93      2.17      0.00     93.73
16:57:03          0      2.88      0.00      0.96      0.00      0.00     96.15
16:57:03          1      1.94      0.00      0.97      0.00      0.00     97.09
16:57:03          2      0.91      0.00      2.73      0.00      0.00     96.36
16:57:03          3      4.04      0.00      3.03      8.08      0.00     84.85

16:57:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:04        all      2.88      0.00      2.16      1.68      0.00     93.29
16:57:04          0      2.83      0.00      0.94      0.00      0.00     96.23
16:57:04          1      0.99      0.00      0.99      0.99      0.00     97.03
16:57:04          2      1.89      0.00      1.89      0.00      0.00     96.23
16:57:04          3      4.85      0.00      5.83      5.83      0.00     83.50

16:57:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:05        all      2.90      0.00      3.86      0.72      0.00     92.51
16:57:05          0      3.85      0.00      0.00      0.00      0.00     96.15
16:57:05          1      1.92      0.00      2.88      0.00      0.00     95.19
16:57:05          2      3.85      0.00      0.96      0.00      0.00     95.19
16:57:05          3      2.97      0.00      8.91      3.96      0.00     84.16

16:57:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:06        all      2.89      0.00      2.17      0.72      0.00     94.22
16:57:06          0      0.96      0.00      0.96      0.00      0.00     98.08
16:57:06          1      1.87      0.00      0.93      0.93      0.00     96.26
```

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16:57:06          2      3.88      0.00      0.97      0.00      0.00     95.15
16:57:06          3      4.95      0.00      6.93      1.98      0.00     86.14

16:57:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:07        all      2.66      0.00      2.18      0.73      0.00     94.43
16:57:07          0      2.88      0.00      0.96      0.00      0.00     96.15
16:57:07          1      2.88      0.00      0.96      0.00      0.00     96.15
16:57:07          2      0.98      0.00      0.98      0.00      0.00     98.04
16:57:07          3      2.97      0.00      4.95      1.98      0.00     90.10

16:57:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:08        all      1.97      0.00      2.95      0.74      0.00     94.35
16:57:08          0      2.02      0.00      3.03      0.00      0.00     94.95
16:57:08          1      0.99      0.00      1.98      0.00      0.00     97.03
16:57:08          2      1.90      0.00      0.95      0.00      0.00     97.14
16:57:08          3      1.94      0.00      5.83      3.88      0.00     88.35

16:57:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:09        all      1.46      0.00      1.70      0.24      0.00     96.60
16:57:09          0      3.81      0.00      0.95      0.00      0.00     95.24
16:57:09          1      0.97      0.00      0.00      0.00      0.00     99.03
16:57:09          2      0.00      0.00      0.95      0.00      0.00     99.05
16:57:09          3      2.91      0.00      6.80      0.97      0.00     89.32

16:57:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:10        all      2.40      0.00      2.16      0.48      0.00     94.95
16:57:10          0      1.98      0.00      0.99      0.00      0.00     97.03
16:57:10          1      0.97      0.00      0.97      0.00      0.00     98.06
16:57:10          2      2.80      0.00      0.00      0.00      0.00     97.20
16:57:10          3      2.88      0.00      7.69      1.92      0.00     87.50

16:57:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:11        all      2.46      0.00      2.22      0.49      0.00     94.83
16:57:11          0      1.01      0.00      1.01      0.00      0.00     97.98
16:57:11          1      1.94      0.00      0.00      0.00      0.00     98.06
16:57:11          2      2.97      0.00      0.99      0.00      0.00     96.04
16:57:11          3      3.92      0.00      5.88      1.96      0.00     88.24

16:57:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:12        all      2.37      0.00      1.66      0.24      0.00     95.73
16:57:12          0      2.78      0.00      0.00      0.00      0.00     97.22
16:57:12          1      1.89      0.00      1.89      0.00      0.00     96.23
16:57:12          2      3.67      0.00      1.83      0.00      0.00     94.50
16:57:12          3      1.98      0.00      3.96      0.99      0.00     93.07

16:57:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:13        all      2.70      0.00      2.21      0.98      0.00     94.10
16:57:13          0      2.94      0.00      1.96      0.00      0.00     95.10
16:57:13          1      2.97      0.00      1.98      0.00      0.00     95.05
16:57:13          2      1.98      0.00      0.00      0.00      0.00     98.02
16:57:13          3      2.00      0.00      4.00      3.00      0.00     91.00

16:57:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:14        all      2.20      0.00      3.17      0.49      0.00     94.15
16:57:14          0      1.98      0.00      0.99      0.00      0.00     97.03
16:57:14          1      0.94      0.00      1.89      0.94      0.00     96.23
16:57:14          2      1.94      0.00      2.91      0.00      0.00     95.15
16:57:14          3      3.96      0.00      5.94      2.97      0.00     87.13
```

```
16:57:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:15        all      3.90      0.00      1.71      0.98      0.00     93.41
16:57:15          0      2.94      0.00      1.96      0.00      0.00     95.10
16:57:15          1      4.90      0.00      0.98      0.00      0.00     94.12
16:57:15          2      1.96      0.00      0.98      0.00      0.00     97.06
16:57:15          3      5.00      0.00      3.00      2.00      0.00     90.00

16:57:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:16        all      1.95      0.00      2.93      0.98      0.00     94.15
16:57:16          0      1.98      0.00      0.99      0.00      0.00     97.03
16:57:16          1      2.83      0.00      0.94      0.00      0.00     96.23
16:57:16          2      1.92      0.00      0.96      0.00      0.00     97.12
16:57:16          3      2.94      0.00      7.84      4.90      0.00     84.31

16:57:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:17        all      2.93      0.00      1.71      0.98      0.00     94.39
16:57:17          0      4.85      0.00      0.97      0.00      0.00     94.17
16:57:17          1      2.94      0.00      0.98      0.00      0.00     96.08
16:57:17          2      0.95      0.00      1.90      0.00      0.00     97.14
16:57:17          3      1.96      0.00      4.90      3.92      0.00     89.22

16:57:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:18        all      2.17      0.00      1.93      0.72      0.00     95.18
16:57:18          0      3.92      0.00      0.98      0.00      0.00     95.10
16:57:18          1      0.97      0.00      1.94      0.00      0.00     97.09
16:57:18          2      1.89      0.00      0.94      0.00      0.00     97.17
16:57:18          3      2.91      0.00      3.88      2.91      0.00     90.29

16:57:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:19        all      2.18      0.00      1.70      0.73      0.00     95.39
16:57:19          0      1.90      0.00      1.90      0.95      0.00     95.24
16:57:19          1      3.85      0.00      0.96      0.00      0.00     95.19
16:57:19          2      0.96      0.00      0.96      0.00      0.00     98.08
16:57:19          3      1.98      0.00      2.97      1.98      0.00     93.07

16:57:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:20        all      2.64      0.00      2.64      0.72      0.00     93.99
16:57:20          0      1.98      0.00      0.00      0.00      0.00     98.02
16:57:20          1      1.90      0.00      1.90      0.95      0.00     95.24
16:57:20          2      1.89      0.00      1.89      0.00      0.00     96.23
16:57:20          3      4.85      0.00      4.85      2.91      0.00     87.38

16:57:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:21        all      1.93      0.00      0.72      0.48      0.00     96.86
16:57:21          0      0.99      0.00      0.00      0.00      0.00     99.01
16:57:21          1      1.87      0.00      0.93      0.00      0.00     97.20
16:57:21          2      2.88      0.00      0.00      0.00      0.00     97.12
16:57:21          3      1.98      0.00      1.98      0.99      0.00     95.05

16:57:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:22        all      0.49      0.00      0.49      0.25      0.00     98.77
16:57:22          0      0.00      0.00      0.00      0.00      0.00    100.00
16:57:22          1      0.00      0.00      0.00      0.00      0.00    100.00
16:57:22          2      0.98      0.00      0.98      0.00      0.00     98.04
16:57:22          3      0.00      0.00      0.98      0.98      0.00     98.04

16:57:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
16:57:23        all      0.58      0.00      0.58      0.00      0.00     98.83
16:57:23          0      1.25      0.00      1.25      0.00      0.00     97.50
16:57:23          1      0.00      0.00      0.00      0.00      0.00    100.00
16:57:23          2      0.00      0.00      0.00      0.00      0.00    100.00
16:57:23          3      0.99      0.00      0.00      0.99      0.00     98.02

16:57:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:24        all      0.24      0.00      0.00      0.00      0.00     99.76
16:57:24          0      0.00      0.00      0.00      0.00      0.00    100.00
16:57:24          1      0.00      0.00      0.00      0.00      0.00    100.00
16:57:24          2      0.88      0.00      0.88      0.00      0.00     98.25
16:57:24          3      0.99      0.00      0.00      0.00      0.00     99.01

16:57:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:25        all      0.00      0.00      0.26      0.00      0.00     99.74
16:57:25          0      0.00      0.00      0.00      0.00      0.00    100.00
16:57:25          1      0.00      0.00      0.00      0.00      0.00    100.00
16:57:25          2      0.00      0.00      1.14      0.00      0.00     98.86
16:57:25          3      0.00      0.00      0.00      0.00      0.00    100.00

16:57:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:57:26        all      0.54      0.00      0.54      0.00      0.00     98.93
16:57:26          0      1.43      0.00      1.43      0.00      0.00     97.14
16:57:26          1      0.00      0.00      0.00      0.00      0.00    100.00
16:57:26          2      0.00      0.00      0.00      0.00      0.00    100.00
16:57:26          3      0.00      0.00      0.99      0.00      0.00     99.01
```

Table 33: Iostat monitoring for the 200 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.91

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.42    0.05    0.41     1.55    14.66    35.56     0.00    4.25   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    0.60     0.00    16.00    26.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.98    0.00    2.17    0.39    0.00   95.46

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.77    0.00    2.53    0.63    0.00   94.07

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    1.80     0.00    16.00     8.89     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.54    0.00    1.80    0.88    0.00   94.78

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.81    0.00    2.42    0.82    0.00   93.94

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.57    0.00    2.14    1.12    0.00   94.17

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.80    0.00    1.20     0.00    24.00    20.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.08    0.00    1.98    1.11    0.00   94.83

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.03    0.00    2.41    1.68    0.00   92.88

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    64.80    0.00    6.40     0.00   569.60    89.00     0.01    2.25   0.12   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.47    0.00    2.52    0.68    0.00   94.33

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.39    0.00    2.29    0.49    0.00   94.83

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    2.60     0.00    24.00     9.23     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.62    0.00    1.99    0.92    0.00   94.47

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.25    0.00    0.95    0.30    0.00   97.50

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00
```

Table 34: Jmeter 200 threads test second trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	200	73	42	356
19033-h-0.htm	200	319	101	992
1.css	200	59	43	382
i001_th.jpg	200	68	44	494
pgepub.css	200	61	43	309
0.css	200	61	44	362
i002_th.jpg	200	67	45	364
title.jpg	200	61	43	212
plate02_th.jpg	200	172	59	710
i008_th.jpg	200	77	46	243
plate01_th.jpg	200	166	53	531
i009_th.jpg	200	94	48	354
cover_th.jpg	200	146	52	431
i005_th.jpg	200	79	47	418
i003_th.jpg	200	77	46	261
i015_th.jpg	200	75	46	397
i011_th.jpg	200	81	46	423
i017_th.jpg	200	99	47	530
plate04_th.jpg	200	176	58	596
i022_th.jpg	200	79	45	261
i007_th.jpg	200	59	45	161
i020_th.jpg	200	77	47	340
i004_th.jpg	200	67	45	479
plate03_th.jpg	200	160	60	479
i018_th.jpg	200	76	45	465
i019_th.jpg	200	63	44	352
i016_th.jpg	200	76	45	249
i010_th.jpg	200	58	44	120
i012_th.jpg	200	92	47	416
i014_th.jpg	200	82	45	374
i021_th.jpg	200	67	46	287
i013_th.jpg	200	77	45	364
i006_th.jpg	200	92	47	413
TOTAL	6600	95	42	992

Table 35: Systat monitoring for the 200 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

16:58:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:58:59        all      0.00      0.00      0.00      0.00      0.00    100.00
16:58:59          0      0.00      0.00      0.00      0.00      0.00    100.00
16:58:59          1      0.00      0.00      0.00      0.00      0.00    100.00
16:58:59          2      0.00      0.00      0.00      0.00      0.00    100.00
16:58:59          3      0.00      0.00      1.00      0.00      0.00     99.00

16:58:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:00        all      0.00      0.00      0.25      0.00      0.00     99.75
16:59:00          0      0.00      0.00      0.00      0.00      0.00    100.00
16:59:00          1      0.00      0.00      0.00      0.00      0.00    100.00
16:59:00          2      0.00      0.00      0.00      0.00      0.00    100.00
16:59:00          3      0.00      0.00      0.00      0.00      0.00    100.00

16:59:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:01        all      0.44      0.00      0.22      0.22      0.00     99.11
16:59:01          0      0.84      0.00      0.00      0.00      0.00     99.16
16:59:01          1      0.85      0.00      0.85      0.00      0.00     98.29
16:59:01          2      0.86      0.00      0.00      0.00      0.00     99.14
16:59:01          3      0.00      0.00      1.96      0.98      0.00     97.06

16:59:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:02        all      0.96      0.00      1.93      0.72      0.00     96.39
16:59:02          0      0.00      0.00      0.96      0.00      0.00     99.04
16:59:02          1      0.97      0.00      0.97      0.00      0.00     98.06
16:59:02          2      0.97      0.00      0.97      0.00      0.00     98.06
16:59:02          3      0.98      0.00      3.92      2.94      0.00     92.16

16:59:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:03        all      2.16      0.00      1.68      1.44      0.00     94.72
16:59:03          0      0.99      0.00      0.00      0.00      0.00     99.01
16:59:03          1      2.88      0.00      0.96      0.00      0.00     96.15
16:59:03          2      1.83      0.00      1.83      0.92      0.00     95.41
16:59:03          3      2.91      0.00      2.91      4.85      0.00     89.32

16:59:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:04        all      2.68      0.00      1.71      0.98      0.00     94.63
16:59:04          0      2.97      0.00      1.98      0.00      0.00     95.05
16:59:04          1      2.83      0.00      0.94      0.94      0.00     95.28
16:59:04          2      1.94      0.00      0.97      0.00      0.00     97.09
16:59:04          3      3.96      0.00      3.96      2.97      0.00     89.11

16:59:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:05        all      3.15      0.00      2.18      0.48      0.00     94.19
16:59:05          0      3.88      0.00      0.97      0.00      0.00     95.15
16:59:05          1      3.88      0.00      1.94      0.00      0.00     94.17
16:59:05          2      2.83      0.00      0.94      0.00      0.00     96.23
16:59:05          3      2.97      0.00      2.97      2.97      0.00     91.09

16:59:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:06        all      2.17      0.00      2.42      1.69      0.00     93.72
16:59:06          0      0.00      0.00      1.98      0.00      0.00     98.02
```

```
16:59:06          1      1.94      0.00      0.97      0.00      0.00     97.09
16:59:06          2      0.93      0.00      0.93      0.00      0.00     98.15
16:59:06          3      4.81      0.00      7.69      6.73      0.00     80.77

16:59:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:07        all      3.83      0.00      2.87      1.44      0.00     91.87
16:59:07          0      1.92      0.00      0.96      0.00      0.00     97.12
16:59:07          1      1.92      0.00      2.88      0.96      0.00     94.23
16:59:07          2      3.81      0.00      0.95      0.00      0.00     95.24
16:59:07          3      5.94      0.00      4.95      4.95      0.00     84.16

16:59:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:08        all      2.90      0.00      1.93      1.93      0.00     93.24
16:59:08          0      0.00      0.00      0.00      0.00      0.00    100.00
16:59:08          1      1.92      0.00      1.92      0.00      0.00     96.15
16:59:08          2      3.81      0.00      0.95      0.00      0.00     95.24
16:59:08          3      6.93      0.00      5.94      6.93      0.00     80.20

16:59:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:09        all      2.40      0.00      1.92      1.44      0.00     94.23
16:59:09          0      0.94      0.00      0.94      0.00      0.00     98.11
16:59:09          1      3.85      0.00      0.96      0.96      0.00     94.23
16:59:09          2      0.96      0.00      1.92      0.00      0.00     97.12
16:59:09          3      4.85      0.00      4.85      4.85      0.00     85.44

16:59:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:10        all      3.15      0.00      3.39      1.45      0.00     92.01
16:59:10          0      0.98      0.00      0.00      0.00      0.00     99.02
16:59:10          1      2.88      0.00      0.96      0.00      0.00     96.15
16:59:10          2      2.94      0.00      1.96      0.00      0.00     95.10
16:59:10          3      5.83      0.00      7.77      6.80      0.00     79.61

16:59:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:11        all      3.12      0.00      2.40      1.20      0.00     93.29
16:59:11          0      0.00      0.00      0.00      0.00      0.00    100.00
16:59:11          1      2.83      0.00      1.89      0.94      0.00     94.34
16:59:11          2      1.92      0.00      1.92      0.00      0.00     96.15
16:59:11          3      6.93      0.00      6.93      2.97      0.00     83.17

16:59:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:12        all      1.94      0.00      1.70      0.97      0.00     95.39
16:59:12          0      0.98      0.00      0.98      0.00      0.00     98.04
16:59:12          1      1.94      0.00      0.97      0.00      0.00     97.09
16:59:12          2      0.95      0.00      0.00      0.00      0.00     99.05
16:59:12          3      3.92      0.00      4.90      3.92      0.00     87.25

16:59:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:13        all      1.71      0.00      2.93      0.98      0.00     94.39
16:59:13          0      0.94      0.00      3.77      0.00      0.00     95.28
16:59:13          1      0.98      0.00      1.96      0.98      0.00     96.08
16:59:13          2      0.97      0.00      1.94      0.00      0.00     97.09
16:59:13          3      5.00      0.00      5.00      3.00      0.00     87.00

16:59:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:14        all      2.66      0.00      1.45      1.45      0.00     94.43
16:59:14          0      1.94      0.00      0.00      0.00      0.00     98.06
16:59:14          1      2.91      0.00      0.00      0.97      0.00     96.12
16:59:14          2      1.87      0.00      0.93      0.00      0.00     97.20
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16:59:14          3      3.88      0.00      5.83      4.85      0.00     85.44

16:59:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:15        all      2.91      0.00      2.67      0.73      0.00     93.69
16:59:15          0      1.00      0.00      1.00      0.00      0.00     98.00
16:59:15          1      0.97      0.00      1.94      0.97      0.00     96.12
16:59:15          2      2.88      0.00      0.00      0.00      0.00     97.12
16:59:15          3      6.93      0.00      5.94      1.98      0.00     85.15

16:59:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:16        all      2.66      0.00      3.15      0.73      0.00     93.46
16:59:16          0      2.86      0.00      1.90      0.00      0.00     95.24
16:59:16          1      0.96      0.00      0.96      0.00      0.00     98.08
16:59:16          2      1.92      0.00      0.96      0.00      0.00     97.12
16:59:16          3      4.95      0.00      9.90      2.97      0.00     82.18

16:59:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:17        all      1.70      0.00      3.65      0.24      0.00     94.40
16:59:17          0      0.00      0.00      0.00      0.00      0.00    100.00
16:59:17          1      1.96      0.00      0.00      0.98      0.00     97.06
16:59:17          2      0.00      0.00      0.00      0.00      0.00    100.00
16:59:17          3      3.92      0.00     13.73      0.98      0.00     81.37

16:59:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:18        all      2.94      0.00      2.21      0.74      0.00     94.12
16:59:18          0      1.98      0.00      0.99      0.00      0.00     97.03
16:59:18          1      2.94      0.00      1.96      0.00      0.00     95.10
16:59:18          2      1.96      0.00      0.00      0.00      0.00     98.04
16:59:18          3      4.90      0.00      5.88      1.96      0.00     87.25

16:59:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:19        all      2.70      0.00      3.19      0.49      0.00     93.63
16:59:19          0      1.90      0.00      0.95      0.00      0.00     97.14
16:59:19          1      1.00      0.00      1.00      1.00      0.00     97.00
16:59:19          2      2.94      0.00      0.98      0.00      0.00     96.08
16:59:19          3      4.90      0.00      9.80      0.98      0.00     84.31

16:59:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:20        all      2.17      0.00      2.17      0.48      0.00     95.17
16:59:20          0      0.95      0.00      0.95      0.00      0.00     98.10
16:59:20          1      3.77      0.00      0.94      0.00      0.00     95.28
16:59:20          2      1.92      0.00      0.96      0.00      0.00     97.12
16:59:20          3      2.97      0.00      6.93      1.98      0.00     88.12

16:59:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:21        all      2.66      0.00      1.69      0.73      0.00     94.92
16:59:21          0      0.97      0.00      0.97      0.00      0.00     98.06
16:59:21          1      0.98      0.00      0.98      0.00      0.00     98.04
16:59:21          2      1.94      0.00      0.97      0.00      0.00     97.09
16:59:21          3      4.85      0.00      4.85      2.91      0.00     87.38

16:59:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:22        all      3.41      0.00      2.68      0.24      0.00     93.66
16:59:22          0      2.94      0.00      0.98      0.00      0.00     96.08
16:59:22          1      6.60      0.00      2.83      0.00      0.00     90.57
16:59:22          2      2.91      0.00      0.97      0.00      0.00     96.12
16:59:22          3      2.97      0.00      4.95      0.99      0.00     91.09
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16:59:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:23        all      4.03      0.00      2.02      0.76      0.00     93.20
16:59:23          0      3.00      0.00      2.00      0.00      0.00     95.00
16:59:23          1      6.00      0.00      0.00      0.00      0.00     94.00
16:59:23          2      2.04      0.00      1.02      0.00      0.00     96.94
16:59:23          3      5.00      0.00      5.00      3.00      0.00     87.00

16:59:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:24        all      3.53      0.00      2.82      1.18      0.00     92.47
16:59:24          0      5.71      0.00      1.90      0.00      0.00     92.38
16:59:24          1      0.92      0.00      2.75      0.92      0.00     95.41
16:59:24          2      2.75      0.00      1.83      0.00      0.00     95.41
16:59:24          3      4.90      0.00      4.90      4.90      0.00     85.29

16:59:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:25        all      3.16      0.00      2.67      0.97      0.00     93.20
16:59:25          0      2.86      0.00      1.90      0.00      0.00     95.24
16:59:25          1      3.85      0.00      1.92      0.00      0.00     94.23
16:59:25          2      1.92      0.00      0.96      0.00      0.00     97.12
16:59:25          3      3.03      0.00      5.05      4.04      0.00     87.88

16:59:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:26        all      4.14      0.00      1.95      0.73      0.00     93.19
16:59:26          0      4.85      0.00      0.97      0.00      0.00     94.17
16:59:26          1      4.95      0.00      0.99      0.00      0.00     94.06
16:59:26          2      2.91      0.00      0.97      0.00      0.00     96.12
16:59:26          3      3.96      0.00      4.95      1.98      0.00     89.11

16:59:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:27        all      1.27      0.00      1.78      0.76      0.00     96.19
16:59:27          0      3.00      0.00      1.00      0.00      0.00     96.00
16:59:27          1      2.04      0.00      1.02      0.00      0.00     96.94
16:59:27          2      0.00      0.00      1.04      0.00      0.00     98.96
16:59:27          3      0.99      0.00      3.96      2.97      0.00     92.08

16:59:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:28        all      1.88      0.00      1.88      0.94      0.00     95.31
16:59:28          0      3.74      0.00      0.93      0.00      0.00     95.33
16:59:28          1      1.80      0.00      3.60      0.90      0.00     93.69
16:59:28          2      0.92      0.00      1.83      0.00      0.00     97.25
16:59:28          3      0.99      0.00      2.97      2.97      0.00     93.07

16:59:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:29        all      1.71      0.00      1.22      0.49      0.00     96.58
16:59:29          0      1.98      0.00      0.99      0.00      0.00     97.03
16:59:29          1      0.98      0.00      0.98      0.00      0.00     98.04
16:59:29          2      1.90      0.00      0.00      0.00      0.00     98.10
16:59:29          3      1.98      0.00      2.97      1.98      0.00     93.07

16:59:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:30        all      1.45      0.00      1.21      0.48      0.00     96.86
16:59:30          0      0.97      0.00      0.97      0.00      0.00     98.06
16:59:30          1      0.96      0.00      0.96      0.00      0.00     98.08
16:59:30          2      0.94      0.00      0.00      0.00      0.00     99.06
16:59:30          3      1.96      0.00      3.92      1.96      0.00     92.16

16:59:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:31        all      2.20      0.00      1.71      1.22      0.00     94.88
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16:59:31          0      0.98      0.00      0.98      0.00      0.00     98.04
16:59:31          1      3.92      0.00      1.96      0.00      0.00     94.12
16:59:31          2      2.86      0.00      0.95      0.00      0.00     96.19
16:59:31          3      1.96      0.00      2.94      4.90      0.00     90.20

16:59:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:32        all      3.37      0.00      2.65      1.45      0.00     92.53
16:59:32          0      1.96      0.00      0.98      0.00      0.00     97.06
16:59:32          1      1.89      0.00      1.89      0.94      0.00     95.28
16:59:32          2      5.77      0.00      0.96      0.00      0.00     93.27
16:59:32          3      2.94      0.00      5.88      5.88      0.00     85.29

16:59:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:33        all      2.88      0.00      2.88      1.68      0.00     92.57
16:59:33          0      2.91      0.00      1.94      0.00      0.00     95.15
16:59:33          1      2.83      0.00      3.77      0.00      0.00     93.40
16:59:33          2      3.77      0.00      0.94      0.00      0.00     95.28
16:59:33          3      2.94      0.00      4.90      6.86      0.00     85.29

16:59:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:34        all      1.96      0.00      1.96      0.73      0.00     95.35
16:59:34          0      2.00      0.00      0.00      0.00      0.00     98.00
16:59:34          1      2.94      0.00      1.96      0.00      0.00     95.10
16:59:34          2      0.00      0.00      1.92      0.00      0.00     98.08
16:59:34          3      2.97      0.00      2.97      1.98      0.00     92.08

16:59:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:35        all      2.16      0.00      1.44      1.20      0.00     95.19
16:59:35          0      1.90      0.00      1.90      0.00      0.00     96.19
16:59:35          1      1.89      0.00      0.94      0.00      0.00     97.17
16:59:35          2      1.92      0.00      0.96      0.00      0.00     97.12
16:59:35          3      2.94      0.00      2.94      4.90      0.00     89.22

16:59:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:36        all      2.43      0.00      1.70      0.97      0.00     94.90
16:59:36          0      0.98      0.00      0.00      0.00      0.00     99.02
16:59:36          1      3.85      0.00      0.96      0.00      0.00     95.19
16:59:36          2      2.86      0.00      0.95      0.00      0.00     96.19
16:59:36          3      1.96      0.00      4.90      3.92      0.00     89.22

16:59:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:37        all      2.02      0.00      2.27      1.26      0.00     94.46
16:59:37          0      1.01      0.00      1.01      0.00      0.00     97.98
16:59:37          1      2.08      0.00      1.04      0.00      0.00     96.88
16:59:37          2      1.02      0.00      0.00      0.00      0.00     98.98
16:59:37          3      3.88      0.00      5.83      4.85      0.00     85.44

16:59:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:38        all      3.52      0.00      2.35      0.94      0.00     93.19
16:59:38          0      0.94      0.00      1.89      0.00      0.00     97.17
16:59:38          1      3.67      0.00      0.00      0.92      0.00     95.41
16:59:38          2      4.55      0.00      1.82      0.00      0.00     93.64
16:59:38          3      4.90      0.00      6.86      3.92      0.00     84.31

16:59:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:39        all      2.21      0.00      1.72      1.47      0.00     94.59
16:59:39          0      1.96      0.00      0.98      0.00      0.00     97.06
16:59:39          1      2.00      0.00      1.00      0.00      0.00     97.00
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16:59:39          2      1.94      0.00      0.00      0.00      0.00     98.06
16:59:39          3      3.00      0.00      4.00      5.00      0.00     88.00

16:59:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:40        all      2.92      0.00      2.19      0.73      0.00     94.16
16:59:40          0      2.91      0.00      0.97      0.00      0.00     96.12
16:59:40          1      1.94      0.00      2.91      0.00      0.00     95.15
16:59:40          2      1.94      0.00      0.97      0.00      0.00     97.09
16:59:40          3      3.96      0.00      3.96      2.97      0.00     89.11

16:59:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:41        all      2.96      0.00      1.48      1.48      0.00     94.09
16:59:41          0      1.90      0.00      0.00      0.00      0.00     98.10
16:59:41          1      3.96      0.00      0.99      0.00      0.00     95.05
16:59:41          2      0.99      0.00      0.99      0.00      0.00     98.02
16:59:41          3      5.00      0.00      5.00      6.00      0.00     84.00

16:59:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:42        all      3.34      0.00      2.63      1.67      0.00     92.36
16:59:42          0      0.98      0.00      0.98      0.00      0.00     98.04
16:59:42          1      2.88      0.00      0.96      0.00      0.00     96.15
16:59:42          2      3.54      0.00      2.65      0.00      0.00     93.81
16:59:42          3      6.86      0.00      5.88      6.86      0.00     80.39

16:59:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:43        all      3.12      0.00      2.88      1.20      0.00     92.79
16:59:43          0      2.97      0.00      1.98      0.00      0.00     95.05
16:59:43          1      3.81      0.00      1.90      0.00      0.00     94.29
16:59:43          2      1.87      0.00      1.87      0.00      0.00     96.26
16:59:43          3      3.92      0.00      5.88      4.90      0.00     85.29

16:59:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:44        all      2.44      0.00      2.20      1.71      0.00     93.64
16:59:44          0      1.92      0.00      1.92      0.00      0.00     96.15
16:59:44          1      1.98      0.00      0.99      0.99      0.00     96.04
16:59:44          2      2.91      0.00      0.97      0.00      0.00     96.12
16:59:44          3      2.97      0.00      4.95      5.94      0.00     86.14

16:59:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:45        all      2.66      0.00      2.17      1.69      0.00     93.48
16:59:45          0      2.97      0.00      0.99      0.00      0.00     96.04
16:59:45          1      1.96      0.00      0.00      0.00      0.00     98.04
16:59:45          2      0.95      0.00      0.95      0.00      0.00     98.10
16:59:45          3      3.88      0.00      4.85      5.83      0.00     85.44

16:59:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:46        all      1.48      0.00      2.96      0.49      0.00     95.06
16:59:46          0      2.97      0.00      2.97      0.00      0.00     94.06
16:59:46          1      0.96      0.00      0.96      0.96      0.00     97.12
16:59:46          2      0.99      0.00      0.99      0.00      0.00     98.02
16:59:46          3      1.98      0.00      7.92      0.99      0.00     89.11

16:59:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:47        all      2.93      0.00      2.20      1.22      0.00     93.66
16:59:47          0      4.81      0.00      1.92      0.00      0.00     93.27
16:59:47          1      1.96      0.00      0.98      0.98      0.00     96.08
16:59:47          2      0.97      0.00      0.00      0.00      0.00     99.03
16:59:47          3      3.92      0.00      6.86      4.90      0.00     84.31
```

```
16:59:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:48        all      2.91      0.00      1.94      0.73      0.00     94.42
16:59:48          0      2.88      0.00      0.96      0.00      0.00     96.15
16:59:48          1      0.00      0.00      0.98      0.98      0.00     98.04
16:59:48          2      0.00      0.00      0.96      0.00      0.00     99.04
16:59:48          3      7.84      0.00      6.86      0.98      0.00     84.31

16:59:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:49        all      3.25      0.00      3.50      0.25      0.00     93.00
16:59:49          0      2.04      0.00      2.04      0.00      0.00     95.92
16:59:49          1      3.06      0.00      2.04      0.00      0.00     94.90
16:59:49          2      1.98      0.00      0.00      0.00      0.00     98.02
16:59:49          3      6.86      0.00      7.84      0.98      0.00     84.31

16:59:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:50        all      2.61      0.00      1.90      0.24      0.00     95.26
16:59:50          0      3.77      0.00      1.89      0.00      0.00     94.34
16:59:50          1      0.94      0.00      0.94      0.00      0.00     98.11
16:59:50          2      0.93      0.00      0.93      0.00      0.00     98.15
16:59:50          3      3.88      0.00      4.85      1.94      0.00     89.32

16:59:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:51        all      1.69      0.00      1.93      0.48      0.00     95.89
16:59:51          0      2.94      0.00      0.00      0.00      0.00     97.06
16:59:51          1      0.95      0.00      1.90      0.00      0.00     97.14
16:59:51          2      0.96      0.00      0.00      0.00      0.00     99.04
16:59:51          3      2.91      0.00      5.83      0.97      0.00     90.29

16:59:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:52        all      1.96      0.00      2.20      0.24      0.00     95.60
16:59:52          0      0.99      0.00      0.99      0.00      0.00     98.02
16:59:52          1      1.94      0.00      3.88      0.00      0.00     94.17
16:59:52          2      0.98      0.00      0.00      0.00      0.00     99.02
16:59:52          3      2.97      0.00      2.97      0.99      0.00     93.07

16:59:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:53        all      1.23      0.00      1.48      0.25      0.00     97.04
16:59:53          0      1.98      0.00      1.98      0.00      0.00     96.04
16:59:53          1      1.01      0.00      1.01      0.00      0.00     97.98
16:59:53          2      0.00      0.00      0.00      0.00      0.00    100.00
16:59:53          3      1.96      0.00      1.96      0.98      0.00     95.10

16:59:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:54        all      0.53      0.00      0.00      0.00      0.00     99.47
16:59:54          0      0.00      0.00      0.00      0.00      0.00    100.00
16:59:54          1      1.03      0.00      0.00      0.00      0.00     98.97
16:59:54          2      0.00      0.00      0.00      0.00      0.00    100.00
16:59:54          3      0.98      0.00      0.98      0.00      0.00     98.04

16:59:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:55        all      0.25      0.00      0.50      0.00      0.00     99.25
16:59:55          0      0.99      0.00      0.99      0.00      0.00     98.02
16:59:55          1      0.00      0.00      1.00      0.00      0.00     99.00
16:59:55          2      0.00      0.00      0.00      0.00      0.00    100.00
16:59:55          3      0.00      0.00      0.00      0.00      0.00    100.00

16:59:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
16:59:56        all      0.24      0.00      0.00      0.00      0.00     99.76
16:59:56          0      0.00      0.00      0.00      0.00      0.00    100.00
16:59:56          1      1.02      0.00      0.00      0.00      0.00     98.98
16:59:56          2      0.00      0.00      0.00      0.00      0.00    100.00
16:59:56          3      0.00      0.00      0.99      0.00      0.00     99.01

16:59:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:57        all      0.00      0.00      0.26      0.00      0.00     99.74
16:59:57          0      0.00      0.00      0.00      0.00      0.00    100.00
16:59:57          1      0.00      0.00      0.00      0.00      0.00    100.00
16:59:57          2      0.00      0.00      0.00      0.00      0.00    100.00
16:59:57          3      0.00      0.00      0.00      0.00      0.00    100.00

16:59:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
16:59:58        all      0.00      0.00      0.53      0.00      0.00     99.47
16:59:58          0      1.18      0.00      1.18      0.00      0.00     97.65
16:59:58          1      0.00      0.00      0.00      0.00      0.00    100.00
16:59:58          2      0.00      0.00      0.00      0.00      0.00    100.00
16:59:58          3      0.00      0.00      1.00      0.00      0.00     99.00
```

Table 36: Iostat monitoring for the 200 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.91

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.43    0.05    0.41     1.55    14.68    35.56     0.00    4.25   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.76

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.22    0.00    1.98    1.11    0.00   94.69

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    10.20    0.00    3.00     0.00   105.60    35.20     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.09    0.00    2.46    1.50    0.00   92.95

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.37    0.00    2.37    0.97    0.00   94.28

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.38    0.00    2.63    0.49    0.00   94.50

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.65    0.00    2.39    0.83    0.00   93.13

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.75    0.00    1.61    0.78    0.00   95.86

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.56    0.00    2.13    1.21    0.00   94.10

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    61.60    0.00    6.00     0.00   540.80    90.13     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.73    0.00    2.00    1.17    0.00   94.11

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    2.00     0.00    25.60    12.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.62    0.00    2.58    1.36    0.00   93.44

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.63    0.00    2.24    0.58    0.00   94.56

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.20     0.00    14.40    12.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.90    0.00    0.90    0.10    0.00   98.10

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.80    0.00    0.60     0.00    19.20    32.00     0.00    0.00   0.00   0.00
```

Table 37: Jmeter 200 threads test third trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	200	72	42	628
19033-h-0.htm	200	333	100	977
1.css	200	58	44	293
i001_th.jpg	200	61	44	159
pgepub.css	200	56	44	137
0.css	200	59	44	360
i002_th.jpg	200	59	43	159
title.jpg	200	57	44	134
plate02_th.jpg	200	168	51	518
i008_th.jpg	200	84	46	371
plate01_th.jpg	200	163	51	423
i009_th.jpg	200	96	48	441
cover_th.jpg	200	151	52	565
i005_th.jpg	200	81	46	286
i003_th.jpg	200	75	47	222
i015_th.jpg	200	83	46	1142
i011_th.jpg	200	78	47	264
i017_th.jpg	200	90	46	254
plate04_th.jpg	200	169	53	449
i022_th.jpg	200	79	46	363
i007_th.jpg	200	61	44	351
i020_th.jpg	200	77	45	351
i004_th.jpg	200	64	46	247
plate03_th.jpg	200	165	54	548
i018_th.jpg	200	80	45	344
i019_th.jpg	200	61	44	228
i016_th.jpg	200	78	46	190
i010_th.jpg	200	57	43	111
i012_th.jpg	200	99	47	459
i014_th.jpg	200	87	46	854
i021_th.jpg	200	69	46	260
i013_th.jpg	200	85	47	355
i006_th.jpg	200	98	48	440
TOTAL	6600	96	42	1142

Table 38: Systat monitoring for the 200 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:01:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:27        all      0.00      0.00      0.33      0.00      0.00     99.67
17:01:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:01:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:01:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:01:27          3      0.00      0.00      0.00      0.00      0.00    100.00

17:01:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:28        all      0.00      0.00      0.00      0.00      0.00    100.00
17:01:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:01:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:01:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:01:28          3      0.00      0.00      0.99      0.00      0.00     99.01

17:01:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:29        all      0.00      0.00      0.00      0.00      0.00    100.00
17:01:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:01:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:01:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:01:29          3      0.99      0.00      0.00      0.00      0.00     99.01

17:01:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:30        all      0.00      0.00      0.25      0.00      0.00     99.75
17:01:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:01:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:01:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:01:30          3      0.00      0.00      0.00      0.00      0.00    100.00

17:01:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:31        all      0.20      0.00      0.00      0.00      0.00     99.80
17:01:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:01:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:01:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:01:31          3      0.00      0.00      0.00      0.00      0.00    100.00

17:01:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:32        all      0.24      0.00      0.72      0.24      0.00     98.80
17:01:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:01:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:01:32          2      0.92      0.00      0.92      0.00      0.00     98.17
17:01:32          3      0.99      0.00      0.99      0.99      0.00     97.03

17:01:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:33        all      1.93      0.00      1.93      0.00      0.00     96.14
17:01:33          0      1.92      0.00      0.96      0.00      0.00     97.12
17:01:33          1      2.86      0.00      1.90      0.00      0.00     95.24
17:01:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:01:33          3      1.94      0.00      6.80      0.00      0.00     91.26

17:01:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:34        all      1.46      0.00      1.95      0.49      0.00     96.11
17:01:34          0      3.92      0.00      0.98      0.00      0.00     95.10
```

```
17:01:34          1      0.96      0.00      0.96      0.00      0.00     98.08
17:01:34          2      0.97      0.00      0.00      0.00      0.00     99.03
17:01:34          3      0.98      0.00      4.90      1.96      0.00     92.16

17:01:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:35        all      2.42      0.00      2.17      0.48      0.00     94.93
17:01:35          0      0.99      0.00      0.00      0.00      0.00     99.01
17:01:35          1      1.90      0.00      1.90      0.00      0.00     96.19
17:01:35          2      0.94      0.00      0.00      0.00      0.00     99.06
17:01:35          3      5.00      0.00      7.00      1.00      0.00     87.00

17:01:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:36        all      2.16      0.00      1.68      0.72      0.00     95.43
17:01:36          0      1.92      0.00      0.00      0.00      0.00     98.08
17:01:36          1      1.92      0.00      0.96      0.00      0.00     97.12
17:01:36          2      2.80      0.00      0.93      0.00      0.00     96.26
17:01:36          3      2.91      0.00      5.83      2.91      0.00     88.35

17:01:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:37        all      2.16      0.00      2.64      0.96      0.00     94.23
17:01:37          0      0.94      0.00      1.89      0.00      0.00     97.17
17:01:37          1      1.96      0.00      1.96      0.00      0.00     96.08
17:01:37          2      0.96      0.00      1.92      0.00      0.00     97.12
17:01:37          3      4.00      0.00      4.00      3.00      0.00     89.00

17:01:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:38        all      2.68      0.00      1.70      0.24      0.00     95.38
17:01:38          0      1.98      0.00      1.98      0.00      0.00     96.04
17:01:38          1      5.66      0.00      1.89      0.00      0.00     92.45
17:01:38          2      0.95      0.00      0.00      0.00      0.00     99.05
17:01:38          3      2.91      0.00      4.85      0.97      0.00     91.26

17:01:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:39        all      2.43      0.00      1.94      0.73      0.00     94.90
17:01:39          0      1.92      0.00      0.96      0.00      0.00     97.12
17:01:39          1      1.94      0.00      0.97      0.97      0.00     96.12
17:01:39          2      2.94      0.00      0.00      0.00      0.00     97.06
17:01:39          3      1.98      0.00      3.96      2.97      0.00     91.09

17:01:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:40        all      2.18      0.00      1.94      0.73      0.00     95.16
17:01:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:01:40          1      2.80      0.00      1.87      0.00      0.00     95.33
17:01:40          2      2.86      0.00      1.90      0.00      0.00     95.24
17:01:40          3      2.97      0.00      4.95      3.96      0.00     88.12

17:01:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:41        all      1.71      0.00      2.20      1.47      0.00     94.62
17:01:41          0      1.96      0.00      0.00      0.00      0.00     98.04
17:01:41          1      0.98      0.00      0.98      0.00      0.00     98.04
17:01:41          2      2.91      0.00      0.97      0.00      0.00     96.12
17:01:41          3      1.96      0.00      6.86      4.90      0.00     86.27

17:01:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:42        all      1.92      0.00      2.64      0.72      0.00     94.71
17:01:42          0      0.00      0.00      0.97      0.00      0.00     99.03
17:01:42          1      0.94      0.00      1.89      0.94      0.00     96.23
17:01:42          2      2.91      0.00      0.97      0.00      0.00     96.12
```

```
17:01:42          3      2.94      0.00      5.88      1.96      0.00     89.22

17:01:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:43        all      1.69      0.00      1.94      0.48      0.00     95.88
17:01:43          0      0.95      0.00      0.95      0.00      0.00     98.10
17:01:43          1      1.94      0.00      2.91      0.00      0.00     95.15
17:01:43          2      1.94      0.00      1.94      0.00      0.00     96.12
17:01:43          3      2.86      0.00      3.81      1.90      0.00     91.43

17:01:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:44        all      1.92      0.00      1.92      0.96      0.00     95.19
17:01:44          0      0.97      0.00      0.97      0.00      0.00     98.06
17:01:44          1      2.83      0.00      1.89      0.94      0.00     94.34
17:01:44          2      0.96      0.00      0.96      0.00      0.00     98.08
17:01:44          3      1.94      0.00      3.88      2.91      0.00     91.26

17:01:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:45        all      2.66      0.00      1.69      1.45      0.00     94.19
17:01:45          0      2.97      0.00      0.99      0.00      0.00     96.04
17:01:45          1      2.91      0.00      1.94      0.00      0.00     95.15
17:01:45          2      1.89      0.00      0.00      0.00      0.00     98.11
17:01:45          3      2.94      0.00      3.92      5.88      0.00     87.25

17:01:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:46        all      3.43      0.00      1.96      1.23      0.00     93.38
17:01:46          0      1.00      0.00      0.00      0.00      0.00     99.00
17:01:46          1      3.85      0.00      1.92      0.96      0.00     93.27
17:01:46          2      5.71      0.00      0.95      0.00      0.00     93.33
17:01:46          3      4.00      0.00      4.00      5.00      0.00     87.00

17:01:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:47        all      1.94      0.00      2.91      1.46      0.00     93.69
17:01:47          0      0.97      0.00      0.97      0.00      0.00     98.06
17:01:47          1      1.92      0.00      2.88      0.00      0.00     95.19
17:01:47          2      2.88      0.00      0.96      0.00      0.00     96.15
17:01:47          3      1.98      0.00      7.92      4.95      0.00     85.15

17:01:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:48        all      2.46      0.00      1.47      0.98      0.00     95.09
17:01:48          0      3.06      0.00      0.00      0.00      0.00     96.94
17:01:48          1      0.94      0.00      1.89      0.94      0.00     96.23
17:01:48          2      2.00      0.00      1.00      0.00      0.00     97.00
17:01:48          3      3.92      0.00      1.96      2.94      0.00     91.18

17:01:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:49        all      1.44      0.00      1.67      0.96      0.00     95.93
17:01:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:01:49          1      1.92      0.00      0.00      1.92      0.00     96.15
17:01:49          2      0.95      0.00      0.00      0.00      0.00     99.05
17:01:49          3      1.98      0.00      5.94      2.97      0.00     89.11

17:01:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:50        all      2.65      0.00      1.69      1.93      0.00     93.73
17:01:50          0      1.92      0.00      0.96      0.00      0.00     97.12
17:01:50          1      0.96      0.00      0.96      0.96      0.00     97.12
17:01:50          2      2.78      0.00      1.85      0.00      0.00     95.37
17:01:50          3      5.94      0.00      3.96      5.94      0.00     84.16
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17:01:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:51        all      2.68      0.00      2.19      0.97      0.00     94.16
17:01:51          0      3.88      0.00      1.94      0.00      0.00     94.17
17:01:51          1      1.94      0.00      0.00      1.94      0.00     96.12
17:01:51          2      1.90      0.00      1.90      0.00      0.00     96.19
17:01:51          3      3.00      0.00      5.00      2.00      0.00     90.00

17:01:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:52        all      3.40      0.00      2.18      1.21      0.00     93.20
17:01:52          0      3.00      0.00      1.00      0.00      0.00     96.00
17:01:52          1      0.96      0.00      0.96      0.00      0.00     98.08
17:01:52          2      3.92      0.00      0.98      0.00      0.00     95.10
17:01:52          3      4.85      0.00      5.83      4.85      0.00     84.47

17:01:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:53        all      2.43      0.00      1.46      0.73      0.00     95.39
17:01:53          0      0.98      0.00      0.00      0.00      0.00     99.02
17:01:53          1      0.95      0.00      0.00      0.00      0.00     99.05
17:01:53          2      1.92      0.00      0.96      0.00      0.00     97.12
17:01:53          3      5.94      0.00      4.95      2.97      0.00     86.14

17:01:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:54        all      1.96      0.00      2.21      1.96      0.00     93.87
17:01:54          0      2.91      0.00      1.94      0.00      0.00     95.15
17:01:54          1      1.94      0.00      0.97      0.00      0.00     97.09
17:01:54          2      0.00      0.00      1.94      0.00      0.00     98.06
17:01:54          3      3.00      0.00      4.00      8.00      0.00     85.00

17:01:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:55        all      2.45      0.00      1.23      0.74      0.00     95.59
17:01:55          0      2.94      0.00      0.98      0.00      0.00     96.08
17:01:55          1      1.98      0.00      0.99      0.00      0.00     97.03
17:01:55          2      0.98      0.00      0.00      0.00      0.00     99.02
17:01:55          3      4.90      0.00      1.96      1.96      0.00     91.18

17:01:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:56        all      3.15      0.00      2.42      1.21      0.00     93.22
17:01:56          0      1.89      0.00      2.83      0.00      0.00     95.28
17:01:56          1      2.88      0.00      1.92      0.96      0.00     94.23
17:01:56          2      0.95      0.00      0.00      0.95      0.00     98.10
17:01:56          3      6.93      0.00      5.94      3.96      0.00     83.17

17:01:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:57        all      4.12      0.00      2.18      0.73      0.00     92.98
17:01:57          0      2.97      0.00      0.00      0.00      0.00     97.03
17:01:57          1      2.88      0.00      1.92      0.96      0.00     94.23
17:01:57          2      1.92      0.00      0.96      0.00      0.00     97.12
17:01:57          3      7.84      0.00      5.88      2.94      0.00     83.33

17:01:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:58        all      2.92      0.00      1.70      0.49      0.00     94.89
17:01:58          0      2.86      0.00      1.90      0.00      0.00     95.24
17:01:58          1      3.92      0.00      0.00      0.00      0.00     96.08
17:01:58          2      0.96      0.00      1.92      0.00      0.00     97.12
17:01:58          3      4.85      0.00      4.85      0.97      0.00     89.32

17:01:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:01:59        all      3.43      0.00      2.70      0.49      0.00     93.38
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17:01:59          0      5.94      0.00      1.98      0.00      0.00     92.08
17:01:59          1      2.91      0.00      3.88      0.00      0.00     93.20
17:01:59          2      0.97      0.00      0.00      0.00      0.00     99.03
17:01:59          3      4.04      0.00      3.03      2.02      0.00     90.91

17:01:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:00        all      2.44      0.00      2.69      0.98      0.00     93.89
17:02:00          0      2.97      0.00      0.99      0.00      0.00     96.04
17:02:00          1      0.98      0.00      1.96      0.98      0.00     96.08
17:02:00          2      0.97      0.00      0.00      0.00      0.00     99.03
17:02:00          3      3.88      0.00      7.77      2.91      0.00     85.44

17:02:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:01        all      1.98      0.00      1.98      0.74      0.00     95.31
17:02:01          0      2.02      0.00      1.01      0.00      0.00     96.97
17:02:01          1      2.91      0.00      0.97      0.97      0.00     95.15
17:02:01          2      0.00      0.00      0.97      0.00      0.00     99.03
17:02:01          3      3.00      0.00      6.00      2.00      0.00     89.00

17:02:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:02        all      2.70      0.00      1.97      0.74      0.00     94.59
17:02:02          0      2.91      0.00      1.94      0.97      0.00     94.17
17:02:02          1      1.96      0.00      0.98      0.00      0.00     97.06
17:02:02          2      0.98      0.00      0.98      0.00      0.00     98.04
17:02:02          3      4.90      0.00      3.92      2.94      0.00     88.24

17:02:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:03        all      2.90      0.00      2.66      0.48      0.00     93.96
17:02:03          0      2.91      0.00      1.94      0.00      0.00     95.15
17:02:03          1      1.87      0.00      3.74      0.00      0.00     94.39
17:02:03          2      1.96      0.00      0.00      0.00      0.00     98.04
17:02:03          3      5.94      0.00      4.95      0.99      0.00     88.12

17:02:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:04        all      3.17      0.00      2.93      0.49      0.00     93.41
17:02:04          0      2.91      0.00      2.91      0.00      0.00     94.17
17:02:04          1      3.96      0.00      1.98      0.00      0.00     94.06
17:02:04          2      3.85      0.00      1.92      0.00      0.00     94.23
17:02:04          3      1.96      0.00      4.90      1.96      0.00     91.18

17:02:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:05        all      3.16      0.00      1.94      0.24      0.00     94.66
17:02:05          0      2.91      0.00      2.91      0.00      0.00     94.17
17:02:05          1      1.89      0.00      1.89      0.94      0.00     95.28
17:02:05          2      2.91      0.00      0.00      0.00      0.00     97.09
17:02:05          3      3.96      0.00      2.97      0.99      0.00     92.08

17:02:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:06        all      3.16      0.00      2.19      0.97      0.00     93.67
17:02:06          0      2.94      0.00      1.96      0.00      0.00     95.10
17:02:06          1      2.86      0.00      0.95      0.00      0.00     96.19
17:02:06          2      4.72      0.00      0.94      0.94      0.00     93.40
17:02:06          3      2.97      0.00      5.94      3.96      0.00     87.13

17:02:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:07        all      1.70      0.00      2.43      0.97      0.00     94.90
17:02:07          0      2.91      0.00      1.94      0.00      0.00     95.15
17:02:07          1      1.00      0.00      1.00      0.00      0.00     98.00
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17:02:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:02:07          3      1.96      0.00      4.90      2.94      0.00     90.20

17:02:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:08        all      2.66      0.00      1.69      0.24      0.00     95.41
17:02:08          0      0.95      0.00      1.90      0.00      0.00     97.14
17:02:08          1      2.86      0.00      1.90      0.00      0.00     95.24
17:02:08          2      3.85      0.00      0.00      0.00      0.00     96.15
17:02:08          3      2.94      0.00      3.92      0.98      0.00     92.16

17:02:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:09        all      2.87      0.00      2.39      1.44      0.00     93.30
17:02:09          0      0.95      0.00      1.90      0.00      0.00     97.14
17:02:09          1      3.81      0.00      1.90      0.95      0.00     93.33
17:02:09          2      2.78      0.00      1.85      0.00      0.00     95.37
17:02:09          3      4.95      0.00      3.96      4.95      0.00     86.14

17:02:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:10        all      3.13      0.00      2.41      1.20      0.00     93.25
17:02:10          0      3.88      0.00      1.94      0.00      0.00     94.17
17:02:10          1      3.81      0.00      1.90      0.00      0.00     94.29
17:02:10          2      1.90      0.00      0.95      0.00      0.00     97.14
17:02:10          3      1.96      0.00      5.88      4.90      0.00     87.25

17:02:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:11        all      1.69      0.00      2.18      1.21      0.00     94.92
17:02:11          0      0.97      0.00      1.94      0.00      0.00     97.09
17:02:11          1      2.94      0.00      1.96      0.00      0.00     95.10
17:02:11          2      1.90      0.00      0.00      0.00      0.00     98.10
17:02:11          3      0.97      0.00      3.88      4.85      0.00     90.29

17:02:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:12        all      1.72      0.00      2.70      1.23      0.00     94.36
17:02:12          0      1.94      0.00      1.94      0.00      0.00     96.12
17:02:12          1      2.94      0.00      1.96      0.00      0.00     95.10
17:02:12          2      1.98      0.00      0.99      0.00      0.00     97.03
17:02:12          3      0.00      0.00      4.08      4.08      0.00     91.84

17:02:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:13        all      2.68      0.00      1.71      1.46      0.00     94.15
17:02:13          0      3.92      0.00      0.00      0.00      0.00     96.08
17:02:13          1      3.88      0.00      0.97      0.00      0.00     95.15
17:02:13          2      1.94      0.00      0.97      0.00      0.00     97.09
17:02:13          3      1.94      0.00      4.85      6.80      0.00     86.41

17:02:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:14        all      2.92      0.00      2.19      1.22      0.00     93.67
17:02:14          0      1.94      0.00      0.00      0.00      0.00     98.06
17:02:14          1      3.85      0.00      3.85      0.00      0.00     92.31
17:02:14          2      1.96      0.00      0.00      0.00      0.00     98.04
17:02:14          3      3.88      0.00      5.83      3.88      0.00     86.41

17:02:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:15        all      1.69      0.00      3.15      0.73      0.00     94.43
17:02:15          0      0.97      0.00      1.94      0.00      0.00     97.09
17:02:15          1      3.88      0.00      3.88      0.00      0.00     92.23
17:02:15          2      0.00      0.00      0.96      0.00      0.00     99.04
17:02:15          3      1.96      0.00      4.90      2.94      0.00     90.20
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17:02:15	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:02:16	all	2.21	0.00	2.21	1.23	0.00	94.35
17:02:16	0	1.98	0.00	0.99	0.00	0.00	97.03
17:02:16	1	2.91	0.00	2.91	0.97	0.00	93.20
17:02:16	2	0.98	0.00	0.00	0.00	0.00	99.02
17:02:16	3	1.98	0.00	4.95	4.95	0.00	88.12
17:02:16	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:02:17	all	2.64	0.00	2.16	2.16	0.00	93.05
17:02:17	0	0.99	0.00	0.99	0.00	0.00	98.02
17:02:17	1	3.77	0.00	1.89	0.94	0.00	93.40
17:02:17	2	2.75	0.00	0.92	0.00	0.00	96.33
17:02:17	3	3.96	0.00	4.95	7.92	0.00	83.17
17:02:17	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:02:18	all	2.89	0.00	1.20	0.72	0.00	95.18
17:02:18	0	1.92	0.00	0.96	0.00	0.00	97.12
17:02:18	1	3.81	0.00	2.86	0.00	0.00	93.33
17:02:18	2	0.95	0.00	0.00	0.00	0.00	99.05
17:02:18	3	2.94	0.00	1.96	3.92	0.00	91.18
17:02:18	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:02:19	all	1.93	0.00	1.93	1.93	0.00	94.22
17:02:19	0	0.98	0.00	0.00	0.00	0.00	99.02
17:02:19	1	2.88	0.00	0.96	0.00	0.00	96.15
17:02:19	2	3.77	0.00	0.94	0.00	0.00	95.28
17:02:19	3	1.96	0.00	4.90	6.86	0.00	86.27
17:02:19	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:02:20	all	1.91	0.00	1.91	1.44	0.00	94.74
17:02:20	0	0.00	0.00	0.94	0.00	0.00	99.06
17:02:20	1	1.90	0.00	1.90	0.00	0.00	96.19
17:02:20	2	0.95	0.00	1.90	0.00	0.00	97.14
17:02:20	3	3.88	0.00	3.88	5.83	0.00	86.41
17:02:20	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:02:21	all	1.47	0.00	1.96	0.74	0.00	95.83
17:02:21	0	0.99	0.00	0.00	0.00	0.00	99.01
17:02:21	1	1.96	0.00	0.98	0.98	0.00	96.08
17:02:21	2	0.97	0.00	0.97	0.00	0.00	98.06
17:02:21	3	2.94	0.00	4.90	1.96	0.00	90.20
17:02:21	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:02:22	all	3.15	0.00	2.18	1.45	0.00	93.22
17:02:22	0	1.92	0.00	0.96	0.00	0.00	97.12
17:02:22	1	0.98	0.00	1.96	0.98	0.00	96.08
17:02:22	2	4.81	0.00	1.92	0.00	0.00	93.27
17:02:22	3	4.81	0.00	5.77	4.81	0.00	84.62
17:02:22	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:02:23	all	2.42	0.00	2.17	0.72	0.00	94.69
17:02:23	0	0.99	0.00	0.00	0.00	0.00	99.01
17:02:23	1	0.94	0.00	0.94	0.00	0.00	98.11
17:02:23	2	2.88	0.00	0.96	0.00	0.00	96.15
17:02:23	3	4.90	0.00	5.88	1.96	0.00	87.25
17:02:23	CPU	%user	%nice	%system	%iowait	%steal	%idle

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17:02:24        all      0.97      0.00      1.46      0.49      0.00     97.08
17:02:24          0      0.97      0.00      0.97      0.00      0.00     98.06
17:02:24          1      0.00      0.00      1.96      0.00      0.00     98.04
17:02:24          2      0.97      0.00      0.00      0.00      0.00     99.03
17:02:24          3      0.97      0.00      3.88      1.94      0.00     93.20

17:02:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:25        all      0.74      0.00      0.74      0.25      0.00     98.28
17:02:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:02:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:02:25          2      0.99      0.00      0.00      0.00      0.00     99.01
17:02:25          3      0.96      0.00      1.92      1.92      0.00     95.19

17:02:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:26        all      0.31      0.00      0.61      0.31      0.00     98.77
17:02:26          0      1.14      0.00      0.00      0.00      0.00     98.86
17:02:26          1      1.15      0.00      0.00      0.00      0.00     98.85
17:02:26          2      0.00      0.00      1.96      0.00      0.00     98.04
17:02:26          3      0.00      0.00      1.00      0.00      0.00     99.00

17:02:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:02:27        all      0.00      0.00      0.52      0.00      0.00     99.48
17:02:27          0      0.00      0.00      0.96      0.00      0.00     99.04
17:02:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:02:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:02:27          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 39: Iostat monitoring for the 200 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.91

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.43    0.05    0.41     1.55    14.69    35.56     0.00    4.24   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.25    0.00    0.25    0.05    0.00   99.45

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     8.60    0.00    1.20     0.00    78.40    65.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.98    0.00    2.13    0.53    0.00   95.36

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.13    0.00    2.09    0.78    0.00   95.00

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.38    0.00    2.04    1.12    0.00   94.47

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.47    0.00    1.79    1.21    0.00   94.53

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.80    0.00    1.20     0.00    24.00    20.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.87    0.00    2.00    1.07    0.00   94.06

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    2.80     0.00    28.80    10.29     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.69    0.00    2.25    0.69    0.00   94.37

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    58.60    0.00    5.60     0.00   513.60    91.71     0.00    0.57   0.14   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.91    0.00    2.38    0.63    0.00   94.07

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.80     0.00    16.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.33    0.00    2.28    1.21    0.00   94.19

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.57    0.00    2.33    1.26    0.00   93.83

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.17    0.00    1.93    1.25    0.00   94.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.74    0.00    0.89    0.30    0.00   98.08

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    1.00     0.00    14.40    14.40     0.00    0.00   0.00   0.00
```

Table 40: Jmeter 250 threads test first trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	250	97	43	817
19033-h-0.htm	250	374	108	1869
1.css	250	66	44	136
i001_th.jpg	250	75	46	214
pgepub.css	250	68	42	374
0.css	250	70	43	225
i002_th.jpg	250	76	45	1123
title.jpg	250	69	46	152
plate02_th.jpg	250	196	57	1187
i008_th.jpg	250	108	47	1209
plate01_th.jpg	250	202	65	1315
i009_th.jpg	250	105	49	379
cover_th.jpg	250	162	53	416
i005_th.jpg	250	97	49	547
i003_th.jpg	250	89	46	250
i015_th.jpg	250	95	48	478
i011_th.jpg	250	102	49	1693
i017_th.jpg	250	106	48	924
plate04_th.jpg	250	198	52	806
i022_th.jpg	250	92	47	495
i007_th.jpg	250	73	44	207
i020_th.jpg	250	88	47	414
i004_th.jpg	250	85	46	1195
plate03_th.jpg	250	186	54	637
i018_th.jpg	250	91	47	857
i019_th.jpg	250	75	46	269
i016_th.jpg	250	90	47	324
i010_th.jpg	250	68	43	149
i012_th.jpg	250	105	48	336
i014_th.jpg	250	104	47	1212
i021_th.jpg	250	80	46	1190
i013_th.jpg	250	90	47	286
i006_th.jpg	250	103	48	724
TOTAL	8250	112	42	1869

Table 41: Systat monitoring for the 250 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:04:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:05        all      0.00      0.00      0.00      0.00      0.00    100.00
17:04:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:04:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:04:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:04:05          3      0.00      0.00      0.00      0.00      0.00    100.00

17:04:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:06        all      0.22      0.00      0.00      0.00      0.00     99.78
17:04:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:04:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:04:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:04:06          3      1.00      0.00      0.00      0.00      0.00     99.00

17:04:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:07        all      0.00      0.00      0.28      0.00      0.00     99.72
17:04:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:04:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:04:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:04:07          3      0.00      0.00      0.99      0.00      0.00     99.01

17:04:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:08        all      0.00      0.00      0.00      0.00      0.00    100.00
17:04:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:04:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:04:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:04:08          3      0.00      0.00      0.00      0.00      0.00    100.00

17:04:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:09        all      0.00      0.00      0.00      0.00      0.00    100.00
17:04:09          0      0.79      0.00      0.00      0.00      0.00     99.21
17:04:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:04:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:04:09          3      0.00      0.00      0.99      0.00      0.00     99.01

17:04:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:10        all      1.20      0.00      0.48      0.00      0.00     98.31
17:04:10          0      2.94      0.00      0.00      0.00      0.00     97.06
17:04:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:04:10          2      0.96      0.00      0.00      0.00      0.00     99.04
17:04:10          3      0.98      0.00      0.98      0.00      0.00     98.04

17:04:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:11        all      1.70      0.00      1.22      0.24      0.00     96.84
17:04:11          0      1.92      0.00      1.92      0.00      0.00     96.15
17:04:11          1      1.94      0.00      0.97      0.00      0.00     97.09
17:04:11          2      0.96      0.00      0.00      0.00      0.00     99.04
17:04:11          3      1.96      0.00      2.94      0.98      0.00     94.12

17:04:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:12        all      1.94      0.00      2.91      0.73      0.00     94.42
17:04:12          0      2.97      0.00      0.00      0.00      0.00     97.03
```

```
17:04:12          1      0.00      0.00      0.98      0.00      0.00     99.02
17:04:12          2      0.95      0.00      1.90      0.00      0.00     97.14
17:04:12          3      2.94      0.00      8.82      1.96      0.00     86.27

17:04:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:13        all      3.44      0.00      3.19      0.49      0.00     92.87
17:04:13          0      3.00      0.00      2.00      0.00      0.00     95.00
17:04:13          1      2.91      0.00      2.91      0.00      0.00     94.17
17:04:13          2      4.85      0.00      0.00      0.00      0.00     95.15
17:04:13          3      2.97      0.00      7.92      2.97      0.00     86.14

17:04:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:14        all      3.41      0.00      3.41      0.97      0.00     92.21
17:04:14          0      3.92      0.00      1.96      0.00      0.00     94.12
17:04:14          1      4.81      0.00      0.96      0.00      0.00     94.23
17:04:14          2      1.90      0.00      1.90      0.00      0.00     96.19
17:04:14          3      2.97      0.00      8.91      3.96      0.00     84.16

17:04:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:15        all      3.93      0.00      3.19      1.47      0.00     91.40
17:04:15          0      3.88      0.00      3.88      0.00      0.00     92.23
17:04:15          1      2.97      0.00      0.99      0.00      0.00     96.04
17:04:15          2      4.85      0.00      1.94      0.00      0.00     93.20
17:04:15          3      3.96      0.00      7.92      4.95      0.00     83.17

17:04:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:16        all      2.69      0.00      3.42      0.98      0.00     92.91
17:04:16          0      4.90      0.00      1.96      0.00      0.00     93.14
17:04:16          1      2.97      0.00      2.97      0.00      0.00     94.06
17:04:16          2      1.92      0.00      1.92      0.00      0.00     96.15
17:04:16          3      1.96      0.00      4.90      3.92      0.00     89.22

17:04:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:17        all      2.92      0.00      2.19      1.46      0.00     93.43
17:04:17          0      2.91      0.00      3.88      0.00      0.00     93.20
17:04:17          1      1.96      0.00      0.98      0.98      0.00     96.08
17:04:17          2      2.83      0.00      1.89      0.00      0.00     95.28
17:04:17          3      2.97      0.00      2.97      5.94      0.00     88.12

17:04:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:18        all      3.70      0.00      2.96      0.99      0.00     92.35
17:04:18          0      3.96      0.00      2.97      0.00      0.00     93.07
17:04:18          1      5.88      0.00      0.00      0.00      0.00     94.12
17:04:18          2      2.97      0.00      1.98      0.00      0.00     95.05
17:04:18          3      3.00      0.00      6.00      3.00      0.00     88.00

17:04:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:19        all      3.45      0.00      4.19      0.99      0.00     91.38
17:04:19          0      5.94      0.00      5.94      0.00      0.00     88.12
17:04:19          1      3.96      0.00      1.98      0.00      0.00     94.06
17:04:19          2      0.99      0.00      0.00      0.00      0.00     99.01
17:04:19          3      2.97      0.00      7.92      3.96      0.00     85.15

17:04:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:20        all      2.49      0.00      2.24      1.49      0.00     93.78
17:04:20          0      4.00      0.00      1.00      0.00      0.00     95.00
17:04:20          1      3.00      0.00      2.00      0.00      0.00     95.00
17:04:20          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:04:20          3      2.97      0.00      6.93      6.93      0.00     83.17

17:04:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:21        all      4.43      0.00      3.69      0.99      0.00     90.89
17:04:21          0      2.94      0.00      3.92      0.00      0.00     93.14
17:04:21          1      6.86      0.00      5.88      0.98      0.00     86.27
17:04:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:04:21          3      6.93      0.00      4.95      2.97      0.00     85.15

17:04:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:22        all      4.14      0.00      4.87      0.97      0.00     90.02
17:04:22          0      3.92      0.00      2.94      0.00      0.00     93.14
17:04:22          1      5.88      0.00      5.88      0.00      0.00     88.24
17:04:22          2      1.94      0.00      0.97      0.00      0.00     97.09
17:04:22          3      4.85      0.00      9.71      2.91      0.00     82.52

17:04:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:23        all      3.48      0.00      1.74      1.24      0.00     93.53
17:04:23          0      3.03      0.00      0.00      0.00      0.00     96.97
17:04:23          1      5.88      0.00      1.96      0.98      0.00     91.18
17:04:23          2      1.98      0.00      0.99      0.00      0.00     97.03
17:04:23          3      3.96      0.00      2.97      3.96      0.00     89.11

17:04:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:24        all      2.83      0.00      2.36      1.42      0.00     93.40
17:04:24          0      0.00      0.00      0.95      0.00      0.00     99.05
17:04:24          1      4.81      0.00      1.92      0.96      0.00     92.31
17:04:24          2      2.63      0.00      2.63      0.00      0.00     94.74
17:04:24          3      2.94      0.00      5.88      4.90      0.00     86.27

17:04:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:25        all      3.41      0.00      3.41      1.22      0.00     91.95
17:04:25          0      1.96      0.00      1.96      0.00      0.00     96.08
17:04:25          1      4.85      0.00      4.85      0.00      0.00     90.29
17:04:25          2      2.86      0.00      1.90      0.00      0.00     95.24
17:04:25          3      3.96      0.00      6.93      4.95      0.00     84.16

17:04:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:26        all      4.41      0.00      2.21      1.47      0.00     91.91
17:04:26          0      1.96      0.00      0.00      0.00      0.00     98.04
17:04:26          1      7.84      0.00      1.96      0.98      0.00     89.22
17:04:26          2      4.81      0.00      1.92      0.00      0.00     93.27
17:04:26          3      3.92      0.00      3.92      5.88      0.00     86.27

17:04:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:27        all      3.65      0.00      2.92      2.19      0.00     91.24
17:04:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:04:27          1      5.71      0.00      3.81      0.95      0.00     89.52
17:04:27          2      3.88      0.00      2.91      0.97      0.00     92.23
17:04:27          3      4.95      0.00      3.96      6.93      0.00     84.16

17:04:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:28        all      4.40      0.00      3.42      1.47      0.00     90.71
17:04:28          0      1.98      0.00      1.98      0.00      0.00     96.04
17:04:28          1      5.77      0.00      4.81      0.00      0.00     89.42
17:04:28          2      1.96      0.00      0.98      0.00      0.00     97.06
17:04:28          3      7.00      0.00      6.00      6.00      0.00     81.00
```

```
17:04:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:29        all      3.86      0.00      3.37      1.69      0.00     91.08
17:04:29          0      3.88      0.00      0.00      0.00      0.00     96.12
17:04:29          1      5.83      0.00      2.91      0.00      0.00     91.26
17:04:29          2      2.83      0.00      1.89      0.00      0.00     95.28
17:04:29          3      2.97      0.00      7.92      5.94      0.00     83.17

17:04:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:30        all      3.43      0.00      1.96      0.49      0.00     94.12
17:04:30          0      3.88      0.00      2.91      0.00      0.00     93.20
17:04:30          1      4.95      0.00      0.99      0.00      0.00     94.06
17:04:30          2      1.96      0.00      0.00      0.00      0.00     98.04
17:04:30          3      2.94      0.00      4.90      1.96      0.00     90.20

17:04:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:31        all      3.17      0.00      3.41      1.46      0.00     91.95
17:04:31          0      0.98      0.00      1.96      0.00      0.00     97.06
17:04:31          1      6.73      0.00      1.92      0.96      0.00     90.38
17:04:31          2      0.95      0.00      1.90      0.00      0.00     97.14
17:04:31          3      4.95      0.00      7.92      4.95      0.00     82.18

17:04:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:32        all      3.89      0.00      3.41      1.70      0.00     91.00
17:04:32          0      1.00      0.00      1.00      0.00      0.00     98.00
17:04:32          1      4.81      0.00      0.96      0.96      0.00     93.27
17:04:32          2      3.77      0.00      1.89      0.00      0.00     94.34
17:04:32          3      6.00      0.00     10.00      6.00      0.00     78.00

17:04:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:33        all      2.21      0.00      3.19      0.98      0.00     93.61
17:04:33          0      0.97      0.00      2.91      0.00      0.00     96.12
17:04:33          1      5.00      0.00      3.00      0.00      0.00     92.00
17:04:33          2      1.00      0.00      1.00      0.00      0.00     98.00
17:04:33          3      1.96      0.00      4.90      3.92      0.00     89.22

17:04:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:34        all      2.68      0.00      2.19      1.70      0.00     93.43
17:04:34          0      2.94      0.00      1.96      0.00      0.00     95.10
17:04:34          1      0.00      0.00      1.92      1.92      0.00     96.15
17:04:34          2      1.89      0.00      1.89      0.00      0.00     96.23
17:04:34          3      5.88      0.00      2.94      5.88      0.00     85.29

17:04:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:35        all      2.44      0.00      3.17      1.22      0.00     93.17
17:04:35          0      0.00      0.00      0.98      0.00      0.00     99.02
17:04:35          1      1.96      0.00      2.94      1.96      0.00     93.14
17:04:35          2      0.96      0.00      0.96      0.00      0.00     98.08
17:04:35          3      6.00      0.00      8.00      2.00      0.00     84.00

17:04:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:36        all      3.69      0.00      2.21      1.23      0.00     92.87
17:04:36          0      3.92      0.00      1.96      0.00      0.00     94.12
17:04:36          1      3.96      0.00      0.00      0.00      0.00     96.04
17:04:36          2      1.96      0.00      0.00      0.00      0.00     98.04
17:04:36          3      5.88      0.00      6.86      4.90      0.00     82.35

17:04:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:37        all      3.69      0.00      3.44      1.23      0.00     91.65
```

```
17:04:37          0      2.91      0.00      1.94      0.00      0.00     95.15
17:04:37          1      6.12      0.00      2.04      1.02      0.00     90.82
17:04:37          2      0.00      0.00      0.94      0.00      0.00     99.06
17:04:37          3      4.95      0.00      9.90      3.96      0.00     81.19

17:04:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:38        all      2.40      0.00      2.40      1.68      0.00     93.53
17:04:38          0      3.88      0.00      1.94      0.00      0.00     94.17
17:04:38          1      1.85      0.00      0.93      1.85      0.00     95.37
17:04:38          2      1.92      0.00      0.96      0.00      0.00     97.12
17:04:38          3      1.98      0.00      4.95      4.95      0.00     88.12

17:04:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:39        all      2.93      0.00      2.68      1.22      0.00     93.17
17:04:39          0      3.85      0.00      1.92      0.00      0.00     94.23
17:04:39          1      0.00      0.00      1.96      0.00      0.00     98.04
17:04:39          2      1.96      0.00      0.98      0.00      0.00     97.06
17:04:39          3      6.73      0.00      6.73      4.81      0.00     81.73

17:04:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:40        all      3.17      0.00      2.68      0.73      0.00     93.41
17:04:40          0      2.97      0.00      0.99      0.00      0.00     96.04
17:04:40          1      3.85      0.00      2.88      0.96      0.00     92.31
17:04:40          2      0.94      0.00      0.94      0.00      0.00     98.11
17:04:40          3      5.00      0.00      7.00      2.00      0.00     86.00

17:04:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:41        all      4.11      0.00      3.14      0.48      0.00     92.27
17:04:41          0      2.00      0.00      1.00      1.00      0.00     96.00
17:04:41          1      1.92      0.00      1.92      0.00      0.00     96.15
17:04:41          2      3.77      0.00      0.00      0.00      0.00     96.23
17:04:41          3      8.82      0.00      8.82      0.98      0.00     81.37

17:04:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:42        all      4.66      0.00      1.96      0.49      0.00     92.89
17:04:42          0      7.69      0.00      1.92      0.00      0.00     90.38
17:04:42          1      2.00      0.00      0.00      0.00      0.00     98.00
17:04:42          2      1.94      0.00      0.00      0.00      0.00     98.06
17:04:42          3      7.00      0.00      5.00      2.00      0.00     86.00

17:04:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:43        all      4.93      0.00      4.43      1.48      0.00     89.16
17:04:43          0      7.84      0.00      3.92      0.00      0.00     88.24
17:04:43          1      1.96      0.00      5.88      1.96      0.00     90.20
17:04:43          2      4.90      0.00      0.98      0.00      0.00     94.12
17:04:43          3      4.95      0.00      6.93      4.95      0.00     83.17

17:04:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:44        all      2.91      0.00      3.63      0.73      0.00     92.74
17:04:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:04:44          1      0.98      0.00      1.96      0.00      0.00     97.06
17:04:44          2      0.94      0.00      0.94      0.00      0.00     98.11
17:04:44          3      8.82      0.00     11.76      2.94      0.00     76.47

17:04:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:45        all      3.89      0.00      3.16      0.73      0.00     92.21
17:04:45          0      5.66      0.00      1.89      0.00      0.00     92.45
17:04:45          1      3.85      0.00      2.88      0.00      0.00     93.27
```

```
17:04:45          2      2.02      0.00      0.00      0.00      0.00     97.98
17:04:45          3      3.96      0.00      7.92      1.98      0.00     86.14

17:04:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:46        all      4.89      0.00      3.42      0.73      0.00     90.95
17:04:46          0      2.97      0.00      1.98      0.00      0.00     95.05
17:04:46          1      6.73      0.00      2.88      0.00      0.00     90.38
17:04:46          2      5.66      0.00      3.77      0.00      0.00     90.57
17:04:46          3      3.96      0.00      5.94      2.97      0.00     87.13

17:04:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:47        all      2.68      0.00      2.68      1.46      0.00     93.17
17:04:47          0      0.97      0.00      0.97      0.00      0.00     98.06
17:04:47          1      3.81      0.00      1.90      1.90      0.00     92.38
17:04:47          2      3.96      0.00      1.98      0.99      0.00     93.07
17:04:47          3      2.97      0.00      5.94      3.96      0.00     87.13

17:04:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:49        all      2.19      0.00      2.68      0.49      0.00     94.65
17:04:49          0      0.96      0.00      0.96      0.00      0.00     98.08
17:04:49          1      0.00      0.00      0.99      0.00      0.00     99.01
17:04:49          2      1.96      0.00      0.00      0.00      0.00     98.04
17:04:49          3      3.96      0.00      6.93      2.97      0.00     86.14

17:04:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:50        all      4.69      0.00      2.96      1.23      0.00     91.11
17:04:50          0      4.95      0.00      1.98      0.00      0.00     93.07
17:04:50          1      6.80      0.00      4.85      0.00      0.00     88.35
17:04:50          2      3.88      0.00      0.97      0.00      0.00     95.15
17:04:50          3      4.00      0.00      4.00      5.00      0.00     87.00

17:04:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:51        all      1.72      0.00      2.46      0.99      0.00     94.83
17:04:51          0      1.92      0.00      0.96      0.00      0.00     97.12
17:04:51          1      2.00      0.00      1.00      0.00      0.00     97.00
17:04:51          2      0.97      0.00      0.97      0.00      0.00     98.06
17:04:51          3      2.97      0.00      8.91      2.97      0.00     85.15

17:04:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:51        all      3.91      0.00      2.93      0.98      0.00     92.18
17:04:51          0      5.88      0.00      2.94      0.00      0.00     91.18
17:04:51          1      2.97      0.00      2.97      0.00      0.00     94.06
17:04:51          2      1.94      0.00      0.97      0.00      0.00     97.09
17:04:51          3      4.90      0.00      3.92      3.92      0.00     87.25

17:04:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:52        all      3.21      0.00      2.22      1.23      0.00     93.33
17:04:52          0      3.92      0.00      1.96      0.00      0.00     94.12
17:04:52          1      2.94      0.00      1.96      1.96      0.00     93.14
17:04:52          2      1.96      0.00      2.94      0.00      0.00     95.10
17:04:52          3      4.04      0.00      2.02      4.04      0.00     89.90

17:04:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:04:53        all      3.19      0.00      2.21      0.74      0.00     93.87
17:04:53          0      2.00      0.00      3.00      0.00      0.00     95.00
17:04:53          1      0.00      0.00      0.99      0.00      0.00     99.01
17:04:53          2      2.88      0.00      0.00      0.00      0.00     97.12
17:04:53          3      6.00      0.00      5.00      2.00      0.00     87.00
```

17:04:53	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:04:54	all	2.91	0.00	2.66	0.73	0.00	93.70
17:04:54	0	2.88	0.00	2.88	0.00	0.00	94.23
17:04:54	1	1.92	0.00	0.96	0.00	0.00	97.12
17:04:54	2	3.77	0.00	1.89	0.00	0.00	94.34
17:04:54	3	3.92	0.00	4.90	3.92	0.00	87.25
17:04:54	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:04:55	all	2.96	0.00	2.96	1.48	0.00	92.61
17:04:55	0	1.00	0.00	2.00	0.00	0.00	97.00
17:04:55	1	2.97	0.00	1.98	0.00	0.00	95.05
17:04:55	2	3.85	0.00	2.88	0.00	0.00	93.27
17:04:55	3	4.00	0.00	6.00	5.00	0.00	85.00
17:04:55	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:04:57	all	3.91	0.00	2.93	1.47	0.00	91.69
17:04:57	0	3.92	0.00	1.96	0.00	0.00	94.12
17:04:57	1	2.91	0.00	1.94	0.00	0.00	95.15
17:04:57	2	4.90	0.00	1.96	0.00	0.00	93.14
17:04:57	3	3.96	0.00	4.95	4.95	0.00	86.14
17:04:57	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:04:58	all	2.70	0.00	2.94	0.98	0.00	93.38
17:04:58	0	5.88	0.00	0.98	0.00	0.00	93.14
17:04:58	1	2.88	0.00	0.96	0.96	0.00	95.19
17:04:58	2	0.97	0.00	0.97	0.00	0.00	98.06
17:04:58	3	1.96	0.00	9.80	3.92	0.00	84.31
17:04:58	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:04:59	all	4.12	0.00	1.69	1.69	0.00	92.49
17:04:59	0	3.96	0.00	0.99	0.00	0.00	95.05
17:04:59	1	4.76	0.00	1.90	0.00	0.00	93.33
17:04:59	2	4.85	0.00	0.00	0.00	0.00	95.15
17:04:59	3	2.00	0.00	3.00	6.00	0.00	89.00
17:04:59	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:04:59	all	3.14	0.00	2.17	1.21	0.00	93.48
17:04:59	0	3.81	0.00	0.95	0.00	0.00	95.24
17:04:59	1	0.99	0.00	1.98	0.99	0.00	96.04
17:04:59	2	3.67	0.00	0.92	0.00	0.00	95.41
17:04:59	3	3.96	0.00	4.95	4.95	0.00	86.14
17:04:59	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:05:01	all	2.21	0.00	1.96	0.98	0.00	94.85
17:05:01	0	0.99	0.00	0.99	0.00	0.00	98.02
17:05:01	1	2.86	0.00	0.95	0.00	0.00	96.19
17:05:01	2	4.90	0.00	1.96	0.00	0.00	93.14
17:05:01	3	0.99	0.00	3.96	3.96	0.00	91.09
17:05:01	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:05:02	all	1.93	0.00	1.93	0.96	0.00	95.18
17:05:02	0	2.91	0.00	0.97	0.00	0.00	96.12
17:05:02	1	0.95	0.00	2.86	0.00	0.00	96.19
17:05:02	2	1.94	0.00	1.94	0.00	0.00	96.12
17:05:02	3	1.94	0.00	2.91	2.91	0.00	92.23
17:05:02	CPU	%user	%nice	%system	%iowait	%steal	%idle

```
17:05:03        all      1.22      0.00      0.73      0.24      0.00     97.80
17:05:03          0      1.96      0.00      0.98      0.00      0.00     97.06
17:05:03          1      1.94      0.00      1.94      0.00      0.00     96.12
17:05:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:05:03          3      0.00      0.00      0.98      0.98      0.00     98.04

17:05:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:05:04        all      0.00      0.00      0.26      0.00      0.00     99.74
17:05:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:05:04          1      0.00      0.00      0.00      0.00      0.00    100.00
17:05:04          2      0.00      0.00      0.00      0.00      0.00    100.00
17:05:04          3      0.00      0.00      0.00      0.00      0.00    100.00

17:05:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:05:05        all      0.24      0.00      0.00      0.00      0.00     99.76
17:05:05          0      0.92      0.00      0.00      0.00      0.00     99.08
17:05:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:05:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:05:05          3      0.00      0.00      0.00      0.00      0.00    100.00

17:05:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:05:06        all      0.25      0.00      0.51      0.00      0.00     99.24
17:05:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:05:06          1      0.00      0.00      1.00      0.00      0.00     99.00
17:05:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:05:06          3      0.00      0.00      0.00      0.00      0.00    100.00

17:05:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:05:07        all      0.00      0.00      0.00      0.00      0.00    100.00
17:05:07          0      0.92      0.00      0.00      0.00      0.00     99.08
17:05:07          1      0.00      0.00      0.99      0.00      0.00     99.01
17:05:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:05:07          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 42: Iostat monitoring for the 250 threads first trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.91

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.43    0.05    0.41     1.54    14.71    35.57     0.00    4.24   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.24    0.00    0.15    0.00    0.00   99.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     9.58    0.00    1.40     0.00    87.82    62.86     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.83    0.00    2.74    0.73    0.00   93.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    2.60     0.00    25.60     9.85     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.15    0.00    3.00    1.18    0.00   92.67

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.41    0.00    3.22    1.17    0.00   92.20

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           4.10    0.00    2.78    1.46    0.00   91.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.93    0.00    2.93    1.41    0.00   92.73

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.17    0.00    2.78    1.22    0.00   92.84

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    67.20    0.00    6.40     0.00   588.80    92.00     0.00    0.25   0.12   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           4.01    0.00    3.23    0.78    0.00   91.98

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    12.80    0.00    2.20     0.00   120.00    54.55     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.37    0.00    2.83    1.03    0.00   92.77

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    14.80    0.00    2.60     0.00   139.20    53.54     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.99    0.00    2.50    0.93    0.00   93.58

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.40    0.00    1.20     0.00    28.80    24.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.33    0.00    2.54    1.32    0.00   92.81

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.87    0.00    0.76    0.31    0.00   98.07

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00
```

Table 43: Jmeter 250 threads test second tria Only Apachel

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	200	73	42	356
19033-h-0.htm	200	319	101	992
1.css	200	59	43	382
i001_th.jpg	200	68	44	494
pgepub.css	200	61	43	309
0.css	200	61	44	362
i002_th.jpg	200	67	45	364
title.jpg	200	61	43	212
plate02_th.jpg	200	172	59	710
i008_th.jpg	200	77	46	243
plate01_th.jpg	200	166	53	531
i009_th.jpg	200	94	48	354
cover_th.jpg	200	146	52	431
i005_th.jpg	200	79	47	418
i003_th.jpg	200	77	46	261
i015_th.jpg	200	75	46	397
i011_th.jpg	200	81	46	423
i017_th.jpg	200	99	47	530
plate04_th.jpg	200	176	58	596
i022_th.jpg	200	79	45	261
i007_th.jpg	200	59	45	161
i020_th.jpg	200	77	47	340
i004_th.jpg	200	67	45	479
plate03_th.jpg	200	160	60	479
i018_th.jpg	200	76	45	465
i019_th.jpg	200	63	44	352
i016_th.jpg	200	76	45	249
i010_th.jpg	200	58	44	120
i012_th.jpg	200	92	47	416
i014_th.jpg	200	82	45	374
i021_th.jpg	200	67	46	287
i013_th.jpg	200	77	45	364
i006_th.jpg	200	92	47	413
TOTAL	6600	95	42	992

Table 44: Systat monitoring for the 250 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:11:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:45        all      0.00      0.00      0.30      0.00      0.00     99.70
17:11:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:11:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:11:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:11:45          3      0.00      0.00      1.00      0.00      0.00     99.00

17:11:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:46        all      0.00      0.00      0.00      0.00      0.00    100.00
17:11:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:11:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:11:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:11:46          3      0.00      0.00      0.00      0.00      0.00    100.00

17:11:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:47        all      0.00      0.00      0.25      0.00      0.00     99.75
17:11:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:11:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:11:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:11:47          3      0.00      0.00      0.00      0.00      0.00    100.00

17:11:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:48        all      0.00      0.00      0.00      0.00      0.00    100.00
17:11:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:11:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:11:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:11:48          3      0.00      0.00      1.00      0.00      0.00     99.00

17:11:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:49        all      0.00      0.00      0.22      0.00      0.00     99.78
17:11:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:11:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:11:49          2      0.81      0.00      0.00      0.00      0.00     99.19
17:11:49          3      0.00      0.00      0.00      0.00      0.00    100.00

17:11:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:50        all      0.47      0.00      0.70      0.23      0.00     98.59
17:11:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:11:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:11:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:11:50          3      0.98      0.00      2.94      0.98      0.00     95.10

17:11:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:51        all      0.49      0.00      0.74      0.25      0.00     98.52
17:11:51          0      0.00      0.00      0.99      0.00      0.00     99.01
17:11:51          1      0.98      0.00      0.00      0.00      0.00     99.02
17:11:51          2      0.00      0.00      0.99      0.00      0.00     99.01
17:11:51          3      0.97      0.00      1.94      0.97      0.00     96.12

17:11:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:52        all      0.74      0.00      1.23      0.25      0.00     97.78
17:11:52          0      0.97      0.00      0.97      0.00      0.00     98.06
```

```
17:11:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:11:52          2      0.95      0.00      0.95      0.00      0.00     98.10
17:11:52          3      1.01      0.00      3.03      1.01      0.00     94.95

17:11:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:53        all      1.23      0.00      1.47      0.98      0.00     96.31
17:11:53          0      0.98      0.00      0.00      0.00      0.00     99.02
17:11:53          1      3.03      0.00      2.02      0.00      0.00     94.95
17:11:53          2      0.00      0.00      0.00      0.97      0.00     99.03
17:11:53          3      0.99      0.00      1.98      3.96      0.00     93.07

17:11:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:54        all      2.95      0.00      3.19      0.98      0.00     92.87
17:11:54          0      0.97      0.00      1.94      0.00      0.00     97.09
17:11:54          1      3.92      0.00      1.96      0.00      0.00     94.12
17:11:54          2      0.00      0.00      2.94      0.00      0.00     97.06
17:11:54          3      7.00      0.00      6.00      2.00      0.00     85.00

17:11:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:55        all      2.97      0.00      3.22      0.74      0.00     93.07
17:11:55          0      4.00      0.00      4.00      0.00      0.00     92.00
17:11:55          1      4.90      0.00      2.94      0.98      0.00     91.18
17:11:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:11:55          3      3.88      0.00      7.77      2.91      0.00     85.44

17:11:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:56        all      3.08      0.00      1.79      0.77      0.00     94.36
17:11:56          0      4.95      0.00      1.98      0.00      0.00     93.07
17:11:56          1      3.96      0.00      0.99      0.99      0.00     94.06
17:11:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:11:56          3      2.00      0.00      5.00      2.00      0.00     91.00

17:11:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:57        all      3.34      0.00      3.34      1.43      0.00     91.89
17:11:57          0      1.94      0.00      1.94      0.00      0.00     96.12
17:11:57          1      8.00      0.00      4.00      0.00      0.00     88.00
17:11:57          2      0.88      0.00      0.88      0.00      0.00     98.25
17:11:57          3      3.92      0.00      5.88      5.88      0.00     84.31

17:11:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:58        all      4.70      0.00      2.72      1.49      0.00     91.09
17:11:58          0      4.90      0.00      0.00      0.00      0.00     95.10
17:11:58          1      8.08      0.00      3.03      2.02      0.00     86.87
17:11:58          2      1.01      0.00      0.00      0.00      0.00     98.99
17:11:58          3      4.00      0.00      6.00      3.00      0.00     87.00

17:11:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:11:59        all      3.44      0.00      3.69      1.47      0.00     91.40
17:11:59          0      3.85      0.00      1.92      0.00      0.00     94.23
17:11:59          1      5.71      0.00      3.81      1.90      0.00     88.57
17:11:59          2      0.99      0.00      0.99      0.00      0.00     98.02
17:11:59          3      3.92      0.00     10.78      4.90      0.00     80.39

17:11:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:00        all      3.19      0.00      1.97      1.47      0.00     93.37
17:12:00          0      2.00      0.00      0.00      0.00      0.00     98.00
17:12:00          1      3.92      0.00      1.96      0.98      0.00     93.14
17:12:00          2      0.99      0.00      0.00      0.00      0.00     99.01
```

```
17:12:00          3      4.95      0.00      4.95      4.95      0.00     85.15

17:12:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:01        all      3.91      0.00      2.20      1.22      0.00     92.67
17:12:01          0      3.85      0.00      0.96      0.00      0.00     95.19
17:12:01          1      4.95      0.00      2.97      0.99      0.00     91.09
17:12:01          2      1.94      0.00      0.97      0.00      0.00     97.09
17:12:01          3      4.90      0.00      3.92      4.90      0.00     86.27

17:12:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:02        all      4.40      0.00      3.67      1.22      0.00     90.71
17:12:02          0      1.98      0.00      0.99      0.00      0.00     97.03
17:12:02          1      6.80      0.00      4.85      0.00      0.00     88.35
17:12:02          2      1.92      0.00      1.92      0.00      0.00     96.15
17:12:02          3      6.93      0.00      6.93      4.95      0.00     81.19

17:12:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:03        all      3.41      0.00      1.46      1.46      0.00     93.67
17:12:03          0      1.94      0.00      0.00      0.00      0.00     98.06
17:12:03          1      4.90      0.00      1.96      0.98      0.00     92.16
17:12:03          2      2.83      0.00      0.00      0.00      0.00     97.17
17:12:03          3      5.00      0.00      4.00      4.00      0.00     87.00

17:12:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:04        all      6.80      0.00      2.91      0.97      0.00     89.32
17:12:04          0      0.00      0.00      2.00      0.00      0.00     98.00
17:12:04          1      8.65      0.00      0.96      0.96      0.00     89.42
17:12:04          2      4.72      0.00      0.94      0.00      0.00     94.34
17:12:04          3     11.76      0.00      7.84      3.92      0.00     76.47

17:12:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:05        all      3.91      0.00      3.18      1.22      0.00     91.69
17:12:05          0      1.92      0.00      0.00      0.00      0.00     98.08
17:12:05          1      2.91      0.00      2.91      0.00      0.00     94.17
17:12:05          2      7.77      0.00      2.91      0.00      0.00     89.32
17:12:05          3      5.05      0.00      6.06      4.04      0.00     84.85

17:12:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:06        all      2.66      0.00      3.39      1.21      0.00     92.74
17:12:06          0      1.96      0.00      0.98      0.00      0.00     97.06
17:12:06          1      0.94      0.00      4.72      0.00      0.00     94.34
17:12:06          2      2.94      0.00      0.98      0.00      0.00     96.08
17:12:06          3      4.95      0.00      6.93      3.96      0.00     84.16

17:12:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:07        all      4.37      0.00      3.40      1.46      0.00     90.78
17:12:07          0      0.00      0.00      0.99      0.00      0.00     99.01
17:12:07          1      4.76      0.00      1.90      0.95      0.00     92.38
17:12:07          2      4.81      0.00      0.96      0.00      0.00     94.23
17:12:07          3      6.80      0.00      9.71      6.80      0.00     76.70

17:12:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:08        all      3.43      0.00      2.45      1.47      0.00     92.65
17:12:08          0      0.00      0.00      0.99      0.00      0.00     99.01
17:12:08          1      4.72      0.00      1.89      0.94      0.00     92.45
17:12:08          2      4.90      0.00      1.96      0.00      0.00     93.14
17:12:08          3      4.95      0.00      5.94      3.96      0.00     85.15
```

```
17:12:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:09        all      2.91      0.00      2.42      1.21      0.00     93.46
17:12:09          0      0.98      0.00      0.98      0.00      0.00     98.04
17:12:09          1      1.92      0.00      0.96      0.96      0.00     96.15
17:12:09          2      2.86      0.00      0.95      0.00      0.00     96.19
17:12:09          3      4.00      0.00      6.00      4.00      0.00     86.00

17:12:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:10        all      2.69      0.00      3.18      1.71      0.00     92.42
17:12:10          0      1.00      0.00      0.00      0.00      0.00     99.00
17:12:10          1      2.88      0.00      0.96      0.00      0.00     96.15
17:12:10          2      3.88      0.00      2.91      0.00      0.00     93.20
17:12:10          3      4.85      0.00      8.74      6.80      0.00     79.61

17:12:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:11        all      2.93      0.00      3.18      1.47      0.00     92.42
17:12:11          0      0.97      0.00      0.97      0.00      0.00     98.06
17:12:11          1      2.91      0.00      0.97      0.00      0.00     96.12
17:12:11          2      3.92      0.00      1.96      0.00      0.00     94.12
17:12:11          3      3.96      0.00      9.90      5.94      0.00     80.20

17:12:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:12        all      3.91      0.00      2.20      1.22      0.00     92.67
17:12:12          0      3.92      0.00      0.98      0.00      0.00     95.10
17:12:12          1      4.81      0.00      0.96      0.96      0.00     93.27
17:12:12          2      3.92      0.00      0.98      0.00      0.00     95.10
17:12:12          3      2.00      0.00      5.00      4.00      0.00     89.00

17:12:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:13        all      3.67      0.00      1.71      1.71      0.00     92.91
17:12:13          0      3.88      0.00      1.94      0.00      0.00     94.17
17:12:13          1      3.92      0.00      1.96      0.00      0.00     94.12
17:12:13          2      2.91      0.00      0.97      0.00      0.00     96.12
17:12:13          3      3.96      0.00      2.97      5.94      0.00     87.13

17:12:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:14        all      2.88      0.00      3.12      0.96      0.00     93.05
17:12:14          0      1.96      0.00      0.98      0.00      0.00     97.06
17:12:14          1      2.86      0.00      2.86      0.00      0.00     94.29
17:12:14          2      0.94      0.00      0.00      0.00      0.00     99.06
17:12:14          3      5.83      0.00      8.74      3.88      0.00     81.55

17:12:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:15        all      3.90      0.00      3.17      1.46      0.00     91.46
17:12:15          0      1.94      0.00      1.94      0.00      0.00     96.12
17:12:15          1      2.86      0.00      0.95      0.95      0.00     95.24
17:12:15          2      5.83      0.00      2.91      0.00      0.00     91.26
17:12:15          3      5.00      0.00      8.00      5.00      0.00     82.00

17:12:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:16        all      2.44      0.00      3.18      0.73      0.00     93.64
17:12:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:12:16          1      5.56      0.00      2.78      0.93      0.00     90.74
17:12:16          2      1.96      0.00      1.96      0.00      0.00     96.08
17:12:16          3      1.98      0.00      6.93      2.97      0.00     88.12

17:12:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:17        all      3.69      0.00      3.45      0.49      0.00     92.36
```

```
17:12:17          0      1.00      0.00      0.00      0.00      0.00     99.00
17:12:17          1      5.77      0.00      2.88      0.96      0.00     90.38
17:12:17          2      4.90      0.00      2.94      0.00      0.00     92.16
17:12:17          3      4.00      0.00      8.00      1.00      0.00     87.00

17:12:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:18        all      2.18      0.00      2.67      0.73      0.00     94.42
17:12:18          0      0.97      0.00      1.94      0.00      0.00     97.09
17:12:18          1      3.81      0.00      0.95      0.00      0.00     95.24
17:12:18          2      1.96      0.00      0.00      0.00      0.00     98.04
17:12:18          3      1.98      0.00      5.94      2.97      0.00     89.11

17:12:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:19        all      2.43      0.00      2.43      1.21      0.00     93.93
17:12:19          0      0.97      0.00      0.97      0.00      0.00     98.06
17:12:19          1      2.91      0.00      0.97      0.97      0.00     95.15
17:12:19          2      0.96      0.00      0.00      0.96      0.00     98.08
17:12:19          3      3.88      0.00      9.71      2.91      0.00     83.50

17:12:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:20        all      3.66      0.00      2.93      0.49      0.00     92.93
17:12:20          0      3.81      0.00      0.00      0.00      0.00     96.19
17:12:20          1      4.81      0.00      1.92      0.96      0.00     92.31
17:12:20          2      3.92      0.00      0.00      0.00      0.00     96.08
17:12:20          3      3.03      0.00      9.09      1.01      0.00     86.87

17:12:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:21        all      4.39      0.00      4.15      0.73      0.00     90.73
17:12:21          0      2.83      0.00      2.83      0.00      0.00     94.34
17:12:21          1      6.86      0.00      4.90      0.00      0.00     88.24
17:12:21          2      1.94      0.00      0.97      0.00      0.00     97.09
17:12:21          3      5.94      0.00      8.91      3.96      0.00     81.19

17:12:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:22        all      3.66      0.00      2.44      0.98      0.00     92.93
17:12:22          0      1.94      0.00      0.97      0.00      0.00     97.09
17:12:22          1      4.85      0.00      2.91      0.97      0.00     91.26
17:12:22          2      1.98      0.00      0.00      0.00      0.00     98.02
17:12:22          3      5.00      0.00      6.00      2.00      0.00     87.00

17:12:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:23        all      3.40      0.00      3.40      0.49      0.00     92.72
17:12:23          0      2.88      0.00      0.96      0.00      0.00     96.15
17:12:23          1      3.85      0.00      2.88      0.00      0.00     93.27
17:12:23          2      1.96      0.00      0.98      0.00      0.00     97.06
17:12:23          3      5.00      0.00      8.00      1.00      0.00     86.00

17:12:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:24        all      3.92      0.00      2.70      0.00      0.00     93.38
17:12:24          0      1.96      0.00      0.98      0.00      0.00     97.06
17:12:24          1      4.90      0.00      1.96      0.00      0.00     93.14
17:12:24          2      3.81      0.00      0.95      0.00      0.00     95.24
17:12:24          3      5.83      0.00      8.74      0.97      0.00     84.47

17:12:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:25        all      4.63      0.00      2.93      0.98      0.00     91.46
17:12:25          0      0.99      0.00      1.98      0.00      0.00     97.03
17:12:25          1      6.80      0.00      2.91      0.00      0.00     90.29
```

```
17:12:25          2      4.81      0.00      2.88      0.00      0.00     92.31
17:12:25          3      5.94      0.00      2.97      2.97      0.00     88.12

17:12:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:26        all      3.16      0.00      2.43      0.49      0.00     93.92
17:12:26          0      0.95      0.00      1.90      0.00      0.00     97.14
17:12:26          1      4.81      0.00      2.88      0.96      0.00     91.35
17:12:26          2      1.96      0.00      0.98      0.00      0.00     97.06
17:12:26          3      4.00      0.00      3.00      3.00      0.00     90.00

17:12:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:27        all      4.15      0.00      2.68      1.46      0.00     91.71
17:12:27          0      2.00      0.00      0.00      0.00      0.00     98.00
17:12:27          1      6.80      0.00      1.94      0.00      0.00     91.26
17:12:27          2      3.81      0.00      2.86      0.00      0.00     93.33
17:12:27          3      2.97      0.00      6.93      4.95      0.00     85.15

17:12:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:28        all      3.37      0.00      2.65      0.96      0.00     93.01
17:12:28          0      0.94      0.00      0.94      0.00      0.00     98.11
17:12:28          1      6.67      0.00      2.86      0.95      0.00     89.52
17:12:28          2      1.90      0.00      0.95      0.00      0.00     97.14
17:12:28          3      4.95      0.00      6.93      2.97      0.00     85.15

17:12:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:29        all      3.43      0.00      1.96      0.49      0.00     94.12
17:12:29          0      2.94      0.00      0.98      0.00      0.00     96.08
17:12:29          1      5.77      0.00      3.85      0.00      0.00     90.38
17:12:29          2      1.94      0.00      0.97      0.00      0.00     97.09
17:12:29          3      4.00      0.00      2.00      2.00      0.00     92.00

17:12:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:30        all      3.41      0.00      2.92      0.97      0.00     92.70
17:12:30          0      0.99      0.00      0.99      0.00      0.00     98.02
17:12:30          1      4.95      0.00      1.98      0.99      0.00     92.08
17:12:30          2      2.88      0.00      1.92      0.00      0.00     95.19
17:12:30          3      3.92      0.00      5.88      2.94      0.00     87.25

17:12:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:31        all      3.16      0.00      3.16      1.21      0.00     92.48
17:12:31          0      1.00      0.00      0.00      0.00      0.00     99.00
17:12:31          1      5.71      0.00      3.81      0.95      0.00     89.52
17:12:31          2      1.89      0.00      0.00      0.00      0.00     98.11
17:12:31          3      3.92      0.00      8.82      3.92      0.00     83.33

17:12:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:32        all      3.67      0.00      2.69      0.73      0.00     92.91
17:12:32          0      1.96      0.00      0.00      0.00      0.00     98.04
17:12:32          1      5.83      0.00      1.94      0.97      0.00     91.26
17:12:32          2      1.92      0.00      1.92      0.00      0.00     96.15
17:12:32          3      5.05      0.00      6.06      2.02      0.00     86.87

17:12:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:12:33        all      2.44      0.00      1.71      0.24      0.00     95.61
17:12:33          0      0.96      0.00      1.92      0.00      0.00     97.12
17:12:33          1      2.94      0.00      2.94      0.00      0.00     94.12
17:12:33          2      1.94      0.00      0.00      0.00      0.00     98.06
17:12:33          3      3.96      0.00      2.97      0.00      0.00     93.07
```

17:12:33	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:12:34	all	2.42	0.00	1.69	0.97	0.00	94.93
17:12:34	0	0.95	0.00	0.00	0.00	0.00	99.05
17:12:34	1	2.88	0.00	0.96	0.96	0.00	95.19
17:12:34	2	0.97	0.00	0.00	0.00	0.00	99.03
17:12:34	3	4.00	0.00	5.00	3.00	0.00	88.00
17:12:34	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:12:35	all	2.99	0.00	2.99	1.00	0.00	93.02
17:12:35	0	1.03	0.00	0.00	1.03	0.00	97.94
17:12:35	1	4.08	0.00	3.06	1.02	0.00	91.84
17:12:35	2	2.83	0.00	0.94	0.00	0.00	96.23
17:12:35	3	5.88	0.00	6.86	3.92	0.00	83.33
17:12:35	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:12:36	all	3.32	0.00	3.08	1.42	0.00	92.18
17:12:36	0	0.95	0.00	1.90	0.00	0.00	97.14
17:12:36	1	5.45	0.00	2.73	0.91	0.00	90.91
17:12:36	2	2.86	0.00	0.95	0.00	0.00	96.19
17:12:36	3	2.94	0.00	7.84	3.92	0.00	85.29
17:12:36	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:12:37	all	2.91	0.00	2.91	1.46	0.00	92.72
17:12:37	0	0.97	0.00	0.00	0.00	0.00	99.03
17:12:37	1	3.96	0.00	0.99	0.99	0.00	94.06
17:12:37	2	3.81	0.00	2.86	0.00	0.00	93.33
17:12:37	3	2.94	0.00	7.84	4.90	0.00	84.31
17:12:37	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:12:38	all	3.18	0.00	2.20	1.71	0.00	92.91
17:12:38	0	1.94	0.00	0.97	0.00	0.00	97.09
17:12:38	1	4.85	0.00	2.91	0.00	0.00	92.23
17:12:38	2	2.86	0.00	2.86	0.00	0.00	94.29
17:12:38	3	3.92	0.00	3.92	5.88	0.00	86.27
17:12:38	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:12:39	all	3.41	0.00	2.43	1.70	0.00	92.46
17:12:39	0	2.94	0.00	0.98	0.00	0.00	96.08
17:12:39	1	2.94	0.00	0.98	0.98	0.00	95.10
17:12:39	2	4.81	0.00	0.96	0.00	0.00	94.23
17:12:39	3	2.97	0.00	5.94	6.93	0.00	84.16
17:12:39	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:12:40	all	2.70	0.00	2.21	1.47	0.00	93.61
17:12:40	0	2.00	0.00	3.00	0.00	0.00	95.00
17:12:40	1	1.96	0.00	0.98	0.00	0.00	97.06
17:12:40	2	4.81	0.00	0.96	0.00	0.00	94.23
17:12:40	3	2.91	0.00	3.88	5.83	0.00	87.38
17:12:40	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:12:41	all	1.12	0.00	0.56	0.28	0.00	98.04
17:12:41	0	1.20	0.00	0.00	0.00	0.00	98.80
17:12:41	1	0.00	0.00	0.00	0.00	0.00	100.00
17:12:41	2	1.23	0.00	0.00	0.00	0.00	98.77
17:12:41	3	0.97	0.00	1.94	0.00	0.00	97.09

Table 45: Iostat monitoring for the 250 threads second trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.91

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.43    0.05    0.41     1.54    14.75    35.58     0.00    4.22   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    11.00    0.00    0.20     0.00     1.60     8.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.39    0.10    0.00   99.31

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    1.80     0.00   104.00    57.78     0.00    0.44   0.44   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.27    0.00    2.27    0.79    0.00   94.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.00    0.00    0.60     0.00    20.80    34.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.78    0.00    2.75    1.43    0.00   92.04

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           4.29    0.00    2.97    1.27    0.00   91.47

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.21    0.00    2.87    1.41    0.00   92.50

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.46    0.00    2.68    1.22    0.00   92.64

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    2.60     0.00    28.80    11.08     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.22    0.00    3.17    0.73    0.00   92.88

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    69.80    0.00    6.80     0.00   612.80    90.12     0.01    1.65   0.12   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.80    0.00    2.68    0.63    0.00   92.88

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.41    0.00    2.73    0.92    0.00   92.94

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.92    0.00    2.39    0.93    0.00   93.77

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.56    0.00    2.07    1.28    0.00   94.09

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00
```

Table 46: Jmeter 250 threads test third trial Only Apache

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	250	100	45	1443
19033-h-0.htm	250	244	109	569
1.css	250	72	47	178
i001_th.jpg	250	75	46	170
pgepub.css	250	72	46	161
0.css	250	74	45	178
i002_th.jpg	250	73	46	275
title.jpg	250	73	44	173
plate02_th.jpg	250	134	55	438
i008_th.jpg	250	75	47	192
plate01_th.jpg	250	129	52	438
i009_th.jpg	250	77	48	198
cover_th.jpg	250	109	53	363
i005_th.jpg	250	84	47	1344
i003_th.jpg	250	79	47	1205
i015_th.jpg	250	75	47	215
i011_th.jpg	250	80	47	1243
i017_th.jpg	250	79	48	230
plate04_th.jpg	250	139	56	408
i022_th.jpg	250	72	48	160
i007_th.jpg	250	73	47	170
i020_th.jpg	250	82	48	1167
i004_th.jpg	250	76	47	187
plate03_th.jpg	250	129	56	372
i018_th.jpg	250	81	48	1273
i019_th.jpg	250	75	44	168
i016_th.jpg	250	82	47	448
i010_th.jpg	250	74	44	169
i012_th.jpg	250	81	50	306
i014_th.jpg	250	83	47	1308
i021_th.jpg	250	74	47	195
i013_th.jpg	250	77	49	179
i006_th.jpg	250	86	47	1240
TOTAL	8250	90	44	1443

Table 47: Systat monitoring for the 250 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:14:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:17        all      0.00      0.00      0.29      0.00      0.00     99.71
17:14:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:14:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:14:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:14:17          3      0.00      0.00      0.00      0.00      0.00    100.00

17:14:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:18        all      0.00      0.00      0.00      0.00      0.00    100.00
17:14:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:14:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:14:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:14:18          3      0.00      0.00      1.00      0.00      0.00     99.00

17:14:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:19        all      0.00      0.00      0.00      0.00      0.00    100.00
17:14:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:14:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:14:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:14:19          3      0.00      0.00      0.00      0.00      0.00    100.00

17:14:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:20        all      0.00      0.00      0.27      0.00      0.00     99.73
17:14:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:14:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:14:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:14:20          3      0.00      0.00      1.00      0.00      0.00     99.00

17:14:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:21        all      0.00      0.00      0.00      0.00      0.00    100.00
17:14:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:14:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:14:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:14:21          3      0.00      0.00      0.00      0.00      0.00    100.00

17:14:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:22        all      0.00      0.00      0.23      0.00      0.00     99.77
17:14:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:14:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:14:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:14:22          3      0.00      0.00      0.99      0.00      0.00     99.01

17:14:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:23        all      0.46      0.00      0.23      0.00      0.00     99.31
17:14:23          0      1.01      0.00      0.00      0.00      0.00     98.99
17:14:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:14:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:14:23          3      0.98      0.00      0.00      0.98      0.00     98.04

17:14:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:24        all      2.59      0.00      1.42      1.89      0.00     94.10
17:14:24          0      1.92      0.00      0.96      0.00      0.00     97.12
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17:14:24          1      3.60      0.00      0.00      0.00      0.00     96.40
17:14:24          2      2.80      0.00      0.93      0.00      0.00     96.26
17:14:24          3      1.96      0.00      4.90      6.86      0.00     86.27

17:14:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:25        all      3.16      0.00      2.19      1.46      0.00     93.19
17:14:25          0      2.86      0.00      0.95      0.00      0.00     96.19
17:14:25          1      1.98      0.00      0.00      0.99      0.00     97.03
17:14:25          2      1.96      0.00      1.96      0.00      0.00     96.08
17:14:25          3      4.81      0.00      6.73      5.77      0.00     82.69

17:14:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:26        all      3.19      0.00      2.70      0.98      0.00     93.14
17:14:26          0      3.96      0.00      0.99      0.00      0.00     95.05
17:14:26          1      1.94      0.00      0.97      0.00      0.00     97.09
17:14:26          2      2.94      0.00      1.96      0.00      0.00     95.10
17:14:26          3      2.97      0.00      6.93      3.96      0.00     86.14

17:14:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:27        all      3.15      0.00      4.36      1.45      0.00     91.04
17:14:27          0      3.85      0.00      2.88      0.00      0.00     93.27
17:14:27          1      0.96      0.00      2.88      0.00      0.00     96.15
17:14:27          2      4.67      0.00      0.93      0.00      0.00     94.39
17:14:27          3      5.00      0.00     10.00      6.00      0.00     79.00

17:14:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:28        all      3.92      0.00      3.68      0.98      0.00     91.42
17:14:28          0      3.96      0.00      0.99      0.00      0.00     95.05
17:14:28          1      1.98      0.00      2.97      0.00      0.00     95.05
17:14:28          2      2.97      0.00      0.99      0.00      0.00     96.04
17:14:28          3      5.83      0.00      8.74      3.88      0.00     81.55

17:14:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:29        all      3.89      0.00      2.68      1.46      0.00     91.97
17:14:29          0      3.92      0.00      1.96      0.00      0.00     94.12
17:14:29          1      4.90      0.00      0.98      0.98      0.00     93.14
17:14:29          2      2.80      0.00      3.74      0.00      0.00     93.46
17:14:29          3      4.00      0.00      5.00      4.00      0.00     87.00

17:14:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:30        all      3.91      0.00      3.91      0.73      0.00     91.44
17:14:30          0      4.90      0.00      1.96      0.00      0.00     93.14
17:14:30          1      4.81      0.00      2.88      0.96      0.00     91.35
17:14:30          2      3.00      0.00      1.00      0.00      0.00     96.00
17:14:30          3      3.88      0.00      8.74      2.91      0.00     84.47

17:14:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:31        all      3.41      0.00      2.19      0.97      0.00     93.43
17:14:31          0      1.90      0.00      0.00      0.00      0.00     98.10
17:14:31          1      1.96      0.00      0.98      0.00      0.00     97.06
17:14:31          2      0.97      0.00      0.97      0.00      0.00     98.06
17:14:31          3      7.00      0.00      8.00      3.00      0.00     82.00

17:14:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:32        all      1.93      0.00      3.62      0.72      0.00     93.72
17:14:32          0      1.90      0.00      2.86      0.00      0.00     95.24
17:14:32          1      1.89      0.00      1.89      0.94      0.00     95.28
17:14:32          2      1.89      0.00      1.89      0.00      0.00     96.23
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17:14:32          3      3.00      0.00      9.00      3.00      0.00     85.00

17:14:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:33        all      2.67      0.00      2.18      0.73      0.00     94.42
17:14:33          0      1.94      0.00      0.00      0.00      0.00     98.06
17:14:33          1      1.94      0.00      2.91      0.00      0.00     95.15
17:14:33          2      2.91      0.00      0.00      0.00      0.00     97.09
17:14:33          3      3.92      0.00      4.90      2.94      0.00     88.24

17:14:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:34        all      3.69      0.00      2.21      0.98      0.00     93.12
17:14:34          0      3.88      0.00      1.94      0.00      0.00     94.17
17:14:34          1      4.95      0.00      0.99      0.00      0.00     94.06
17:14:34          2      1.96      0.00      1.96      0.00      0.00     96.08
17:14:34          3      4.04      0.00      4.04      3.03      0.00     88.89

17:14:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:35        all      4.17      0.00      2.21      0.49      0.00     93.14
17:14:35          0      1.94      0.00      0.97      0.00      0.00     97.09
17:14:35          1      4.81      0.00      0.96      0.00      0.00     94.23
17:14:35          2      3.92      0.00      0.00      0.00      0.00     96.08
17:14:35          3      6.00      0.00      6.00      2.00      0.00     86.00

17:14:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:36        all      3.18      0.00      3.67      0.73      0.00     92.42
17:14:36          0      1.90      0.00      0.95      0.00      0.00     97.14
17:14:36          1      2.94      0.00      2.94      0.00      0.00     94.12
17:14:36          2      3.96      0.00      1.98      0.00      0.00     94.06
17:14:36          3      4.00      0.00      9.00      3.00      0.00     84.00

17:14:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:37        all      2.95      0.00      2.21      1.23      0.00     93.61
17:14:37          0      2.97      0.00      1.98      0.00      0.00     95.05
17:14:37          1      1.92      0.00      2.88      0.96      0.00     94.23
17:14:37          2      2.97      0.00      0.00      0.00      0.00     97.03
17:14:37          3      3.96      0.00      4.95      3.96      0.00     87.13

17:14:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:38        all      2.92      0.00      2.68      0.73      0.00     93.67
17:14:38          0      1.96      0.00      3.92      0.00      0.00     94.12
17:14:38          1      3.96      0.00      0.00      0.00      0.00     96.04
17:14:38          2      2.80      0.00      1.87      0.00      0.00     95.33
17:14:38          3      2.91      0.00      5.83      2.91      0.00     88.35

17:14:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:39        all      3.37      0.00      2.65      0.48      0.00     93.49
17:14:39          0      2.91      0.00      0.00      0.00      0.00     97.09
17:14:39          1      5.71      0.00      1.90      0.95      0.00     91.43
17:14:39          2      1.90      0.00      0.00      0.00      0.00     98.10
17:14:39          3      3.96      0.00      6.93      0.99      0.00     88.12

17:14:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:40        all      4.15      0.00      2.93      0.49      0.00     92.44
17:14:40          0      0.97      0.00      0.97      0.00      0.00     98.06
17:14:40          1      6.80      0.00      3.88      0.00      0.00     89.32
17:14:40          2      1.94      0.00      0.97      0.00      0.00     97.09
17:14:40          3      5.94      0.00      7.92      1.98      0.00     84.16
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17:14:40	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:41	all	3.14	0.00	1.93	1.21	0.00	93.72
17:14:41	0	1.96	0.00	0.98	0.00	0.00	97.06
17:14:41	1	3.85	0.00	1.92	0.96	0.00	93.27
17:14:41	2	3.81	0.00	0.95	0.00	0.00	95.24
17:14:41	3	3.88	0.00	2.91	3.88	0.00	89.32
17:14:41	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:42	all	3.67	0.00	2.93	1.47	0.00	91.93
17:14:42	0	1.92	0.00	2.88	0.00	0.00	95.19
17:14:42	1	6.00	0.00	4.00	0.00	0.00	90.00
17:14:42	2	1.96	0.00	0.00	0.00	0.00	98.04
17:14:42	3	3.96	0.00	3.96	5.94	0.00	86.14
17:14:42	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:43	all	3.55	0.00	2.37	1.66	0.00	92.42
17:14:43	0	0.96	0.00	0.96	0.00	0.00	98.08
17:14:43	1	4.72	0.00	2.83	0.00	0.00	92.45
17:14:43	2	3.64	0.00	0.91	0.00	0.00	95.45
17:14:43	3	4.81	0.00	5.77	6.73	0.00	82.69
17:14:43	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:44	all	4.34	0.00	2.89	1.69	0.00	91.08
17:14:44	0	1.94	0.00	0.00	0.00	0.00	98.06
17:14:44	1	6.86	0.00	3.92	0.00	0.00	89.22
17:14:44	2	2.83	0.00	2.83	0.00	0.00	94.34
17:14:44	3	5.77	0.00	5.77	6.73	0.00	81.73
17:14:44	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:45	all	3.42	0.00	2.20	0.98	0.00	93.40
17:14:45	0	1.98	0.00	0.99	0.00	0.00	97.03
17:14:45	1	4.90	0.00	2.94	0.00	0.00	92.16
17:14:45	2	1.90	0.00	0.00	0.00	0.00	98.10
17:14:45	3	4.95	0.00	4.95	3.96	0.00	86.14
17:14:45	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:46	all	4.13	0.00	1.94	2.43	0.00	91.50
17:14:46	0	3.81	0.00	1.90	0.00	0.00	94.29
17:14:46	1	6.86	0.00	0.98	0.98	0.00	91.18
17:14:46	2	0.97	0.00	1.94	0.00	0.00	97.09
17:14:46	3	4.85	0.00	3.88	8.74	0.00	82.52
17:14:46	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:47	all	3.66	0.00	2.20	1.95	0.00	92.20
17:14:47	0	3.92	0.00	0.98	0.00	0.00	95.10
17:14:47	1	6.67	0.00	0.95	0.95	0.00	91.43
17:14:47	2	0.97	0.00	0.97	0.00	0.00	98.06
17:14:47	3	3.88	0.00	6.80	6.80	0.00	82.52
17:14:47	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:48	all	2.66	0.00	2.18	1.21	0.00	93.95
17:14:48	0	1.96	0.00	0.00	0.00	0.00	98.04
17:14:48	1	2.91	0.00	1.94	0.00	0.00	95.15
17:14:48	2	0.95	0.00	0.00	0.00	0.00	99.05
17:14:48	3	3.96	0.00	5.94	4.95	0.00	85.15
17:14:48	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:14:49	all	2.92	0.00	2.68	1.22	0.00	93.19

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17:14:49          0      1.94      0.00      0.97      0.00      0.00     97.09
17:14:49          1      3.88      0.00      0.00      0.97      0.00     95.15
17:14:49          2      0.00      0.00      1.96      0.00      0.00     98.04
17:14:49          3      5.94      0.00      5.94      3.96      0.00     84.16

17:14:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:50        all      3.41      0.00      2.68      1.70      0.00     92.21
17:14:50          0      0.99      0.00      0.99      0.00      0.00     98.02
17:14:50          1      2.91      0.00      2.91      0.00      0.00     94.17
17:14:50          2      1.92      0.00      0.96      0.00      0.00     97.12
17:14:50          3      7.77      0.00      6.80      6.80      0.00     78.64

17:14:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:51        all      3.16      0.00      2.18      1.46      0.00     93.20
17:14:51          0      0.97      0.00      0.97      0.00      0.00     98.06
17:14:51          1      0.97      0.00      0.97      0.97      0.00     97.09
17:14:51          2      4.76      0.00      0.95      0.00      0.00     94.29
17:14:51          3      5.88      0.00      5.88      4.90      0.00     83.33

17:14:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:52        all      3.87      0.00      1.69      0.97      0.00     93.46
17:14:52          0      3.88      0.00      1.94      0.00      0.00     94.17
17:14:52          1      2.86      0.00      0.00      0.95      0.00     96.19
17:14:52          2      2.91      0.00      1.94      0.00      0.00     95.15
17:14:52          3      5.94      0.00      2.97      2.97      0.00     88.12

17:14:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:53        all      2.18      0.00      2.18      1.69      0.00     93.95
17:14:53          0      1.89      0.00      0.94      0.00      0.00     97.17
17:14:53          1      0.97      0.00      0.97      0.97      0.00     97.09
17:14:53          2      1.94      0.00      1.94      0.00      0.00     96.12
17:14:53          3      3.96      0.00      4.95      5.94      0.00     85.15

17:14:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:54        all      2.23      0.00      2.23      0.74      0.00     94.80
17:14:54          0      2.91      0.00      1.94      0.97      0.00     94.17
17:14:54          1      1.98      0.00      2.97      0.00      0.00     95.05
17:14:54          2      0.99      0.00      0.00      0.00      0.00     99.01
17:14:54          3      2.94      0.00      4.90      2.94      0.00     89.22

17:14:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:55        all      3.61      0.00      2.41      2.89      0.00     91.08
17:14:55          0      0.98      0.00      0.00      0.98      0.00     98.04
17:14:55          1      1.96      0.00      0.00      0.98      0.00     97.06
17:14:55          2      2.83      0.00      2.83      0.00      0.00     94.34
17:14:55          3      8.74      0.00      5.83      8.74      0.00     76.70

17:14:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:56        all      4.20      0.00      1.98      1.48      0.00     92.35
17:14:56          0      3.92      0.00      1.96      0.00      0.00     94.12
17:14:56          1      0.98      0.00      0.00      0.00      0.00     99.02
17:14:56          2      5.88      0.00      0.98      0.00      0.00     93.14
17:14:56          3      6.86      0.00      5.88      6.86      0.00     80.39

17:14:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:57        all      3.69      0.00      1.97      1.23      0.00     93.10
17:14:57          0      2.00      0.00      1.00      0.00      0.00     97.00
17:14:57          1      1.00      0.00      2.00      0.00      0.00     97.00
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17:14:57          2      3.85      0.00      0.96      0.00      0.00     95.19
17:14:57          3      7.07      0.00      4.04      4.04      0.00     84.85

17:14:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:58        all      4.46      0.00      3.22      0.74      0.00     91.58
17:14:58          0      3.85      0.00      0.96      0.00      0.00     95.19
17:14:58          1      1.92      0.00      0.96      0.00      0.00     97.12
17:14:58          2      3.06      0.00      1.02      0.00      0.00     95.92
17:14:58          3      9.09      0.00      9.09      3.03      0.00     78.79

17:14:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:14:59        all      2.88      0.00      3.60      0.72      0.00     92.81
17:14:59          0      3.88      0.00      2.91      0.00      0.00     93.20
17:14:59          1      2.88      0.00      1.92      0.96      0.00     94.23
17:14:59          2      1.87      0.00      2.80      0.00      0.00     95.33
17:14:59          3      2.91      0.00      6.80      2.91      0.00     87.38

17:14:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:00        all      3.66      0.00      3.41      0.49      0.00     92.44
17:15:00          0      4.85      0.00      1.94      0.00      0.00     93.20
17:15:00          1      1.98      0.00      1.98      0.00      0.00     96.04
17:15:00          2      3.85      0.00      0.96      0.00      0.00     95.19
17:15:00          3      4.00      0.00      8.00      2.00      0.00     86.00

17:15:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:01        all      2.93      0.00      2.44      1.22      0.00     93.41
17:15:01          0      3.92      0.00      0.98      0.00      0.00     95.10
17:15:01          1      0.93      0.00      1.87      0.93      0.00     96.26
17:15:01          2      2.97      0.00      0.00      0.00      0.00     97.03
17:15:01          3      4.90      0.00      7.84      2.94      0.00     84.31

17:15:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:02        all      3.92      0.00      3.92      0.49      0.00     91.67
17:15:02          0      1.98      0.00      0.99      0.00      0.00     97.03
17:15:02          1      1.94      0.00      1.94      0.00      0.00     96.12
17:15:02          2      2.91      0.00      0.00      0.00      0.00     97.09
17:15:02          3      9.00      0.00     13.00      2.00      0.00     76.00

17:15:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:03        all      3.65      0.00      3.16      0.97      0.00     92.21
17:15:03          0      4.85      0.00      2.91      0.00      0.00     92.23
17:15:03          1      2.91      0.00      1.94      0.00      0.00     95.15
17:15:03          2      2.91      0.00      0.97      0.00      0.00     96.12
17:15:03          3      3.92      0.00      5.88      2.94      0.00     87.25

17:15:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:04        all      4.70      0.00      3.22      0.74      0.00     91.34
17:15:04          0      5.94      0.00      1.98      0.00      0.00     92.08
17:15:04          1      4.95      0.00      3.96      0.00      0.00     91.09
17:15:04          2      3.96      0.00      0.99      0.00      0.00     95.05
17:15:04          3      3.96      0.00      6.93      2.97      0.00     86.14

17:15:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:05        all      3.93      0.00      2.70      0.98      0.00     92.38
17:15:05          0      5.00      0.00      2.00      0.00      0.00     93.00
17:15:05          1      3.96      0.00      1.98      0.99      0.00     93.07
17:15:05          2      1.94      0.00      0.00      0.00      0.00     98.06
17:15:05          3      3.96      0.00      5.94      3.96      0.00     86.14
```

```
17:15:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:06        all      3.70      0.00      2.72      0.49      0.00     93.09
17:15:06          0      2.94      0.00      0.98      0.00      0.00     96.08
17:15:06          1      5.88      0.00      1.96      0.00      0.00     92.16
17:15:06          2      1.96      0.00      0.98      0.00      0.00     97.06
17:15:06          3      4.90      0.00      6.86      1.96      0.00     86.27

17:15:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:07        all      3.16      0.00      4.14      0.97      0.00     91.73
17:15:07          0      1.96      0.00      1.96      0.00      0.00     96.08
17:15:07          1      3.85      0.00      3.85      0.00      0.00     92.31
17:15:07          2      2.94      0.00      0.00      0.00      0.00     97.06
17:15:07          3      3.00      0.00     11.00      4.00      0.00     82.00

17:15:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:08        all      3.41      0.00      3.17      0.73      0.00     92.68
17:15:08          0      2.91      0.00      0.97      0.00      0.00     96.12
17:15:08          1      3.85      0.00      2.88      0.00      0.00     93.27
17:15:08          2      0.98      0.00      0.98      0.00      0.00     98.04
17:15:08          3      5.94      0.00      7.92      2.97      0.00     83.17

17:15:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:09        all      3.44      0.00      2.21      0.74      0.00     93.61
17:15:09          0      1.00      0.00      2.00      0.00      0.00     97.00
17:15:09          1      5.83      0.00      1.94      0.97      0.00     91.26
17:15:09          2      1.90      0.00      1.90      0.00      0.00     96.19
17:15:09          3      4.95      0.00      4.95      1.98      0.00     88.12

17:15:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:10        all      1.97      0.00      1.97      0.25      0.00     95.81
17:15:10          0      1.98      0.00      0.99      0.00      0.00     97.03
17:15:10          1      0.98      0.00      0.98      0.00      0.00     98.04
17:15:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:15:10          3      4.90      0.00      4.90      0.98      0.00     89.22

17:15:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:11        all      3.15      0.00      2.91      0.97      0.00     92.98
17:15:11          0      3.92      0.00      1.96      0.00      0.00     94.12
17:15:11          1      2.91      0.00      0.97      0.00      0.00     96.12
17:15:11          2      2.86      0.00      1.90      0.00      0.00     95.24
17:15:11          3      2.91      0.00      6.80      2.91      0.00     87.38

17:15:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:12        all      2.93      0.00      3.18      1.22      0.00     92.67
17:15:12          0      1.96      0.00      1.96      0.00      0.00     96.08
17:15:12          1      3.88      0.00      4.85      0.97      0.00     90.29
17:15:12          2      2.88      0.00      2.88      0.00      0.00     94.23
17:15:12          3      3.00      0.00      2.00      5.00      0.00     90.00

17:15:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:13        all      2.51      0.00      2.26      1.50      0.00     93.73
17:15:13          0      2.02      0.00      1.01      0.00      0.00     96.97
17:15:13          1      1.94      0.00      1.94      0.97      0.00     95.15
17:15:13          2      5.05      0.00      1.01      0.00      0.00     93.94
17:15:13          3      1.01      0.00      5.05      6.06      0.00     87.88

17:15:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
17:15:14        all      2.64      0.00      1.44      0.72      0.00     95.19
17:15:14          0      1.94      0.00      0.00      0.00      0.00     98.06
17:15:14          1      3.70      0.00      2.78      0.00      0.00     93.52
17:15:14          2      2.88      0.00      1.92      0.00      0.00     95.19
17:15:14          3      3.92      0.00      1.96      1.96      0.00     92.16

17:15:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:15        all      1.21      0.00      1.46      0.49      0.00     96.84
17:15:15          0      0.98      0.00      0.00      0.00      0.00     99.02
17:15:15          1      0.00      0.00      1.98      0.00      0.00     98.02
17:15:15          2      1.89      0.00      0.94      0.00      0.00     97.17
17:15:15          3      0.00      0.00      1.98      1.98      0.00     96.04

17:15:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:16        all      0.33      0.00      1.00      0.00      0.00     98.66
17:15:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:15:16          1      1.00      0.00      0.00      0.00      0.00     99.00
17:15:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:15:16          3      0.00      0.00      2.82      0.00      0.00     97.18

17:15:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:17        all      0.00      0.00      0.23      0.00      0.00     99.77
17:15:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:15:17          1      0.00      0.00      0.99      0.00      0.00     99.01
17:15:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:15:17          3      0.93      0.00      0.00      0.00      0.00     99.07

17:15:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:18        all      0.25      0.00      0.25      0.00      0.00     99.50
17:15:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:15:18          1      0.98      0.00      0.98      0.00      0.00     98.04
17:15:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:15:18          3      0.00      0.00      0.82      0.00      0.00     99.18

17:15:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:15:19        all      0.25      0.00      0.25      0.00      0.00     99.49
17:15:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:15:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:15:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:15:19          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 48: Iostat monitoring for the 250 threads third trial Only Apache

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.91

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.44    0.05    0.41     1.54    14.78    35.60     0.00    4.22   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.20    0.00    0.00   99.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     7.00    0.00    1.00     0.00    64.00    64.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.34    0.00    2.91    1.41    0.00   92.34

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.16    0.00    2.96    0.92    0.00   92.96

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.60     0.00    16.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.28    0.00    2.55    0.78    0.00   93.39

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.63    0.00    2.61    1.06    0.00   92.69

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.55    0.00    2.14    1.70    0.00   92.62

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.80     0.00    16.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.06    0.00    2.33    1.36    0.00   93.25

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    74.00    0.00    7.40     0.00   651.20    88.00     0.01    1.95   0.32   0.24

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.67    0.00    2.35    1.42    0.00   92.56

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.52    0.00    3.37    0.78    0.00   92.33

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.68    0.00    3.14    0.79    0.00   92.39

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    2.40     0.00    22.40     9.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           2.79    0.00    2.50    0.93    0.00   93.78

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    1.33   1.33   0.08
```

F.2. Results with Varnish

Table 49: Jmeter 50 threads test first trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	67	42	339
19033-h-0.htm	50	266	97	704
1.css	50	52	41	167
i001_th.jpg	50	55	43	181
pgepub.css	50	53	42	167
0.css	50	52	42	182
i002_th.jpg	50	54	43	178
title.jpg	50	50	42	169
plate02_th.jpg	50	104	50	360
i008_th.jpg	50	57	44	235
plate01_th.jpg	50	103	50	298
i009_th.jpg	50	61	44	177
cover_th.jpg	50	91	49	229
i005_th.jpg	50	56	44	174
i003_th.jpg	50	53	43	172
i015_th.jpg	50	54	43	165
i011_th.jpg	50	55	46	178
i017_th.jpg	50	60	46	176
plate04_th.jpg	50	93	50	231
i022_th.jpg	50	58	44	191
i007_th.jpg	50	53	43	182
i020_th.jpg	50	56	44	176
i004_th.jpg	50	58	44	180
plate03_th.jpg	50	96	51	279
i018_th.jpg	50	59	44	172
i019_th.jpg	50	53	43	141
i016_th.jpg	50	56	43	170
i010_th.jpg	50	53	42	171
i012_th.jpg	50	80	44	1017
i014_th.jpg	50	58	45	185
i021_th.jpg	50	55	45	168
i013_th.jpg	50	59	45	166
i006_th.jpg	50	61	45	183
TOTAL	1650	69	41	1017

Table 50: Systat monitoring for the 50 threads first trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:19:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:19        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:19          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:20        all      0.25      0.00      0.25      0.00      0.00     99.50
17:19:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:20          2      0.99      0.00      0.00      0.00      0.00     99.01
17:19:20          3      0.00      0.00      0.99      0.00      0.00     99.01

17:19:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:21        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:21          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:22        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:22          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:23        all      0.25      0.00      0.00      0.00      0.00     99.75
17:19:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:23          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:24        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:24          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:25        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:25          3      0.00      0.00      1.00      0.00      0.00     99.00

17:19:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:26        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:26          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:19:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:26          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:27        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:27          3      0.98      0.00      0.98      0.00      0.00     98.04

17:19:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:28        all      0.25      0.00      0.50      0.00      0.00     99.25
17:19:28          0      0.00      0.00      0.99      0.00      0.00     99.01
17:19:28          1      0.00      0.00      1.00      0.00      0.00     99.00
17:19:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:28          3      0.99      0.00      0.00      0.00      0.00     99.01

17:19:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:29        all      0.25      0.00      0.00      0.00      0.00     99.75
17:19:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:29          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:30        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:30          3      0.00      0.00      0.99      0.00      0.00     99.01

17:19:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:31        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:31          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:32        all      0.00      0.00      0.50      0.00      0.00     99.50
17:19:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:32          3      0.00      0.00      0.99      0.00      0.00     99.01

17:19:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:33        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:33          3      0.96      0.00      0.00      0.00      0.00     99.04

17:19:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:34        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:34          2      0.00      0.00      0.00      0.00      0.00    100.00
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17:19:34          3      0.00      0.00      0.99      0.00      0.00     99.01

17:19:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:35        all      0.92      0.00      0.46      0.23      0.00     98.38
17:19:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:35          1      0.94      0.00      0.00      0.00      0.00     99.06
17:19:35          2      0.90      0.00      0.00      0.00      0.00     99.10
17:19:35          3      0.97      0.00      2.91      0.97      0.00     95.15

17:19:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:36        all      0.00      0.00      0.51      0.26      0.00     99.23
17:19:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:36          3      0.99      0.00      0.99      0.99      0.00     97.03

17:19:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:37        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:37          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:38        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:38          3      0.00      0.00      0.99      0.00      0.00     99.01

17:19:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:39        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:39          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:40        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:40          3      0.00      0.00      0.99      0.00      0.00     99.01

17:19:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:41        all      0.00      0.00      0.50      0.00      0.00     99.50
17:19:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:41          3      0.00      0.00      1.00      0.00      0.00     99.00

17:19:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:42        all      0.25      0.00      0.00      0.00      0.00     99.75
17:19:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:42          3      0.98      0.00      0.00      0.00      0.00     99.02
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17:19:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:43        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:43          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:44        all      0.25      0.00      0.00      0.00      0.00     99.75
17:19:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:44          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:45        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:45          3      0.00      0.00      0.98      0.00      0.00     99.02

17:19:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:46        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:46          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:47        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:47          3      0.99      0.00      0.00      0.00      0.00     99.01

17:19:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:48        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:48          3      0.00      0.00      0.99      0.00      0.00     99.01

17:19:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:49        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:49          3      0.00      0.00      0.99      0.00      0.00     99.01

17:19:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:50        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:50          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:51        all      0.25      0.00      0.00      0.00      0.00     99.75
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17:19:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:51          3      0.00      0.00      0.98      0.00      0.00     99.02

17:19:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:52        all      0.25      0.00      0.00      0.00      0.00     99.75
17:19:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:52          2      0.99      0.00      0.00      0.00      0.00     99.01
17:19:52          3      0.98      0.00      0.00      0.00      0.00     99.02

17:19:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:53        all      0.00      0.00      0.25      0.00      0.00     99.75
17:19:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:53          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:54        all      0.25      0.00      0.00      0.00      0.00     99.75
17:19:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:54          3      0.00      0.00      0.00      0.00      0.00    100.00

17:19:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:55        all      0.00      0.00      0.00      0.00      0.00    100.00
17:19:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:55          3      0.00      0.00      1.94      0.00      0.00     98.06

17:19:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:56        all      0.00      0.00      0.48      0.00      0.00     99.52
17:19:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:56          3      0.95      0.00      1.90      0.00      0.00     97.14

17:19:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:57        all      0.25      0.00      0.51      0.00      0.00     99.24
17:19:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:57          3      0.97      0.00      0.97      0.00      0.00     98.06

17:19:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:58        all      0.25      0.00      0.00      0.00      0.00     99.75
17:19:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:19:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:58          3      0.99      0.00      0.00      0.00      0.00     99.01

17:19:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:19:59        all      0.24      0.00      0.00      0.00      0.00     99.76
17:19:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:19:59          1      0.00      0.00      0.00      0.00      0.00    100.00
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17:19:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:19:59          3      0.98      0.00      0.98      0.00      0.00     98.04

17:19:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:00        all      0.26      0.00      0.26      0.00      0.00     99.48
17:20:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:00          3      0.99      0.00      0.00      0.00      0.00     99.01

17:20:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:01        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:01          3      0.00      0.00      0.96      0.00      0.00     99.04

17:20:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:02        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:02          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:02          3      0.00      0.00      0.99      0.00      0.00     99.01

17:20:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:03        all      0.25      0.00      0.25      0.00      0.00     99.50
17:20:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:03          3      0.97      0.00      0.97      0.00      0.00     98.06

17:20:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:04        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:04          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:04          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:04          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:05        all      0.24      0.00      0.24      0.00      0.00     99.51
17:20:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:05          3      0.00      0.00      1.00      0.00      0.00     99.00

17:20:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:06        all      0.25      0.00      0.00      0.00      0.00     99.75
17:20:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:06          3      0.99      0.00      0.00      0.00      0.00     99.01

17:20:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:07        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:07          3      0.97      0.00      0.97      0.00      0.00     98.06
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17:20:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:08        all      0.25      0.00      0.00      0.00      0.00     99.75
17:20:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:08          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:09        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:09          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:10        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:10          3      0.00      0.00      0.99      0.00      0.00     99.01

17:20:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:11        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:11          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:12        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:12          3      0.00      0.00      0.98      0.00      0.00     99.02

17:20:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:13        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:13          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:14        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:14          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:15        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:15          3      0.00      0.00      0.97      0.00      0.00     99.03

17:20:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
17:20:16        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:16          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:17        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:17          3      0.00      0.00      0.99      0.00      0.00     99.01

17:20:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:18        all      0.25      0.00      0.00      0.00      0.00     99.75
17:20:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:18          3      0.99      0.00      0.00      0.00      0.00     99.01

17:20:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:19        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:19          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:20        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:20          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:21        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:21          3      1.00      0.00      0.00      0.00      0.00     99.00

17:20:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:22        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:22          3      0.00      0.00      0.99      0.00      0.00     99.01

17:20:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:23        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:23          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:24        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:24          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:20:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:24          3      0.00      0.00      0.99      0.00      0.00     99.01

17:20:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:25        all      0.25      0.00      0.00      0.00      0.00     99.75
17:20:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:25          2      0.99      0.00      0.00      0.00      0.00     99.01
17:20:25          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:26        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:26          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:27        all      0.00      0.00      0.25      0.00      0.00     99.75
17:20:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:27          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:28        all      0.25      0.00      0.00      0.00      0.00     99.75
17:20:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:28          3      0.00      0.00      0.00      0.00      0.00    100.00

17:20:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:29        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:29          3      0.00      0.00      0.99      0.00      0.00     99.01

17:20:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:20:30        all      0.00      0.00      0.00      0.00      0.00    100.00
17:20:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:20:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:20:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:20:30          3      0.99      0.00      0.00      0.00      0.00     99.01
```

Table 51: Iostat monitoring for the 50 threads first trial Varnish

```
     Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.51    0.05    0.42     1.54    15.38    36.50     0.00    4.29   0.43   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.05    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.25    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.20    0.10    0.00   99.55

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     7.98    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    40.60    0.00    4.40     0.00   360.00    81.82     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.05    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     3.00    0.00    2.00     0.00    40.00    20.00     0.00    0.40   0.40   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.25    0.00    0.00   99.55

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.20    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.10    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.00     0.00    12.80    12.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.60     0.00    14.40    24.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.05    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    55.20    0.00    5.40     0.00   484.80    89.78     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
```

```
sda               0.00     1.00    0.00    1.00     0.00    16.00    16.00     0.00    0.00    0.00    0.00
```

Table 52: Jmeter 50 threads test second trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	56	42	153
19033-h-0.htm	50	223	95	666
1.css	50	46	41	59
i001_th.jpg	50	49	43	79
pgepub.css	50	48	42	72
0.css	50	48	42	62
i002_th.jpg	50	52	43	156
title.jpg	50	48	42	64
plate02_th.jpg	50	93	50	366
i008_th.jpg	50	58	44	182
plate01_th.jpg	50	93	50	265
i009_th.jpg	50	56	45	133
cover_th.jpg	50	79	48	197
i005_th.jpg	50	54	44	118
i003_th.jpg	50	51	44	91
i015_th.jpg	50	65	44	687
i011_th.jpg	50	57	45	215
i017_th.jpg	50	57	45	138
plate04_th.jpg	50	88	51	278
i022_th.jpg	50	52	44	109
i007_th.jpg	50	55	43	237
i020_th.jpg	50	53	44	183
i004_th.jpg	50	51	44	86
plate03_th.jpg	50	86	51	290
i018_th.jpg	50	52	44	92
i019_th.jpg	50	48	44	62
i016_th.jpg	50	53	43	97
i010_th.jpg	50	49	43	72
i012_th.jpg	50	60	44	137
i014_th.jpg	50	52	45	106
i021_th.jpg	50	51	44	105
i013_th.jpg	50	54	44	106
i006_th.jpg	50	54	45	114
TOTAL	1650	63	41	687

Table 53: Systat monitoring for the 50 threads second trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:22:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:06        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:06          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:07        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:07          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:08        all      0.23      0.00      0.00      0.00      0.00     99.77
17:22:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:08          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:09        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:09          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:09          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:10        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:10          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:11        all      0.24      0.00      0.24      0.00      0.00     99.53
17:22:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:11          2      0.00      0.00      1.00      0.00      0.00     99.00
17:22:11          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:12        all      0.00      0.00      0.24      0.00      0.00     99.76
17:22:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:12          3      0.98      0.00      0.98      0.00      0.00     98.04

17:22:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:13        all      0.00      0.00      0.27      0.00      0.00     99.73
17:22:13          0      0.00      0.00      0.00      0.00      0.00    100.00
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17:22:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:13          3      0.00      0.00      0.97      0.00      0.00     99.03

17:22:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:14        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:14          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:14          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:15        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:15          3      0.00      0.00      0.98      0.00      0.00     99.02

17:22:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:16        all      0.00      0.00      0.49      0.00      0.00     99.51
17:22:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:16          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:16          3      0.00      0.00      0.98      0.00      0.00     99.02

17:22:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:17        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:17          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:18        all      0.25      0.00      0.50      0.00      0.00     99.25
17:22:18          0      0.00      0.00      1.01      0.00      0.00     98.99
17:22:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:18          3      0.99      0.00      0.00      0.00      0.00     99.01

17:22:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:19        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:19          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:19          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:20        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:20          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:21        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:21          2      0.00      0.00      0.99      0.00      0.00     99.01
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17:22:21          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:22        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:22          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:23        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:23          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:24        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:24          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:24          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:25        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:25          2      0.99      0.00      0.00      0.00      0.00     99.01
17:22:25          3      0.00      0.00      1.01      0.00      0.00     98.99

17:22:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:26        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:26          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:27        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:27          2      0.00      0.00      1.00      0.00      0.00     99.00
17:22:27          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:28        all      0.23      0.00      0.23      0.00      0.00     99.53
17:22:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:28          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:29        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:29          3      0.00      0.00      0.00      0.00      0.00    100.00
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17:22:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:30        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:30          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:31        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:31          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:32        all      0.25      0.00      0.00      0.00      0.00     99.75
17:22:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:32          2      0.99      0.00      0.00      0.00      0.00     99.01
17:22:32          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:33        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:33          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:34        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:34          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:34          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:35        all      0.24      0.00      0.24      0.00      0.00     99.51
17:22:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:35          2      0.99      0.00      0.00      0.00      0.00     99.01
17:22:35          3      0.00      0.00      0.99      0.00      0.00     99.01

17:22:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:36        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:36          3      0.98      0.00      0.00      0.00      0.00     99.02

17:22:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:37        all      0.25      0.00      0.25      0.00      0.00     99.50
17:22:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:37          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:38        all      0.00      0.00      0.00      0.00      0.00    100.00
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17:22:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:38          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:38          3      0.00      0.00      1.98      0.00      0.00     98.02

17:22:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:39        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:39          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:40        all      0.25      0.00      0.25      0.00      0.00     99.50
17:22:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:40          3      0.99      0.00      0.99      0.00      0.00     98.02

17:22:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:41        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:41          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:41          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:42        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:42          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:43        all      0.00      0.00      0.25      0.00      0.00     99.75
17:22:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:43          2      0.00      0.00      1.00      0.00      0.00     99.00
17:22:43          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:44        all      0.25      0.00      0.00      0.00      0.00     99.75
17:22:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:44          3      0.99      0.00      0.00      0.00      0.00     99.01

17:22:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:45        all      0.23      0.00      0.23      0.00      0.00     99.53
17:22:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:45          3      0.98      0.00      0.98      0.00      0.00     98.04

17:22:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:46        all      0.26      0.00      0.26      0.00      0.00     99.47
17:22:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:46          1      0.00      0.00      0.00      0.00      0.00    100.00
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17:22:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:46          3      0.00      0.00      1.92      0.00      0.00     98.08

17:22:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:47        all      0.00      0.00      0.50      0.00      0.00     99.50
17:22:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:47          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:47          3      1.00      0.00      0.00      0.00      0.00     99.00

17:22:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:48        all      0.26      0.00      0.00      0.00      0.00     99.74
17:22:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:48          2      0.99      0.00      0.00      0.00      0.00     99.01
17:22:48          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:49        all      0.00      0.00      0.24      0.00      0.00     99.76
17:22:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:49          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:50        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:50          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:50          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:51        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:51          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:52        all      0.00      0.00      0.26      0.00      0.00     99.74
17:22:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:52          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:52          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:53        all      0.00      0.00      0.24      0.00      0.00     99.76
17:22:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:53          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:54        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:54          3      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:22:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:55        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:55          2      1.00      0.00      0.00      0.00      0.00     99.00
17:22:55          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:56        all      0.26      0.00      0.00      0.00      0.00     99.74
17:22:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:56          1      1.16      0.00      1.16      0.00      0.00     97.67
17:22:56          2      0.00      0.00      0.99      0.00      0.00     99.01
17:22:56          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:57        all      0.22      0.00      0.00      0.00      0.00     99.78
17:22:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:57          3      0.98      0.00      0.98      0.00      0.00     98.04

17:22:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:58        all      0.00      0.00      0.00      0.00      0.00    100.00
17:22:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:58          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:22:59        all      0.22      0.00      0.22      0.00      0.00     99.55
17:22:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:22:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:22:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:22:59          3      0.00      0.00      0.00      0.00      0.00    100.00

17:22:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:23:00        all      0.00      0.00      0.28      0.00      0.00     99.72
17:23:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:23:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:23:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:23:00          3      0.00      0.00      0.98      0.00      0.00     99.02

17:23:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:23:01        all      0.24      0.00      0.00      0.00      0.00     99.76
17:23:01          0      0.00      0.00      0.99      0.00      0.00     99.01
17:23:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:23:01          2      0.99      0.00      0.00      0.00      0.00     99.01
17:23:01          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 54: Iostat monitoring for the 50 threads second trial Varnish

```
     Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11        _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.51    0.05    0.42     1.54    15.41    36.52     0.00    4.28   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.00    0.00    0.00  100.00

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.40     0.00    12.80    32.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.80    0.00    1.00     0.00    22.40    22.40     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.30    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    3.00     0.00    27.20     9.07     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.20    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    23.60    0.00    2.80     0.00   211.20    75.43     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.15    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    1.33   1.33   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.20    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    56.20    0.00    5.80     0.00   496.00    85.52     0.00    0.28   0.14   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.05    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.00    0.00    1.40     0.00    27.20    19.43     0.00    0.57   0.57   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
```

```
sda               0.00    0.80    0.00    0.80    0.00   12.80   16.00    0.00    0.00    0.00    0.00
```

Table 55: Jmeter 50 threads test third trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	54	42	139
19033-h-0.htm	50	193	95	413
1.css	50	45	43	61
i001_th.jpg	50	48	44	63
pgepub.css	50	47	41	73
0.css	50	46	42	63
i002_th.jpg	50	48	43	76
title.jpg	50	48	42	71
plate02_th.jpg	50	71	48	193
i008_th.jpg	50	50	44	93
plate01_th.jpg	50	73	50	173
i009_th.jpg	50	51	45	93
cover_th.jpg	50	65	48	143
i005_th.jpg	50	49	44	97
i003_th.jpg	50	48	44	65
i015_th.jpg	50	50	44	65
i011_th.jpg	50	49	44	70
i017_th.jpg	50	52	45	89
plate04_th.jpg	50	67	51	191
i022_th.jpg	50	52	44	133
i007_th.jpg	50	51	43	101
i020_th.jpg	50	50	43	96
i004_th.jpg	50	51	44	121
plate03_th.jpg	50	78	49	507
i018_th.jpg	50	52	45	91
i019_th.jpg	50	49	44	89
i016_th.jpg	50	51	41	94
i010_th.jpg	50	48	43	65
i012_th.jpg	50	55	44	149
i014_th.jpg	50	52	42	97
i021_th.jpg	50	50	44	91
i013_th.jpg	50	51	45	89
i006_th.jpg	50	53	45	117
TOTAL	1650	58	41	507

Table 56: Systat monitoring for the 50 threads third trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:24:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:43        all      0.00      0.00      0.00      0.00      0.00    100.00
17:24:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:43          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:44        all      0.00      0.00      0.25      0.00      0.00     99.75
17:24:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:44          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:45        all      0.00      0.00      0.00      0.00      0.00    100.00
17:24:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:45          2      0.00      0.00      0.99      0.00      0.00     99.01
17:24:45          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:46        all      0.00      0.00      0.25      0.00      0.00     99.75
17:24:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:46          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:47        all      0.00      0.00      0.00      0.00      0.00    100.00
17:24:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:47          2      0.00      0.00      1.00      0.00      0.00     99.00
17:24:47          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:48        all      0.25      0.00      0.49      0.00      0.00     99.26
17:24:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:48          3      0.95      0.00      0.95      0.00      0.00     98.10

17:24:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:49        all      0.00      0.00      0.24      0.00      0.00     99.76
17:24:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:49          3      0.00      0.00      0.98      0.00      0.00     99.02

17:24:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:50        all      0.00      0.00      0.27      0.00      0.00     99.73
17:24:50          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:24:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:50          2      0.00      0.00      0.99      0.00      0.00     99.01
17:24:50          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:51        all      0.00      0.00      0.00      0.00      0.00    100.00
17:24:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:51          2      0.99      0.00      0.00      0.00      0.00     99.01
17:24:51          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:52        all      0.00      0.00      0.00      0.00      0.00    100.00
17:24:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:52          3      0.00      0.00      1.90      0.00      0.00     98.10

17:24:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:53        all      0.25      0.00      0.25      0.00      0.00     99.51
17:24:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:53          2      0.00      0.00      0.99      0.00      0.00     99.01
17:24:53          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:54        all      0.00      0.00      0.25      0.00      0.00     99.75
17:24:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:54          3      0.00      0.00      0.00      0.00      0.00    100.00

17:24:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:55        all      0.00      0.00      0.25      0.00      0.00     99.75
17:24:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:55          3      0.00      0.00      1.01      0.00      0.00     98.99

17:24:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:56        all      0.00      0.00      0.00      0.00      0.00    100.00
17:24:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:56          2      0.00      0.00      0.99      0.00      0.00     99.01
17:24:56          3      1.01      0.00      0.00      0.00      0.00     98.99

17:24:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:57        all      0.24      0.00      0.00      0.00      0.00     99.76
17:24:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:24:57          3      0.95      0.00      0.00      0.00      0.00     99.05

17:24:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:58        all      0.25      0.00      0.49      0.00      0.00     99.26
17:24:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:58          1      0.00      0.00      1.03      0.00      0.00     98.97
17:24:58          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:24:58          3      0.00      0.00      0.99      0.00      0.00     99.01

17:24:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:24:59        all      0.25      0.00      0.25      0.00      0.00     99.50
17:24:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:24:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:24:59          2      0.00      0.00      1.00      0.00      0.00     99.00
17:24:59          3      0.99      0.00      0.00      0.00      0.00     99.01

17:24:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:00        all      0.26      0.00      0.00      0.00      0.00     99.74
17:25:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:00          3      0.96      0.00      0.00      0.00      0.00     99.04

17:25:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:01        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:01          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:02        all      0.00      0.00      0.25      0.00      0.00     99.75
17:25:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:02          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:02          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:03        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:03          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:04        all      0.00      0.00      0.25      0.00      0.00     99.75
17:25:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:04          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:04          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:04          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:05        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:05          2      0.99      0.00      0.00      0.00      0.00     99.01
17:25:05          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:06        all      0.24      0.00      0.00      0.00      0.00     99.76
17:25:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:06          3      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:25:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:07        all      0.00      0.00      0.26      0.00      0.00     99.74
17:25:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:07          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:08        all      0.00      0.00      0.25      0.00      0.00     99.75
17:25:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:08          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:08          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:09        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:09          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:10        all      0.24      0.00      0.00      0.00      0.00     99.76
17:25:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:10          3      0.00      0.00      0.99      0.00      0.00     99.01

17:25:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:11        all      0.00      0.00      0.26      0.00      0.00     99.74
17:25:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:11          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:11          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:12        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:12          2      0.99      0.00      0.00      0.00      0.00     99.01
17:25:12          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:13        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:13          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:14        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:14          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:15        all      0.25      0.00      0.25      0.25      0.00     99.26
```

```
17:25:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:15          2      0.00      0.00      0.00      1.00      0.00     99.00
17:25:15          3      0.99      0.00      0.00      0.00      0.00     99.01

17:25:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:16        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:16          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:16          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:17        all      0.00      0.00      0.49      0.00      0.00     99.51
17:25:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:17          3      0.00      0.00      0.96      0.00      0.00     99.04

17:25:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:18        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:18          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:18          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:19        all      0.25      0.00      0.00      0.00      0.00     99.75
17:25:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:19          2      0.99      0.00      0.00      0.00      0.00     99.01
17:25:19          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:20        all      0.00      0.00      0.24      0.00      0.00     99.76
17:25:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:20          3      0.97      0.00      0.00      0.00      0.00     99.03

17:25:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:21        all      0.26      0.00      0.00      0.00      0.00     99.74
17:25:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:21          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:22        all      0.00      0.00      0.25      0.00      0.00     99.75
17:25:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:22          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:22          3      0.00      0.00      0.97      0.00      0.00     99.03

17:25:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:23        all      0.25      0.00      0.00      0.00      0.00     99.75
17:25:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:23          1      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:25:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:23          3      0.99      0.00      0.00      0.00      0.00     99.01

17:25:23       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:24       all      0.00      0.00      0.25      0.00      0.00     99.75
17:25:24         0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:24         1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:24         2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:24         3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:24       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:25       all      0.00      0.00      0.24      0.00      0.00     99.76
17:25:25         0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:25         1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:25         2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:25         3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:25       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:26       all      0.26      0.00      0.00      0.00      0.00     99.74
17:25:26         0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:26         1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:26         2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:26         3      0.99      0.00      0.00      0.00      0.00     99.01

17:25:26       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:27       all      0.25      0.00      0.00      0.00      0.00     99.75
17:25:27         0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:27         1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:27         2      0.00      0.00      1.00      0.00      0.00     99.00
17:25:27         3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:27       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:28       all      0.47      0.00      0.24      0.00      0.00     99.29
17:25:28         0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:28         1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:28         2      0.99      0.00      0.00      0.00      0.00     99.01
17:25:28         3      1.90      0.00      0.95      0.00      0.00     97.14

17:25:28       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:29       all      0.00      0.00      0.26      0.00      0.00     99.74
17:25:29         0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:29         1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:29         2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:29         3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:29       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:30       all      0.24      0.00      0.00      0.00      0.00     99.76
17:25:30         0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:30         1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:30         2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:30         3      0.98      0.00      0.00      0.00      0.00     99.02

17:25:30       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:31       all      0.00      0.00      0.26      0.00      0.00     99.74
17:25:31         0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:31         1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:31         2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:31         3      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:25:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:32        all      0.25      0.00      0.25      0.00      0.00     99.50
17:25:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:32          3      0.97      0.00      0.97      0.00      0.00     98.06

17:25:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:33        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:33          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:33          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:34        all      0.25      0.00      0.00      0.00      0.00     99.75
17:25:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:34          3      0.97      0.00      0.00      0.00      0.00     99.03

17:25:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:35        all      0.24      0.00      0.00      0.00      0.00     99.76
17:25:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:35          2      1.00      0.00      0.00      0.00      0.00     99.00
17:25:35          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:36        all      0.00      0.00      0.00      0.00      0.00    100.00
17:25:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:25:36          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:37        all      0.25      0.00      0.00      0.00      0.00     99.75
17:25:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:37          2      0.99      0.00      0.00      0.00      0.00     99.01
17:25:37          3      0.00      0.00      0.00      0.00      0.00    100.00

17:25:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:25:38        all      0.00      0.00      0.25      0.00      0.00     99.75
17:25:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:25:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:25:38          2      0.00      0.00      0.99      0.00      0.00     99.01
17:25:38          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 57: Iostat monitoring for the 50 threads third trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.51    0.05    0.42     1.54    15.43    36.53     0.00    4.27   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.25    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    28.80    0.00    3.00     0.00   254.40    84.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.20     0.00    12.80    10.67     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.15    0.00    0.00   99.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    0.60     0.00    17.60    29.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    57.40    0.00    7.20     0.00   516.80    71.78     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.80     0.00    12.80    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.10    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.10    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00
```

Table 58: Jmeter 100 threads test first trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	200	54	41	159
19033-h-0.htm	200	192	95	561
1.css	200	48	42	88
i001_th.jpg	200	50	43	113
pgepub.css	200	48	40	94
0.css	200	48	41	81
i002_th.jpg	200	50	43	91
title.jpg	200	49	40	82
plate02_th.jpg	200	82	48	450
i008_th.jpg	200	53	44	180
plate01_th.jpg	200	81	50	342
i009_th.jpg	200	56	44	179
cover_th.jpg	200	73	48	508
i005_th.jpg	200	54	44	177
i003_th.jpg	200	54	44	383
i015_th.jpg	200	53	44	213
i011_th.jpg	200	56	44	406
i017_th.jpg	200	55	44	321
plate04_th.jpg	200	76	51	381
i022_th.jpg	200	53	43	133
i007_th.jpg	200	51	43	101
i020_th.jpg	200	52	43	109
i004_th.jpg	200	52	44	207
plate03_th.jpg	200	80	47	577
i018_th.jpg	200	54	44	243
i019_th.jpg	200	52	44	359
i016_th.jpg	200	55	41	213
i010_th.jpg	200	49	42	87
i012_th.jpg	200	58	44	199
i014_th.jpg	200	54	42	148
i021_th.jpg	200	52	44	116
i013_th.jpg	200	55	44	177
i006_th.jpg	200	57	45	147
TOTAL	6600	61	40	577

Table 59: Systat monitoring for the 100 threads first trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:27:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:11        all      0.00      0.00      0.00      0.00      0.00    100.00
17:27:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:11          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:12        all      0.27      0.00      0.00      0.00      0.00     99.73
17:27:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:12          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:12          3      0.99      0.00      0.00      0.00      0.00     99.01

17:27:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:13        all      0.00      0.00      0.00      0.00      0.00    100.00
17:27:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:13          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:14        all      0.00      0.00      0.29      0.00      0.00     99.71
17:27:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:14          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:14          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:15        all      0.00      0.00      0.00      0.00      0.00    100.00
17:27:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:15          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:16        all      0.00      0.00      0.28      0.00      0.00     99.72
17:27:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:16          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:17        all      0.00      0.00      0.00      0.00      0.00    100.00
17:27:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:17          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:17          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:18        all      0.00      0.00      0.27      0.00      0.00     99.73
17:27:18          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:27:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:18          3      0.00      0.00      0.98      0.00      0.00     99.02

17:27:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:19        all      0.23      0.00      0.46      0.00      0.00     99.32
17:27:19          0      0.00      0.00      1.47      0.00      0.00     98.53
17:27:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:19          2      0.00      0.00      1.00      0.00      0.00     99.00
17:27:19          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:20        all      0.25      0.00      0.25      0.00      0.00     99.50
17:27:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:20          2      0.99      0.00      0.00      0.00      0.00     99.01
17:27:20          3      0.00      0.00      0.95      0.00      0.00     99.05

17:27:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:21        all      0.00      0.00      0.00      0.00      0.00    100.00
17:27:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:21          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:22        all      0.28      0.00      0.56      0.00      0.00     99.16
17:27:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:22          1      0.99      0.00      0.99      0.00      0.00     98.02
17:27:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:22          3      0.95      0.00      0.95      0.00      0.00     98.10

17:27:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:23        all      0.22      0.00      0.00      0.00      0.00     99.78
17:27:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:23          2      0.00      0.00      1.00      0.00      0.00     99.00
17:27:23          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:24        all      0.00      0.00      0.75      0.00      0.00     99.25
17:27:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:24          3      1.00      0.00      0.00      0.00      0.00     99.00

17:27:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:25        all      0.00      0.00      0.50      0.00      0.00     99.50
17:27:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:25          1      1.00      0.00      0.00      0.00      0.00     99.00
17:27:25          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:25          3      0.00      0.00      0.99      0.00      0.00     99.01

17:27:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:26        all      0.26      0.00      0.00      0.00      0.00     99.74
17:27:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:26          1      0.00      0.00      0.99      0.00      0.00     99.01
17:27:26          2      0.99      0.00      0.00      0.00      0.00     99.01
```

```
17:27:26          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:27        all      0.24      0.00      0.00      0.00      0.00     99.76
17:27:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:27          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:28        all      0.25      0.00      0.76      0.00      0.00     98.98
17:27:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:28          1      0.00      0.00      1.00      0.00      0.00     99.00
17:27:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:28          3      0.96      0.00      0.96      0.00      0.00     98.08

17:27:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:29        all      0.00      0.00      0.24      0.00      0.00     99.76
17:27:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:29          3      0.00      0.00      0.97      0.00      0.00     99.03

17:27:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:30        all      0.25      0.00      0.25      0.00      0.00     99.51
17:27:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:30          3      0.98      0.00      0.98      0.00      0.00     98.04

17:27:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:31        all      0.25      0.00      0.75      0.00      0.00     99.00
17:27:31          0      0.00      0.00      1.08      0.00      0.00     98.92
17:27:31          1      0.00      0.00      2.00      0.00      0.00     98.00
17:27:31          2      0.99      0.00      0.00      0.00      0.00     99.01
17:27:31          3      0.00      0.00      1.87      0.00      0.00     98.13

17:27:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:32        all      0.28      0.00      0.28      0.00      0.00     99.44
17:27:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:32          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:32          3      0.98      0.00      0.00      0.00      0.00     99.02

17:27:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:33        all      0.22      0.00      0.00      0.00      0.00     99.78
17:27:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:33          3      0.96      0.00      0.00      0.00      0.00     99.04

17:27:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:34        all      0.49      0.00      1.22      0.00      0.00     98.30
17:27:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:34          1      0.00      0.00      1.00      0.00      0.00     99.00
17:27:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:34          3      1.90      0.00      1.90      0.00      0.00     96.19
```

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17:27:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:35        all      0.25      0.00      0.00      0.00      0.00     99.75
17:27:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:35          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:35          3      0.00      0.00      0.99      0.00      0.00     99.01

17:27:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:36        all      0.00      0.00      0.55      0.00      0.00     99.45
17:27:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:36          3      0.95      0.00      1.90      0.00      0.00     97.14

17:27:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:37        all      0.45      0.00      0.67      0.00      0.00     98.88
17:27:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:37          1      0.00      0.00      1.00      0.00      0.00     99.00
17:27:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:37          3      0.94      0.00      0.94      0.00      0.00     98.11

17:27:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:38        all      0.49      0.00      0.25      0.00      0.00     99.26
17:27:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:38          2      0.99      0.00      0.00      0.00      0.00     99.01
17:27:38          3      1.85      0.00      0.93      0.00      0.00     97.22

17:27:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:39        all      0.25      0.00      0.50      0.00      0.00     99.25
17:27:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:39          2      0.00      0.00      1.00      0.00      0.00     99.00
17:27:39          3      0.99      0.00      0.99      0.00      0.00     98.02

17:27:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:40        all      0.27      0.00      0.27      0.00      0.00     99.46
17:27:40          0      1.47      0.00      0.00      0.00      0.00     98.53
17:27:40          1      0.00      0.00      0.99      0.00      0.00     99.01
17:27:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:40          3      0.00      0.00      0.96      0.00      0.00     99.04

17:27:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:41        all      0.46      0.00      0.23      0.23      0.00     99.08
17:27:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:41          3      1.98      0.00      0.00      0.00      0.00     98.02

17:27:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:42        all      0.25      0.00      0.74      0.00      0.00     99.01
17:27:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:42          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:42          3      0.95      0.00      2.86      0.00      0.00     96.19

17:27:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:43        all      0.00      0.00      0.74      0.00      0.00     99.26
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17:27:43          0      0.00      0.00      0.96      0.00      0.00     99.04
17:27:43          1      0.00      0.00      1.01      0.00      0.00     98.99
17:27:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:43          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:44        all      0.00      0.00      0.28      0.00      0.00     99.72
17:27:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:44          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:44          3      0.00      0.00      0.99      0.00      0.00     99.01

17:27:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:45        all      0.00      0.00      0.00      0.00      0.00    100.00
17:27:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:45          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:46        all      0.27      0.00      0.54      0.00      0.00     99.19
17:27:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:46          1      1.01      0.00      0.00      0.00      0.00     98.99
17:27:46          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:46          3      0.00      0.00      0.00      0.99      0.00     99.01

17:27:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:47        all      0.23      0.00      0.00      0.00      0.00     99.77
17:27:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:47          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:48        all      0.28      0.00      0.00      0.00      0.00     99.72
17:27:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:48          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:49        all      0.00      0.00      0.45      0.00      0.00     99.55
17:27:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:49          1      0.00      0.00      1.00      0.00      0.00     99.00
17:27:49          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:49          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:50        all      0.00      0.00      0.27      0.00      0.00     99.73
17:27:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:50          1      0.00      0.00      0.97      0.00      0.00     99.03
17:27:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:50          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:51        all      0.00      0.00      0.00      0.00      0.00    100.00
17:27:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:51          1      0.00      0.00      0.00      0.00      0.00    100.00
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17:27:51          2      0.99      0.00      0.00      0.00      0.00     99.01
17:27:51          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:52        all      0.26      0.00      0.52      0.00      0.00     99.22
17:27:52          0      1.33      0.00      0.00      0.00      0.00     98.67
17:27:52          1      1.00      0.00      0.00      0.00      0.00     99.00
17:27:52          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:52          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:53        all      0.23      0.00      0.68      0.00      0.00     99.09
17:27:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:53          1      0.00      0.00      0.99      0.00      0.00     99.01
17:27:53          2      0.00      0.00      1.00      0.00      0.00     99.00
17:27:53          3      0.93      0.00      1.87      0.00      0.00     97.20

17:27:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:54        all      0.00      0.00      0.00      0.00      0.00    100.00
17:27:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:54          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:55        all      0.44      0.00      0.22      0.00      0.00     99.34
17:27:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:55          1      1.00      0.00      0.00      0.00      0.00     99.00
17:27:55          2      0.98      0.00      0.98      0.00      0.00     98.04
17:27:55          3      0.00      0.00      1.90      0.00      0.00     98.10

17:27:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:56        all      0.26      0.00      0.26      0.26      0.00     99.22
17:27:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:56          3      0.97      0.00      0.00      0.00      0.00     99.03

17:27:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:57        all      0.24      0.00      0.24      0.00      0.00     99.53
17:27:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:57          3      0.95      0.00      0.00      0.00      0.00     99.05

17:27:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:58        all      0.27      0.00      0.53      0.00      0.00     99.20
17:27:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:58          1      0.00      0.00      1.00      0.00      0.00     99.00
17:27:58          2      0.00      0.00      0.99      0.00      0.00     99.01
17:27:58          3      0.00      0.00      0.00      0.00      0.00    100.00

17:27:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:27:59        all      0.23      0.00      0.00      0.00      0.00     99.77
17:27:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:27:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:27:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:27:59          3      0.95      0.00      0.95      0.00      0.00     98.10
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17:27:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:00        all      0.00      0.00      0.26      0.00      0.00     99.74
17:28:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:00          2      0.00      0.00      0.99      0.00      0.00     99.01
17:28:00          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:01        all      0.00      0.00      0.70      0.00      0.00     99.30
17:28:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:01          1      0.00      0.00      2.00      0.00      0.00     98.00
17:28:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:01          3      0.00      0.00      0.98      0.98      0.00     98.04

17:28:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:02        all      0.27      0.00      0.27      0.00      0.00     99.46
17:28:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:02          2      0.00      0.00      0.99      0.00      0.00     99.01
17:28:02          3      1.87      0.00      0.93      0.00      0.00     97.20

17:28:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:03        all      0.23      0.00      0.47      0.00      0.00     99.30
17:28:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:03          3      0.00      0.00      0.98      0.00      0.00     99.02

17:28:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:04        all      0.52      0.00      0.52      0.00      0.00     98.96
17:28:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:04          1      1.00      0.00      0.00      0.00      0.00     99.00
17:28:04          2      0.00      0.00      0.99      0.00      0.00     99.01
17:28:04          3      0.96      0.00      0.96      0.00      0.00     98.08

17:28:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:05        all      0.24      0.00      0.00      0.00      0.00     99.76
17:28:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:05          3      0.96      0.00      0.00      0.00      0.00     99.04

17:28:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:06        all      0.25      0.00      0.49      0.00      0.00     99.26
17:28:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:06          3      0.96      0.00      0.96      0.00      0.00     98.08

17:28:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:07        all      0.00      0.00      0.50      0.00      0.00     99.50
17:28:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:07          1      0.00      0.00      1.00      0.00      0.00     99.00
17:28:07          2      0.00      0.00      0.99      0.00      0.00     99.01
17:28:07          3      0.00      0.00      0.98      0.00      0.00     99.02

17:28:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
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17:28:08        all      0.29      0.00      0.00      0.00      0.00     99.71
17:28:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:08          2      0.99      0.00      0.00      0.00      0.00     99.01
17:28:08          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:09        all      0.00      0.00      0.00      0.00      0.00    100.00
17:28:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:09          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:10        all      0.26      0.00      0.52      0.00      0.00     99.23
17:28:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:10          1      1.00      0.00      0.00      0.00      0.00     99.00
17:28:10          2      0.00      0.00      0.99      0.00      0.00     99.01
17:28:10          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:11        all      0.00      0.00      0.00      0.00      0.00    100.00
17:28:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:11          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:12        all      0.00      0.00      0.00      0.00      0.00    100.00
17:28:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:12          2      0.99      0.00      0.00      0.00      0.00     99.01
17:28:12          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:13        all      0.45      0.00      0.22      0.00      0.00     99.33
17:28:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:13          1      0.98      0.00      0.98      0.00      0.00     98.04
17:28:13          2      0.00      0.00      0.99      0.00      0.00     99.01
17:28:13          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:14        all      0.00      0.00      0.28      0.00      0.00     99.72
17:28:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:14          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:15        all      0.00      0.00      0.00      0.00      0.00    100.00
17:28:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:15          2      0.00      0.00      0.99      0.00      0.00     99.01
17:28:15          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:16        all      0.26      0.00      0.26      0.00      0.00     99.48
17:28:16          0      0.00      0.00      0.00      0.00      0.00    100.00
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17:28:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:16          2      0.99      0.00      0.00      0.00      0.00     99.01
17:28:16          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:17        all      0.00      0.00      0.24      0.00      0.00     99.76
17:28:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:17          3      0.00      0.00      0.99      0.00      0.00     99.01

17:28:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:18        all      0.28      0.00      0.00      0.00      0.00     99.72
17:28:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:18          2      0.99      0.00      0.00      0.00      0.00     99.01
17:28:18          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:19        all      0.00      0.00      0.45      0.00      0.00     99.55
17:28:19          0      0.00      0.00      0.68      0.00      0.00     99.32
17:28:19          1      0.00      0.00      1.98      0.00      0.00     98.02
17:28:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:19          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:20        all      0.00      0.00      0.00      0.00      0.00    100.00
17:28:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:20          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:21        all      0.22      0.00      0.00      0.00      0.00     99.78
17:28:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:21          2      0.99      0.00      0.00      0.00      0.00     99.01
17:28:21          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:22        all      0.25      0.00      0.50      0.00      0.00     99.26
17:28:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:22          3      0.00      0.00      0.99      0.00      0.00     99.01

17:28:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:23        all      0.00      0.00      0.00      0.00      0.00    100.00
17:28:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:23          1      0.00      0.00      0.99      0.00      0.00     99.01
17:28:23          2      1.00      0.00      0.00      0.00      0.00     99.00
17:28:23          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:24        all      0.00      0.00      0.00      0.00      0.00    100.00
17:28:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:24          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:28:24          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:25        all      0.22      0.00      0.45      0.00      0.00     99.33
17:28:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:25          1      0.00      0.00      0.99      0.00      0.00     99.01
17:28:25          2      0.00      0.00      0.99      0.00      0.00     99.01
17:28:25          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:26        all      0.00      0.00      0.00      0.00      0.00    100.00
17:28:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:26          2      0.99      0.00      0.00      0.00      0.00     99.01
17:28:26          3      0.00      0.00      0.00      0.00      0.00    100.00

17:28:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:28:27        all      0.23      0.00      0.00      0.00      0.00     99.77
17:28:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:28:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:28:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:28:27          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 60: Iostat monitoring for the 100 threads first trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.52    0.05    0.42     1.53    15.55    36.61     0.00    4.25   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.20    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    0.40     0.00    14.40    36.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    2.00     0.00    22.40    11.20     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.30    0.00    0.00   99.55

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    72.20    0.00    6.20     0.00   627.20   101.16     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.30    0.00    0.00   99.50

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.20    0.00    0.00   99.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.80     0.00    16.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.10    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.80     0.00    14.40    18.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    1.40     0.00    19.20    13.71     0.00    1.14   1.14   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   114.60    0.00    9.20     0.00   990.40   107.65     0.02    2.00   0.09   0.08
```

Table 61: Jmeter 100 threads test second trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	100	54	42	174
19033-h-0.htm	100	221	92	721
1.css	100	50	42	78
i001_th.jpg	100	52	44	118
pgepub.css	100	51	42	130
0.css	100	51	43	107
i002_th.jpg	100	50	43	87
title.jpg	100	50	42	76
plate02_th.jpg	100	90	50	263
i008_th.jpg	100	53	45	101
plate01_th.jpg	100	87	50	253
i009_th.jpg	100	56	44	136
cover_th.jpg	100	82	49	223
i005_th.jpg	100	55	43	192
i003_th.jpg	100	54	45	182
i015_th.jpg	100	62	45	371
i011_th.jpg	100	58	45	236
i017_th.jpg	100	62	45	207
plate04_th.jpg	100	94	53	361
i022_th.jpg	100	57	45	110
i007_th.jpg	100	67	43	1069
i020_th.jpg	100	56	44	154
i004_th.jpg	100	54	44	110
plate03_th.jpg	100	94	51	280
i018_th.jpg	100	58	45	255
i019_th.jpg	100	51	44	106
i016_th.jpg	100	58	45	171
i010_th.jpg	100	54	44	348
i012_th.jpg	100	61	45	254
i014_th.jpg	100	58	44	153
i021_th.jpg	100	55	43	133
i013_th.jpg	100	59	45	146
i006_th.jpg	100	71	45	1183
TOTAL	3300	66	42	1183

Table 62: Systat monitoring for the 100 threads second trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:30:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:07        all      0.00      0.00      0.34      0.00      0.00     99.66
17:30:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:07          1      0.00      0.00      0.92      0.00      0.00     99.08
17:30:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:07          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:08        all      0.00      0.00      0.22      0.00      0.00     99.78
17:30:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:08          2      0.00      0.00      0.60      0.00      0.00     99.40
17:30:08          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:09        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:09          3      0.00      0.00      1.00      0.00      0.00     99.00

17:30:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:10        all      0.00      0.00      0.21      0.00      0.00     99.79
17:30:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:10          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:11        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:11          3      0.00      0.00      0.99      0.00      0.00     99.01

17:30:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:12        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:12          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:13        all      0.00      0.00      0.27      0.00      0.00     99.73
17:30:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:13          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:14        all      0.22      0.00      0.87      0.00      0.00     98.91
17:30:14          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:30:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:14          3      0.94      0.00      3.77      0.00      0.00     95.28

17:30:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:15        all      0.60      0.00      0.00      0.00      0.00     99.40
17:30:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:15          3      1.87      0.00      0.93      0.00      0.00     97.20

17:30:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:16        all      0.22      0.00      0.43      0.00      0.00     99.35
17:30:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:16          3      0.97      0.00      1.94      0.00      0.00     97.09

17:30:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:17        all      0.00      0.00      0.30      0.00      0.00     99.70
17:30:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:17          3      0.00      0.00      0.99      0.00      0.00     99.01

17:30:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:18        all      0.21      0.00      0.43      0.00      0.00     99.36
17:30:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:18          3      0.97      0.00      0.97      0.00      0.00     98.06

17:30:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:19        all      0.30      0.00      0.30      0.00      0.00     99.41
17:30:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:19          3      0.00      0.00      1.96      0.00      0.00     98.04

17:30:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:20        all      0.00      0.00      0.22      0.00      0.00     99.78
17:30:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:20          3      0.98      0.00      0.00      0.00      0.00     99.02

17:30:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:21        all      0.28      0.00      1.13      0.00      0.00     98.59
17:30:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:21          3      0.93      0.00      3.74      0.00      0.00     95.33

17:30:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:22        all      0.62      0.00      0.21      0.00      0.00     99.17
17:30:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:22          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:30:22          3      1.94      0.00      0.97      0.00      0.00     97.09

17:30:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:23        all      0.00      0.00      0.29      0.00      0.00     99.71
17:30:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:23          3      0.99      0.00      0.00      0.00      0.00     99.01

17:30:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:24        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:24          3      0.00      0.00      0.99      0.00      0.00     99.01

17:30:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:25        all      0.29      0.00      0.00      0.00      0.00     99.71
17:30:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:25          3      0.99      0.00      0.00      0.00      0.00     99.01

17:30:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:26        all      0.00      0.00      0.21      0.00      0.00     99.79
17:30:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:26          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:27        all      0.00      0.00      0.32      0.00      0.00     99.68
17:30:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:27          3      0.00      0.00      0.97      0.00      0.00     99.03

17:30:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:28        all      0.00      0.00      0.21      0.00      0.00     99.79
17:30:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:28          3      0.00      0.00      0.97      0.00      0.00     99.03

17:30:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:29        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:29          3      0.00      0.00      0.99      0.00      0.00     99.01

17:30:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:30        all      0.21      0.00      0.21      0.00      0.00     99.58
17:30:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:30          3      0.00      0.00      0.98      0.00      0.00     99.02
```

```
17:30:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:31        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:31          3      0.96      0.00      0.00      0.00      0.00     99.04

17:30:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:32        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:32          3      0.00      0.00      0.97      0.00      0.00     99.03

17:30:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:33        all      0.29      0.00      0.29      0.00      0.00     99.42
17:30:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:33          3      0.97      0.00      0.00      0.00      0.00     99.03

17:30:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:34        all      0.22      0.00      0.00      0.00      0.00     99.78
17:30:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:34          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:35        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:35          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:35          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:36        all      0.00      0.00      0.21      0.00      0.00     99.79
17:30:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:36          3      0.00      0.00      0.99      0.00      0.00     99.01

17:30:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:37        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:37          3      0.98      0.00      0.00      0.00      0.00     99.02

17:30:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:38        all      0.22      0.00      0.00      0.00      0.00     99.78
17:30:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:38          3      0.00      0.00      0.97      0.00      0.00     99.03

17:30:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:39        all      0.00      0.00      0.30      0.00      0.00     99.70
```

```
17:30:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:39          3      0.97      0.00      0.00      0.00      0.00     99.03

17:30:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:40        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:40          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:41        all      0.29      0.00      0.29      0.00      0.00     99.43
17:30:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:41          3      0.95      0.00      0.95      0.00      0.00     98.10

17:30:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:42        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:42          3      0.00      0.00      0.98      0.00      0.00     99.02

17:30:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:43        all      0.52      0.00      0.00      0.00      0.00     99.48
17:30:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:43          3      1.92      0.00      0.00      0.00      0.00     98.08

17:30:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:44        all      0.23      0.00      0.23      0.00      0.00     99.54
17:30:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:44          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:45        all      0.30      0.00      0.30      0.00      0.00     99.41
17:30:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:45          3      0.95      0.00      1.90      0.00      0.00     97.14

17:30:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:46        all      0.21      0.00      0.64      0.00      0.00     99.15
17:30:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:46          3      0.96      0.00      0.96      0.00      0.00     98.08

17:30:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:47        all      0.30      0.00      0.60      0.00      0.00     99.11
17:30:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:47          1      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:30:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:47          3      1.89      0.00      1.89      0.94      0.00     95.28

17:30:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:48        all      0.42      0.00      0.00      0.00      0.00     99.58
17:30:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:48          3      0.97      0.00      0.00      0.00      0.00     99.03

17:30:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:49        all      0.00      0.00      0.30      0.00      0.00     99.70
17:30:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:49          3      0.95      0.00      1.90      0.00      0.00     97.14

17:30:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:50        all      0.21      0.00      0.21      0.00      0.00     99.57
17:30:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:50          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:51        all      0.58      0.00      0.58      0.00      0.00     98.83
17:30:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:51          3      1.92      0.00      1.92      0.00      0.00     96.15

17:30:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:52        all      0.41      0.00      0.20      0.00      0.00     99.39
17:30:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:52          2      0.00      0.00      0.56      0.00      0.00     99.44
17:30:52          3      1.92      0.00      0.00      0.00      0.00     98.08

17:30:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:53        all      0.30      0.00      0.59      0.00      0.00     99.11
17:30:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:53          3      1.94      0.00      2.91      0.00      0.00     95.15

17:30:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:54        all      0.22      0.00      0.44      0.00      0.00     99.33
17:30:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:54          3      0.98      0.00      0.98      0.00      0.00     98.04

17:30:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:55        all      0.30      0.00      0.00      0.00      0.00     99.70
17:30:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:55          3      0.97      0.00      0.97      0.00      0.00     98.06
```

```
17:30:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:56        all      0.21      0.00      0.21      0.00      0.00     99.57
17:30:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:56          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:57        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:57          3      0.97      0.00      0.97      0.00      0.00     98.06

17:30:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:58        all      0.21      0.00      0.21      0.00      0.00     99.58
17:30:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:58          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:30:59        all      0.00      0.00      0.00      0.00      0.00    100.00
17:30:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:30:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:30:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:30:59          3      0.00      0.00      0.00      0.00      0.00    100.00

17:30:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:31:00        all      0.00      0.00      0.21      0.00      0.00     99.79
17:31:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:31:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:31:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:31:00          3      0.00      0.00      0.98      0.00      0.00     99.02

17:31:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:31:01        all      0.00      0.00      0.30      0.00      0.00     99.70
17:31:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:31:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:31:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:31:01          3      0.00      0.00      1.92      0.00      0.00     98.08

17:31:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:31:02        all      0.00      0.00      0.21      0.21      0.00     99.57
17:31:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:31:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:31:02          2      0.00      0.00      0.00      0.00      0.00    100.00
17:31:02          3      1.00      0.00      0.00      0.00      0.00     99.00

17:31:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:31:03        all      0.00      0.00      0.00      0.00      0.00    100.00
17:31:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:31:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:31:03          2      0.00      0.00      1.59      0.00      0.00     98.41
17:31:03          3      0.00      0.00      0.00      0.00      0.00    100.00

17:31:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
17:31:04        all      0.00      0.00      0.22      0.00      0.00     99.78
17:31:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:31:04          1      0.00      0.00      0.00      0.00      0.00    100.00
17:31:04          2      0.00      0.00      0.00      0.00      0.00    100.00
17:31:04          3      0.00      0.00      0.00      0.00      0.00    100.00

17:31:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:31:05        all      0.00      0.00      0.00      0.00      0.00    100.00
17:31:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:31:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:31:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:31:05          3      0.00      0.00      0.99      0.00      0.00     99.01

17:31:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:31:06        all      0.00      0.00      0.00      0.00      0.00    100.00
17:31:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:31:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:31:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:31:06          3      0.00      0.00      0.00      0.00      0.00    100.00

17:31:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:31:07        all      0.00      0.00      0.29      0.00      0.00     99.71
17:31:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:31:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:31:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:31:07          3      0.00      0.00      0.99      0.00      0.00     99.01
```

Table 63: Iostat monitoring for the 100 threads second trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.52    0.05    0.42     1.54    15.51    36.58     0.00    4.26   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.40     0.00    11.20    28.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.40    0.00    0.00   99.40

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.29    0.00    0.44    0.00    0.00   99.26

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    2.40     0.00    22.40     9.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    54.40    0.00    5.40     0.00   478.40    88.59     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.60     0.00     6.40    10.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.05    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    1.33   1.33   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.10    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.80     0.00    12.80    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.25    0.00    0.35    0.00    0.00   99.41

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    1.33   1.33   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.35    0.00    0.30    0.00    0.00   99.36

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.20     0.00    14.40    12.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.20    0.00    0.00   99.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   114.40    0.00    9.20     0.00   988.80   107.48     0.03    3.48   0.09   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.20    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    2.67   1.33   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.00   0.00   0.00
```

Table 64: Jmeter 100 threads test third trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	100	54	41	195
19033-h-0.htm	100	169	93	440
1.css	100	49	42	73
i001_th.jpg	100	52	44	136
pgepub.css	100	50	42	76
0.css	100	50	42	95
i002_th.jpg	100	51	43	146
title.jpg	100	49	42	69
plate02_th.jpg	100	78	49	299
i008_th.jpg	100	54	44	112
plate01_th.jpg	100	75	49	236
i009_th.jpg	100	60	45	343
cover_th.jpg	100	70	48	466
i005_th.jpg	100	57	44	189
i003_th.jpg	100	51	45	82
i015_th.jpg	100	53	44	160
i011_th.jpg	100	52	46	91
i017_th.jpg	100	56	45	100
plate04_th.jpg	100	78	51	199
i022_th.jpg	100	53	44	108
i007_th.jpg	100	51	43	163
i020_th.jpg	100	53	44	105
i004_th.jpg	100	52	44	82
plate03_th.jpg	100	73	49	179
i018_th.jpg	100	53	45	94
i019_th.jpg	100	52	43	126
i016_th.jpg	100	54	44	110
i010_th.jpg	100	52	42	166
i012_th.jpg	100	55	45	154
i014_th.jpg	100	55	45	139
i021_th.jpg	100	53	44	99
i013_th.jpg	100	53	45	88
i006_th.jpg	100	54	46	94
TOTAL	3300	60	41	466

Table 65: Systat monitoring for the 100 threads third trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:33:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:05        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:05          3      0.00      0.00      0.99      0.00      0.00     99.01

17:33:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:06        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:06          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:07        all      0.23      0.00      0.23      0.00      0.00     99.54
17:33:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:07          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:08        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:08          3      0.00      0.00      0.99      0.00      0.00     99.01

17:33:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:09        all      0.00      0.00      0.22      0.00      0.00     99.78
17:33:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:09          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:10        all      0.00      0.00      0.27      0.00      0.00     99.73
17:33:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:10          3      0.00      0.00      0.99      0.00      0.00     99.01

17:33:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:11        all      0.00      0.00      0.25      0.00      0.00     99.75
17:33:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:11          3      0.00      0.00      0.98      0.00      0.00     99.02

17:33:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:12        all      0.00      0.00      0.22      0.00      0.00     99.78
17:33:12          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:33:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:12          3      0.97      0.00      0.97      0.00      0.00     98.06

17:33:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:13        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:13          3      0.00      0.00      0.97      0.00      0.00     99.03

17:33:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:14        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:14          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:15        all      0.00      0.00      0.26      0.00      0.00     99.74
17:33:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:15          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:16        all      0.00      0.00      0.24      0.00      0.00     99.76
17:33:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:16          3      0.00      0.00      0.97      0.00      0.00     99.03

17:33:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:17        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:17          3      0.00      0.00      0.99      0.00      0.00     99.01

17:33:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:18        all      0.00      0.00      0.25      0.00      0.00     99.75
17:33:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:18          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:19        all      0.20      0.00      0.40      0.00      0.00     99.40
17:33:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:19          3      0.00      0.00      1.89      0.00      0.00     98.11

17:33:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:20        all      0.00      0.00      0.32      0.00      0.00     99.68
17:33:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:20          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:33:20          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:21        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:21          3      0.00      0.00      0.96      0.00      0.00     99.04

17:33:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:22        all      0.00      0.00      0.23      0.00      0.00     99.77
17:33:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:22          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:23        all      0.25      0.00      0.25      0.00      0.00     99.50
17:33:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:23          3      0.95      0.00      0.95      0.00      0.00     98.10

17:33:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:24        all      0.00      0.00      0.24      0.00      0.00     99.76
17:33:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:24          3      0.00      0.00      1.94      0.00      0.00     98.06

17:33:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:25        all      0.27      0.00      0.27      0.00      0.00     99.46
17:33:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:25          3      0.98      0.00      0.00      0.00      0.00     99.02

17:33:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:26        all      0.48      0.00      0.24      0.00      0.00     99.28
17:33:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:26          3      1.94      0.00      1.94      0.00      0.00     96.12

17:33:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:27        all      0.00      0.00      0.48      0.00      0.00     99.52
17:33:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:27          3      0.00      0.00      0.96      0.00      0.00     99.04

17:33:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:28        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:28          3      0.00      0.00      1.90      0.00      0.00     98.10
```

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17:33:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:29        all      0.22      0.00      0.22      0.00      0.00     99.56
17:33:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:29          3      0.97      0.00      0.00      0.00      0.00     99.03

17:33:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:30        all      0.29      0.00      0.00      0.00      0.00     99.71
17:33:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:30          3      0.96      0.00      0.96      0.00      0.00     98.08

17:33:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:31        all      0.24      0.00      0.48      0.00      0.00     99.28
17:33:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:31          3      0.97      0.00      0.97      0.00      0.00     98.06

17:33:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:32        all      0.25      0.00      0.25      0.00      0.00     99.50
17:33:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:32          3      0.97      0.00      0.97      0.00      0.00     98.06

17:33:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:33        all      0.00      0.00      0.48      0.00      0.00     99.52
17:33:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:33          3      0.00      0.00      1.00      0.00      0.00     99.00

17:33:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:34        all      0.25      0.00      0.25      0.00      0.00     99.50
17:33:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:34          3      0.97      0.00      0.97      0.00      0.00     98.06

17:33:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:35        all      0.52      0.00      0.52      0.00      0.00     98.96
17:33:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:35          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:35          3      1.87      0.00      2.80      0.00      0.00     95.33

17:33:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:36        all      0.00      0.00      0.24      0.00      0.00     99.76
17:33:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:36          3      0.96      0.00      0.96      0.00      0.00     98.08

17:33:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:37        all      0.26      0.00      0.00      0.00      0.00     99.74
```

```
17:33:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:37          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:38        all      0.25      0.00      0.00      0.00      0.00     99.75
17:33:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:38          3      0.00      0.00      0.98      0.00      0.00     99.02

17:33:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:39        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:39          3      0.98      0.00      0.00      0.00      0.00     99.02

17:33:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:40        all      0.28      0.00      0.28      0.00      0.00     99.43
17:33:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:40          3      0.97      0.00      0.00      0.00      0.00     99.03

17:33:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:41        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:41          3      0.00      0.00      0.98      0.00      0.00     99.02

17:33:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:42        all      0.24      0.00      0.24      0.00      0.00     99.52
17:33:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:42          3      0.97      0.00      0.97      0.00      0.00     98.06

17:33:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:43        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:43          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:44        all      0.21      0.00      0.21      0.00      0.00     99.59
17:33:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:44          1      0.99      0.00      0.00      0.00      0.00     99.01
17:33:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:44          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:45        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:45          1      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:33:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:45          3      0.00      0.00      0.98      0.00      0.00     99.02

17:33:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:46        all      0.00      0.00      0.27      0.00      0.00     99.73
17:33:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:46          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:47        all      0.22      0.00      0.00      0.00      0.00     99.78
17:33:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:47          1      0.00      0.00      0.98      0.00      0.00     99.02
17:33:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:47          3      0.96      0.00      0.96      0.00      0.00     98.08

17:33:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:48        all      0.26      0.00      0.26      0.00      0.00     99.48
17:33:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:48          2      0.97      0.00      0.00      0.00      0.00     99.03
17:33:48          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:49        all      0.00      0.00      0.24      0.00      0.00     99.76
17:33:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:49          3      0.97      0.00      0.97      0.00      0.00     98.06

17:33:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:50        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:50          3      0.00      0.00      0.97      0.00      0.00     99.03

17:33:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:51        all      0.24      0.00      0.24      0.00      0.00     99.52
17:33:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:51          3      0.00      0.00      0.00      0.00      0.00    100.00

17:33:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:52        all      0.00      0.00      0.00      0.00      0.00    100.00
17:33:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:52          3      0.97      0.00      0.00      0.00      0.00     99.03

17:33:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:33:53        all      0.00      0.00      0.24      0.00      0.00     99.76
17:33:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:33:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:33:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:33:53          3      0.00      0.00      0.00      0.00      0.00    100.00
```

17:33:53	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:33:54	all	0.23	0.00	0.00	0.00	0.00	99.77
17:33:54	0	0.00	0.00	0.00	0.00	0.00	100.00
17:33:54	1	0.00	0.00	0.00	0.00	0.00	100.00
17:33:54	2	0.00	0.00	0.00	0.00	0.00	100.00
17:33:54	3	0.00	0.00	0.00	0.00	0.00	100.00

17:33:54	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:33:55	all	0.00	0.00	0.27	0.00	0.00	99.73
17:33:55	0	0.00	0.00	0.00	0.00	0.00	100.00
17:33:55	1	0.00	0.00	0.00	0.00	0.00	100.00
17:33:55	2	0.00	0.00	0.00	0.00	0.00	100.00
17:33:55	3	0.00	0.00	0.95	0.00	0.00	99.05

17:33:55	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:33:56	all	0.00	0.00	0.00	0.00	0.00	100.00
17:33:56	0	0.00	0.00	0.00	0.00	0.00	100.00
17:33:56	1	0.00	0.00	0.00	0.00	0.00	100.00
17:33:56	2	0.00	0.00	0.00	0.00	0.00	100.00
17:33:56	3	0.00	0.00	0.00	0.00	0.00	100.00

17:33:56	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:33:57	all	0.24	0.00	0.24	0.00	0.00	99.52
17:33:57	0	0.00	0.00	0.00	0.00	0.00	100.00
17:33:57	1	0.00	0.00	0.00	0.00	0.00	100.00
17:33:57	2	0.00	0.00	0.00	0.00	0.00	100.00
17:33:57	3	0.98	0.00	0.98	0.00	0.00	98.04

17:33:57	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:33:58	all	0.00	0.00	0.51	0.00	0.00	99.49
17:33:58	0	0.00	0.00	0.00	0.00	0.00	100.00
17:33:58	1	0.00	0.00	0.00	0.00	0.00	100.00
17:33:58	2	0.00	0.00	0.96	0.00	0.00	99.04
17:33:58	3	0.00	0.00	1.96	0.00	0.00	98.04

17:33:58	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:33:59	all	0.00	0.00	0.22	0.00	0.00	99.78
17:33:59	0	0.00	0.00	0.00	0.00	0.00	100.00
17:33:59	1	0.00	0.00	0.00	0.00	0.00	100.00
17:33:59	2	0.00	0.00	0.00	0.00	0.00	100.00
17:33:59	3	0.00	0.00	0.00	0.00	0.00	100.00

17:33:59	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:34:00	all	0.00	0.00	0.00	0.00	0.00	100.00
17:34:00	0	0.00	0.00	0.00	0.00	0.00	100.00
17:34:00	1	0.00	0.00	0.00	0.00	0.00	100.00
17:34:00	2	0.00	0.00	0.00	0.00	0.00	100.00
17:34:00	3	0.00	0.00	0.99	0.00	0.00	99.01

Table 66: Iostat monitoring for the 100 thread third trial Varnish

```
     Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.52    0.05    0.42     1.54    15.46    36.54     0.00    4.26   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.40     0.00    11.20    28.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.30    0.00    0.00   99.55

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.80     0.00     8.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.25    0.00    0.00   99.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.45    0.00    0.00   99.35

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    53.80    0.00    5.20     0.00   472.00    90.77     0.01    1.23   0.15   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.24    0.00    0.43    0.00    0.00   99.33

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    1.40     0.00    12.80     9.14     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.40    0.00    0.45    0.05    0.00   99.11

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    2.00   2.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.30    0.00    0.00   99.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.25    0.00    0.00   99.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.25    0.00    0.30    0.05    0.00   99.40

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.00    0.00    1.20     0.00    25.60    21.33     0.00    2.00   2.00   0.24

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.35    0.00    0.00   99.49

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   113.80    0.00    9.20     0.00   984.00   106.96     0.02    2.35   0.17   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.24    0.00    0.38    0.00    0.00   99.38

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.79

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    2.00     0.00    20.80    10.40     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.20    0.00    0.00   99.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.00   0.00   0.00
```

```
avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.14    0.00    0.14    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.74

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.80     0.00     8.00    10.00     0.00    0.00   0.00   0.00
```

Table 67: Jmeter 150 threads test first trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	150	53	42	171
19033-h-0.htm	150	143	95	409
1.css	150	47	41	70
i001_th.jpg	150	49	43	67
pgepub.css	150	48	40	68
0.css	150	49	42	67
i002_th.jpg	150	51	42	83
title.jpg	150	51	42	97
plate02_th.jpg	150	68	49	193
i008_th.jpg	150	50	45	90
plate01_th.jpg	150	65	50	159
i009_th.jpg	150	55	45	239
cover_th.jpg	150	64	48	302
i005_th.jpg	150	53	45	113
i003_th.jpg	150	51	43	94
i015_th.jpg	150	51	44	93
i011_th.jpg	150	51	44	95
i017_th.jpg	150	52	44	95
plate04_th.jpg	150	66	51	240
i022_th.jpg	150	51	45	101
i007_th.jpg	150	50	43	75
i020_th.jpg	150	51	44	96
i004_th.jpg	150	50	44	72
plate03_th.jpg	150	66	49	204
i018_th.jpg	150	51	44	79
i019_th.jpg	150	49	42	70
i016_th.jpg	150	53	44	144
i010_th.jpg	150	50	43	106
i012_th.jpg	150	54	44	151
i014_th.jpg	150	52	45	98
i021_th.jpg	150	52	44	89
i013_th.jpg	150	54	44	111
i006_th.jpg	150	53	46	95
TOTAL	4950	56	40	409

Table 68: Systat monitoring for the 150 threads first trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:35:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:49        all      0.28      0.00      0.00      0.00      0.00     99.72
17:35:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:49          3      0.00      0.00      0.00      0.00      0.00    100.00

17:35:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:50        all      0.00      0.00      0.25      0.00      0.00     99.75
17:35:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:50          3      0.00      0.00      0.99      0.00      0.00     99.01

17:35:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:51        all      0.00      0.00      0.25      0.00      0.00     99.75
17:35:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:51          3      0.00      0.00      0.99      0.00      0.00     99.01

17:35:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:52        all      0.00      0.00      0.00      0.00      0.00    100.00
17:35:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:52          3      0.00      0.00      0.00      0.00      0.00    100.00

17:35:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:53        all      0.00      0.00      0.25      0.00      0.00     99.75
17:35:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:53          2      0.00      0.00      1.11      0.00      0.00     98.89
17:35:53          3      0.00      0.00      0.00      0.00      0.00    100.00

17:35:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:54        all      0.00      0.00      0.25      0.00      0.00     99.75
17:35:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:54          3      0.00      0.00      0.99      0.00      0.00     99.01

17:35:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:55        all      0.00      0.00      0.00      0.00      0.00    100.00
17:35:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:55          3      0.00      0.00      0.00      0.00      0.00    100.00

17:35:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:56        all      0.00      0.00      0.23      0.00      0.00     99.77
17:35:56          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:35:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:56          3      0.00      0.00      0.97      0.00      0.00     99.03

17:35:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:57        all      0.00      0.00      0.25      0.00      0.00     99.75
17:35:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:57          3      0.00      0.00      0.93      0.00      0.00     99.07

17:35:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:58        all      0.00      0.00      0.00      0.00      0.00    100.00
17:35:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:58          3      0.00      0.00      0.00      0.00      0.00    100.00

17:35:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:35:59        all      0.00      0.00      0.24      0.00      0.00     99.76
17:35:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:35:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:35:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:35:59          3      0.00      0.00      0.95      0.00      0.00     99.05

17:35:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:00        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:00          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:01        all      0.00      0.00      0.25      0.00      0.00     99.75
17:36:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:01          3      0.00      0.00      1.87      0.00      0.00     98.13

17:36:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:02        all      0.00      0.00      0.24      0.00      0.00     99.76
17:36:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:02          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:02          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:03        all      0.00      0.00      0.25      0.00      0.00     99.75
17:36:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:03          3      0.00      0.00      0.93      0.00      0.00     99.07

17:36:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:04        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:04          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:04          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:36:04          3      0.94      0.00      0.00      0.00      0.00     99.06

17:36:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:05        all      0.25      0.00      0.74      0.00      0.00     99.01
17:36:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:05          3      0.95      0.00      2.86      0.00      0.00     96.19

17:36:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:06        all      0.51      0.00      0.51      0.00      0.00     98.98
17:36:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:06          3      0.93      0.00      1.87      0.00      0.00     97.20

17:36:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:07        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:07          3      0.94      0.00      0.94      0.00      0.00     98.11

17:36:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:08        all      0.26      0.00      0.26      0.00      0.00     99.48
17:36:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:08          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:09        all      0.25      0.00      0.50      0.00      0.00     99.25
17:36:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:09          3      0.93      0.00      0.93      0.00      0.00     98.13

17:36:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:10        all      0.00      0.00      0.24      0.00      0.00     99.76
17:36:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:10          3      0.00      0.00      0.93      0.00      0.00     99.07

17:36:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:11        all      0.24      0.00      0.71      0.00      0.00     99.05
17:36:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:11          3      0.93      0.00      2.80      0.00      0.00     96.26

17:36:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:12        all      0.47      0.00      0.47      0.00      0.00     99.05
17:36:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:12          3      1.87      0.00      1.87      0.00      0.00     96.26
```

```
17:36:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:13        all      0.26      0.00      0.52      0.00      0.00     99.22
17:36:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:13          3      0.95      0.00      3.81      0.00      0.00     95.24

17:36:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:14        all      0.51      0.00      1.02      0.00      0.00     98.47
17:36:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:14          3      1.89      0.00      2.83      0.00      0.00     95.28

17:36:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:15        all      0.50      0.00      0.25      0.00      0.00     99.26
17:36:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:15          3      1.89      0.00      1.89      0.00      0.00     96.23

17:36:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:16        all      0.47      0.00      0.47      0.00      0.00     99.05
17:36:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:16          3      1.90      0.00      0.95      0.00      0.00     97.14

17:36:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:17        all      0.00      0.00      0.74      0.00      0.00     99.26
17:36:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:17          3      0.00      0.00      1.94      0.00      0.00     98.06

17:36:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:18        all      0.25      0.00      1.01      0.00      0.00     98.74
17:36:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:18          3      0.93      0.00      4.67      0.00      0.00     94.39

17:36:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:19        all      0.49      0.00      0.24      0.00      0.00     99.27
17:36:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:19          3      1.90      0.00      0.95      0.95      0.00     96.19

17:36:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:20        all      0.75      0.00      0.75      0.00      0.00     98.50
17:36:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:20          3      2.83      0.00      2.83      0.00      0.00     94.34

17:36:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:21        all      0.96      0.00      0.00      0.00      0.00     99.04
```

```
17:36:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:21          3      2.86      0.00      0.95      0.00      0.00     96.19

17:36:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:22        all      0.00      0.00      0.24      0.00      0.00     99.76
17:36:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:22          3      0.98      0.00      0.00      0.00      0.00     99.02

17:36:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:23        all      0.52      0.00      0.26      0.00      0.00     99.21
17:36:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:23          3      0.95      0.00      0.95      0.00      0.00     98.10

17:36:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:24        all      0.00      0.00      0.25      0.00      0.00     99.75
17:36:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:24          3      0.00      0.00      0.98      0.00      0.00     99.02

17:36:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:25        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:25          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:26        all      0.00      0.00      0.25      0.00      0.00     99.75
17:36:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:26          3      0.00      0.00      0.96      0.00      0.00     99.04

17:36:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:27        all      0.00      0.00      0.24      0.00      0.00     99.76
17:36:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:27          3      0.00      0.00      0.95      0.00      0.00     99.05

17:36:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:28        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:28          3      0.00      0.00      0.93      0.00      0.00     99.07

17:36:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:29        all      0.00      0.00      0.50      0.00      0.00     99.50
17:36:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:29          1      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:36:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:29          3      0.96      0.00      0.00      0.00      0.00     99.04

17:36:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:30        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:30          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:31        all      0.00      0.00      0.25      0.00      0.00     99.75
17:36:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:31          3      0.00      0.00      0.95      0.00      0.00     99.05

17:36:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:32        all      0.23      0.00      0.23      0.00      0.00     99.53
17:36:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:32          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:33        all      0.00      0.00      0.52      0.00      0.00     99.48
17:36:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:33          3      0.93      0.00      1.87      0.00      0.00     97.20

17:36:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:34        all      0.24      0.00      0.00      0.00      0.00     99.76
17:36:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:34          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:35        all      0.25      0.00      0.50      0.00      0.00     99.25
17:36:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:35          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:35          3      0.93      0.00      3.70      0.00      0.00     95.37

17:36:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:36        all      0.47      0.00      0.24      0.00      0.00     99.29
17:36:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:36          3      1.87      0.00      0.00      0.00      0.00     98.13

17:36:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:37        all      0.23      0.00      0.47      0.00      0.00     99.30
17:36:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:37          1      0.00      0.00      0.98      0.00      0.00     99.02
17:36:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:37          3      0.93      0.00      0.93      0.00      0.00     98.15
```

```
17:36:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:38        all      0.00      0.00      0.54      0.00      0.00     99.46
17:36:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:38          3      0.94      0.00      1.89      0.00      0.00     97.17

17:36:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:39        all      0.00      0.00      0.25      0.00      0.00     99.75
17:36:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:39          3      0.00      0.00      0.95      0.00      0.00     99.05

17:36:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:40        all      0.00      0.00      0.25      0.00      0.00     99.75
17:36:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:40          3      0.00      0.00      0.98      0.00      0.00     99.02

17:36:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:41        all      0.25      0.00      0.74      0.00      0.00     99.01
17:36:41          0      0.00      0.00      1.96      0.00      0.00     98.04
17:36:41          1      0.99      0.00      0.99      0.00      0.00     98.02
17:36:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:41          3      0.00      0.00      0.95      0.00      0.00     99.05

17:36:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:42        all      0.00      0.00      0.47      0.00      0.00     99.53
17:36:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:42          3      0.00      0.00      1.90      0.00      0.00     98.10

17:36:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:43        all      0.52      0.00      0.26      0.00      0.00     99.23
17:36:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:43          3      1.90      0.00      0.95      0.00      0.00     97.14

17:36:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:44        all      0.71      0.00      0.71      0.00      0.00     98.59
17:36:44          0      0.00      0.00      0.89      0.00      0.00     99.11
17:36:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:44          3      3.74      0.00      0.93      0.00      0.00     95.33

17:36:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:45        all      0.53      0.00      0.00      0.00      0.00     99.47
17:36:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:45          3      0.97      0.00      0.97      0.00      0.00     98.06

17:36:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
17:36:46        all      0.00      0.00      0.25      0.00      0.00     99.75
17:36:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:46          3      0.00      0.00      0.99      0.00      0.00     99.01

17:36:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:47        all      0.00      0.00      0.48      0.00      0.00     99.52
17:36:47          0      0.00      0.00      1.00      0.00      0.00     99.00
17:36:47          1      0.00      0.00      0.99      0.00      0.00     99.01
17:36:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:47          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:48        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:48          3      0.00      0.00      0.99      0.00      0.00     99.01

17:36:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:49        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:49          3      0.98      0.00      0.00      0.00      0.00     99.02

17:36:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:50        all      0.25      0.00      0.49      0.25      0.00     99.01
17:36:50          0      0.99      0.00      0.99      0.00      0.00     98.02
17:36:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:50          3      0.00      0.00      0.00      0.00      0.00    100.00

17:36:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:36:51        all      0.00      0.00      0.00      0.00      0.00    100.00
17:36:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:36:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:36:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:36:51          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 69: Iostat monitoring for the 150 threads first trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.53    0.05    0.42     1.53    15.59    36.65     0.00    4.24   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.20    0.00    1.20     0.00    27.20    22.67     0.00    1.33   1.33   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    36.80    0.00    4.00     0.00   326.40    81.60     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.24    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.29    0.00    0.00   99.51

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    2.20     0.00    22.40    10.18     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.30    0.00    0.64    0.00    0.00   99.06

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.44    0.00    0.59    0.00    0.00   98.97

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    2.00   2.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.35    0.00    0.20    0.00    0.00   99.45

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.20     0.00    20.80    17.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.20    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   169.60    0.00   12.80     0.00  1459.20   114.00     0.05    3.88   0.12   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    1.33   1.33   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.44    0.00    0.00   99.36

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.35    0.00    0.45    0.00    0.00   99.21

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.00     0.00    12.80    12.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.24    0.00    0.00   99.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00
```

Table 70: Jmeter 150 threads test second trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	150	52	42	167
19033-h-0.htm	150	151	92	345
1.css	150	48	42	79
i001_th.jpg	150	49	43	99
pgepub.css	150	48	42	70
0.css	150	50	43	90
i002_th.jpg	150	54	43	539
title.jpg	150	50	42	66
plate02_th.jpg	150	73	51	284
i008_th.jpg	150	51	45	88
plate01_th.jpg	150	73	50	377
i009_th.jpg	150	55	44	349
cover_th.jpg	150	69	49	304
i005_th.jpg	150	51	44	146
i003_th.jpg	150	56	43	645
i015_th.jpg	150	52	44	140
i011_th.jpg	150	52	44	96
i017_th.jpg	150	52	45	96
plate04_th.jpg	150	73	50	248
i022_th.jpg	150	53	45	174
i007_th.jpg	150	49	44	67
i020_th.jpg	150	52	43	105
i004_th.jpg	150	51	44	73
plate03_th.jpg	150	72	50	192
i018_th.jpg	150	55	45	519
i019_th.jpg	150	51	41	91
i016_th.jpg	150	52	43	99
i010_th.jpg	150	53	43	543
i012_th.jpg	150	54	44	179
i014_th.jpg	150	55	44	454
i021_th.jpg	150	52	45	141
i013_th.jpg	150	56	45	458
i006_th.jpg	150	56	44	431
TOTAL	4950	58	41	645

Table 71: Systat monitoring for the 150 threads second trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:38:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:41        all      0.00      0.00      0.00      0.00      0.00    100.00
17:38:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:41          3      0.00      0.00      0.00      0.00      0.00    100.00

17:38:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:42        all      0.00      0.00      0.26      0.00      0.00     99.74
17:38:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:42          3      0.00      0.00      0.00      0.00      0.00    100.00

17:38:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:43        all      0.00      0.00      0.00      0.00      0.00    100.00
17:38:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:43          3      0.00      0.00      0.99      0.00      0.00     99.01

17:38:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:44        all      0.00      0.00      0.26      0.00      0.00     99.74
17:38:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:44          2      0.00      0.00      1.08      0.00      0.00     98.92
17:38:44          3      0.00      0.00      0.00      0.00      0.00    100.00

17:38:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:45        all      0.00      0.00      0.00      0.00      0.00    100.00
17:38:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:45          3      0.00      0.00      0.98      0.00      0.00     99.02

17:38:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:46        all      0.00      0.00      0.26      0.00      0.00     99.74
17:38:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:46          3      0.00      0.00      0.00      0.00      0.00    100.00

17:38:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:47        all      0.00      0.00      0.22      0.00      0.00     99.78
17:38:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:47          3      0.00      0.00      1.89      0.00      0.00     98.11

17:38:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:48        all      0.00      0.00      0.52      0.00      0.00     99.48
17:38:48          0      0.00      0.00      0.00      0.00      0.00    100.00
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17:38:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:48          3      0.00      0.00      0.00      0.00      0.00    100.00

17:38:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:49        all      0.48      0.00      0.00      0.00      0.00     99.52
17:38:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:49          3      1.82      0.00      0.91      0.00      0.00     97.27

17:38:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:50        all      0.25      0.00      0.25      0.00      0.00     99.50
17:38:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:50          3      0.95      0.00      0.95      0.00      0.00     98.10

17:38:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:51        all      0.00      0.00      0.00      0.00      0.00    100.00
17:38:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:51          3      0.00      0.00      0.96      0.00      0.00     99.04

17:38:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:52        all      0.24      0.00      0.71      0.00      0.00     99.05
17:38:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:52          3      0.94      0.00      0.94      0.00      0.00     98.11

17:38:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:53        all      0.23      0.00      0.23      0.00      0.00     99.54
17:38:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:53          2      0.00      0.00      0.88      0.00      0.00     99.12
17:38:53          3      0.93      0.00      0.93      0.00      0.00     98.13

17:38:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:54        all      0.51      0.00      0.51      0.00      0.00     98.98
17:38:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:54          2      1.14      0.00      0.00      0.00      0.00     98.86
17:38:54          3      0.95      0.00      2.86      0.00      0.00     96.19

17:38:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:55        all      0.25      0.00      0.00      0.00      0.00     99.75
17:38:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:55          3      1.92      0.00      0.00      0.00      0.00     98.08

17:38:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:56        all      0.24      0.00      0.97      0.00      0.00     98.79
17:38:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:56          2      0.00      0.00      0.00      0.00      0.00    100.00
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17:38:56          3      0.94      0.00      2.83      0.00      0.00     96.23

17:38:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:57        all      0.48      0.00      0.48      0.00      0.00     99.04
17:38:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:57          3      1.89      0.00      1.89      0.00      0.00     96.23

17:38:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:58        all      0.26      0.00      0.26      0.00      0.00     99.48
17:38:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:58          3      0.00      0.00      0.97      0.00      0.00     99.03

17:38:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:38:59        all      0.25      0.00      0.74      0.00      0.00     99.01
17:38:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:38:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:38:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:38:59          3      1.85      0.00      1.85      0.00      0.00     96.30

17:38:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:00        all      0.25      0.00      0.50      0.00      0.00     99.26
17:39:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:00          3      0.96      0.00      1.92      0.00      0.00     97.12

17:39:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:01        all      0.47      0.00      0.47      0.00      0.00     99.07
17:39:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:01          1      0.99      0.00      0.00      0.00      0.00     99.01
17:39:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:01          3      0.95      0.00      2.86      0.00      0.00     96.19

17:39:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:02        all      0.27      0.00      0.53      0.00      0.00     99.20
17:39:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:02          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:02          3      0.00      0.00      1.92      0.00      0.00     98.08

17:39:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:03        all      0.23      0.00      0.23      0.00      0.00     99.54
17:39:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:03          3      0.96      0.00      1.92      0.00      0.00     97.12

17:39:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:04        all      0.27      0.00      0.27      0.00      0.00     99.46
17:39:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:04          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:04          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:04          3      1.92      0.00      0.96      0.00      0.00     97.12
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17:39:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:05        all      0.00      0.00      0.50      0.00      0.00     99.50
17:39:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:05          3      0.00      0.00      1.89      0.00      0.00     98.11

17:39:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:06        all      0.24      0.00      0.00      0.00      0.00     99.76
17:39:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:06          1      0.99      0.00      0.00      0.00      0.00     99.01
17:39:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:06          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:07        all      0.00      0.00      0.26      0.00      0.00     99.74
17:39:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:07          3      0.00      0.00      0.97      0.00      0.00     99.03

17:39:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:08        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:08          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:09        all      0.22      0.00      0.22      0.00      0.00     99.56
17:39:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:09          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:10        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:10          3      0.93      0.00      0.00      0.00      0.00     99.07

17:39:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:11        all      0.22      0.00      0.22      0.00      0.00     99.56
17:39:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:11          3      0.92      0.00      0.92      0.00      0.00     98.17

17:39:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:12        all      0.29      0.00      0.57      0.00      0.00     99.14
17:39:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:12          3      0.94      0.00      0.94      0.00      0.00     98.11

17:39:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:13        all      0.47      0.00      0.00      0.00      0.00     99.53
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17:39:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:13          3      0.96      0.00      0.00      0.00      0.00     99.04

17:39:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:14        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:14          2      1.08      0.00      0.00      0.00      0.00     98.92
17:39:14          3      0.00      0.00      0.98      0.00      0.00     99.02

17:39:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:15        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:15          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:16        all      0.25      0.00      0.25      0.00      0.00     99.50
17:39:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:16          3      0.95      0.00      0.95      0.00      0.00     98.10

17:39:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:17        all      0.50      0.00      0.50      0.00      0.00     99.00
17:39:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:17          3      0.97      0.00      0.97      0.00      0.00     98.06

17:39:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:18        all      0.00      0.00      0.24      0.00      0.00     99.76
17:39:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:18          3      0.00      0.00      0.94      0.00      0.00     99.06

17:39:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:19        all      0.24      0.00      0.24      0.00      0.00     99.53
17:39:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:19          3      0.95      0.00      0.95      0.00      0.00     98.10

17:39:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:20        all      0.00      0.00      0.28      0.00      0.00     99.72
17:39:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:20          1      0.00      0.00      1.10      0.00      0.00     98.90
17:39:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:20          3      0.00      0.00      0.97      0.00      0.00     99.03

17:39:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:21        all      0.23      0.00      0.45      0.00      0.00     99.32
17:39:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:21          1      0.00      0.00      0.00      0.00      0.00    100.00
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17:39:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:21          3      0.92      0.00      2.75      0.00      0.00     96.33

17:39:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:22        all      0.25      0.00      0.25      0.00      0.00     99.51
17:39:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:22          3      1.89      0.00      0.00      0.00      0.00     98.11

17:39:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:23        all      0.26      0.00      0.00      0.00      0.00     99.74
17:39:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:23          1      0.90      0.00      0.00      0.00      0.00     99.10
17:39:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:23          3      0.00      0.00      0.94      0.00      0.00     99.06

17:39:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:24        all      0.00      0.00      0.52      0.00      0.00     99.48
17:39:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:24          2      0.00      0.00      1.09      0.00      0.00     98.91
17:39:24          3      0.00      0.00      0.97      0.00      0.00     99.03

17:39:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:25        all      0.23      0.00      0.23      0.00      0.00     99.53
17:39:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:25          3      0.96      0.00      0.96      0.00      0.00     98.08

17:39:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:26        all      0.26      0.00      0.26      0.00      0.00     99.48
17:39:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:26          3      0.97      0.00      0.00      0.00      0.00     99.03

17:39:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:27        all      0.22      0.00      0.22      0.00      0.00     99.56
17:39:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:27          3      0.00      0.00      0.95      0.00      0.00     99.05

17:39:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:28        all      0.00      0.00      0.51      0.00      0.00     99.49
17:39:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:28          3      0.00      0.00      1.89      0.00      0.00     98.11

17:39:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:29        all      0.51      0.00      0.25      0.00      0.00     99.24
17:39:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:29          3      1.90      0.00      0.95      0.00      0.00     97.14
```

```
17:39:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:30        all      0.24      0.00      0.48      0.00      0.00     99.28
17:39:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:30          3      0.97      0.00      1.94      0.00      0.00     97.09

17:39:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:31        all      0.25      0.00      0.25      0.00      0.00     99.51
17:39:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:31          3      0.96      0.00      0.96      0.00      0.00     98.08

17:39:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:32        all      0.27      0.00      0.00      0.00      0.00     99.73
17:39:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:32          3      1.89      0.00      0.00      0.00      0.00     98.11

17:39:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:33        all      0.45      0.00      0.90      0.00      0.00     98.65
17:39:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:33          3      1.90      0.00      2.86      0.00      0.00     95.24

17:39:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:34        all      0.50      0.00      0.00      0.00      0.00     99.50
17:39:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:34          3      0.98      0.00      0.98      0.98      0.00     97.06

17:39:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:35        all      0.25      0.00      0.25      0.00      0.00     99.50
17:39:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:35          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:35          3      0.98      0.00      0.98      0.00      0.00     98.04

17:39:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:36        all      0.00      0.00      0.27      0.00      0.00     99.73
17:39:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:36          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:37        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:37          3      0.00      0.00      0.99      0.00      0.00     99.01

17:39:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
17:39:38        all      0.00      0.00      0.26      0.00      0.00     99.74
17:39:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:38          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:39        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:39          2      0.91      0.00      0.00      0.00      0.00     99.09
17:39:39          3      0.00      0.00      0.98      0.00      0.00     99.02

17:39:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:40        all      0.00      0.00      0.26      0.00      0.00     99.74
17:39:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:40          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:41        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:41          3      0.00      0.00      0.99      0.00      0.00     99.01

17:39:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:42        all      0.00      0.00      0.26      0.00      0.00     99.74
17:39:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:42          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:43        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:43          3      0.00      0.00      0.99      0.00      0.00     99.01

17:39:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:44        all      0.00      0.00      0.26      0.00      0.00     99.74
17:39:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:44          2      0.00      0.00      1.09      0.00      0.00     98.91
17:39:44          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:45        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:45          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:46        all      0.00      0.00      0.26      0.00      0.00     99.74
17:39:46          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:39:46          1      0.00      0.00      1.08      0.00      0.00     98.92
17:39:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:46          3      0.00      0.00      0.99      0.00      0.00     99.01

17:39:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:47        all      0.00      0.00      0.24      0.00      0.00     99.76
17:39:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:47          3      0.00      0.00      0.00      0.00      0.00    100.00

17:39:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:48        all      0.23      0.00      0.00      0.00      0.00     99.77
17:39:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:48          3      0.99      0.00      0.00      0.00      0.00     99.01

17:39:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:39:49        all      0.00      0.00      0.00      0.00      0.00    100.00
17:39:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:39:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:39:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:39:49          3      0.00      0.00      0.99      0.00      0.00     99.01
```

Table 72: Iostat monitoring for the 150 second first trial Varnish

```
     Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.53    0.05    0.42     1.53    15.64    36.71     0.00    4.24   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.05    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.24    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.25    0.00    0.29    0.00    0.00   99.46

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.80    0.00    1.20     0.00    24.00    20.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.35    0.00    0.49    0.00    0.00   99.16

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    2.20     0.00    20.80     9.45     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.30    0.00    0.40    0.00    0.00   99.30

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.25    0.00    0.00   99.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   127.60    0.00   10.20     0.00  1102.40   108.08     0.04    3.69   0.16   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.15    0.00    0.00   99.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.24    0.00    0.00   99.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.30    0.00    0.00   99.51

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.25    0.00    0.00   99.56

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.30    0.00    0.40    0.00    0.00   99.30

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.00     0.00    11.20    11.20     0.00    1.60   0.80   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.15    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   155.60    0.00   11.40     0.00  1336.00   117.19     0.04    3.44   0.14   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
```

```
sda               0.00     1.00    0.00    1.00     0.00    16.00    16.00     0.00    0.00    0.00    0.00
```

Table 73: Jmeter 150 threads test third trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	150	55	41	468
19033-h-0.htm	150	186	95	603
1.css	150	49	42	84
i001_th.jpg	150	51	44	104
pgepub.css	150	49	42	69
0.css	150	51	43	78
i002_th.jpg	150	51	43	85
title.jpg	150	50	42	81
plate02_th.jpg	150	80	50	283
i008_th.jpg	150	52	44	182
plate01_th.jpg	150	83	50	352
i009_th.jpg	150	59	46	266
cover_th.jpg	150	77	48	283
i005_th.jpg	150	55	45	143
i003_th.jpg	150	53	44	188
i015_th.jpg	150	54	44	340
i011_th.jpg	150	57	45	235
i017_th.jpg	150	61	44	823
plate04_th.jpg	150	89	51	508
i022_th.jpg	150	53	44	145
i007_th.jpg	150	50	44	95
i020_th.jpg	150	53	45	124
i004_th.jpg	150	54	44	108
plate03_th.jpg	150	80	50	233
i018_th.jpg	150	55	45	137
i019_th.jpg	150	52	44	161
i016_th.jpg	150	55	44	110
i010_th.jpg	150	50	42	79
i012_th.jpg	150	57	44	145
i014_th.jpg	150	54	44	112
i021_th.jpg	150	52	45	95
i013_th.jpg	150	54	45	103
i006_th.jpg	150	55	46	103
TOTAL	4950	62	41	823

Table 74: Systat monitoring for the 150 threads third trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:41:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:15        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:15          3      0.00      0.00      0.99      0.00      0.00     99.01

17:41:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:16        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:16          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:17        all      0.00      0.00      0.24      0.00      0.00     99.76
17:41:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:17          3      0.00      0.00      0.99      0.00      0.00     99.01

17:41:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:18        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:18          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:19        all      0.00      0.00      0.25      0.00      0.00     99.75
17:41:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:19          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:20        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:20          3      0.00      0.00      1.00      0.00      0.00     99.00

17:41:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:21        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:21          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:22        all      0.00      0.00      0.22      0.00      0.00     99.78
17:41:22          0      0.00      0.00      0.00      0.00      0.00    100.00
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17:41:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:22          3      0.00      0.00      0.99      0.00      0.00     99.01

17:41:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:23        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:23          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:24        all      0.23      0.00      0.23      0.00      0.00     99.53
17:41:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:24          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:25        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:25          1      0.99      0.00      0.00      0.00      0.00     99.01
17:41:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:25          3      0.00      0.00      0.93      0.00      0.00     99.07

17:41:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:26        all      0.27      0.00      0.00      0.00      0.00     99.73
17:41:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:26          3      0.93      0.00      0.00      0.00      0.00     99.07

17:41:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:27        all      0.00      0.00      0.22      0.00      0.00     99.78
17:41:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:27          3      0.95      0.00      0.95      0.00      0.00     98.10

17:41:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:28        all      0.26      0.00      0.26      0.00      0.00     99.48
17:41:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:28          1      0.00      0.00      0.99      0.00      0.00     99.01
17:41:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:28          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:29        all      0.00      0.00      0.24      0.00      0.00     99.76
17:41:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:29          3      0.00      0.00      0.94      0.00      0.00     99.06

17:41:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:30        all      0.48      0.00      0.48      0.00      0.00     99.03
17:41:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:30          2      0.00      0.00      0.00      0.00      0.00    100.00
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17:41:30          3      1.85      0.00      0.93      0.00      0.00     97.22

17:41:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:31        all      0.00      0.00      0.49      0.00      0.00     99.51
17:41:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:31          3      0.92      0.00      1.83      0.00      0.00     97.25

17:41:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:32        all      0.44      0.00      0.22      0.00      0.00     99.34
17:41:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:32          3      0.97      0.00      1.94      0.00      0.00     97.09

17:41:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:33        all      0.00      0.00      0.32      0.00      0.00     99.68
17:41:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:33          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:34        all      0.24      0.00      0.24      0.00      0.00     99.52
17:41:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:34          3      0.95      0.00      0.95      0.00      0.00     98.10

17:41:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:35        all      0.25      0.00      0.25      0.00      0.00     99.51
17:41:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:35          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:35          3      0.94      0.00      0.94      0.00      0.00     98.11

17:41:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:36        all      0.00      0.00      0.47      0.00      0.00     99.53
17:41:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:36          3      0.00      0.00      1.89      0.00      0.00     98.11

17:41:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:37        all      0.21      0.00      0.62      0.00      0.00     99.17
17:41:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:37          3      1.83      0.00      3.67      0.00      0.00     94.50

17:41:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:38        all      0.30      0.00      0.90      0.00      0.00     98.80
17:41:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:38          3      0.00      0.00      2.86      0.00      0.00     97.14
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17:41:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:39        all      0.24      0.00      0.71      0.00      0.00     99.05
17:41:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:39          3      1.85      0.00      1.85      0.00      0.00     96.30

17:41:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:40        all      0.75      0.00      0.25      0.00      0.00     99.00
17:41:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:40          3      1.94      0.00      0.97      0.00      0.00     97.09

17:41:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:41        all      0.73      0.00      0.00      0.00      0.00     99.27
17:41:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:41          3      3.77      0.00      0.00      0.00      0.00     96.23

17:41:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:42        all      0.88      0.00      0.66      0.00      0.00     98.46
17:41:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:42          3      3.74      0.00      2.80      0.00      0.00     93.46

17:41:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:43        all      0.84      0.00      0.56      0.00      0.00     98.60
17:41:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:43          3      1.90      0.00      1.90      0.00      0.00     96.19

17:41:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:44        all      0.54      0.00      0.27      0.00      0.00     99.19
17:41:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:44          3      1.94      0.00      0.97      0.00      0.00     97.09

17:41:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:45        all      0.46      0.00      0.23      0.00      0.00     99.31
17:41:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:45          3      1.96      0.00      0.98      0.00      0.00     97.06

17:41:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:46        all      0.26      0.00      0.51      0.00      0.00     99.23
17:41:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:46          3      0.93      0.00      2.80      0.00      0.00     96.26

17:41:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:47        all      0.62      0.00      0.41      0.00      0.00     98.97
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17:41:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:47          3      2.83      0.00      0.94      0.00      0.00     96.23

17:41:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:48        all      0.33      0.00      0.00      0.00      0.00     99.67
17:41:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:48          3      0.97      0.00      0.00      0.00      0.00     99.03

17:41:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:49        all      0.00      0.00      0.72      0.00      0.00     99.28
17:41:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:49          3      0.00      0.00      1.90      0.00      0.00     98.10

17:41:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:50        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:50          3      0.93      0.00      1.85      0.00      0.00     97.22

17:41:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:51        all      0.25      0.00      0.00      0.00      0.00     99.75
17:41:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:51          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:52        all      0.00      0.00      0.22      0.00      0.00     99.78
17:41:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:52          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:53        all      0.00      0.00      0.29      0.00      0.00     99.71
17:41:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:53          1      0.99      0.00      0.00      0.00      0.00     99.01
17:41:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:53          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:54        all      0.00      0.00      0.25      0.00      0.00     99.75
17:41:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:54          3      0.00      0.00      1.90      0.00      0.00     98.10

17:41:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:55        all      0.23      0.00      0.23      0.00      0.00     99.54
17:41:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:55          1      0.00      0.00      0.00      0.00      0.00    100.00
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17:41:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:55          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:56        all      0.00      0.00      0.24      0.00      0.00     99.76
17:41:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:56          3      0.95      0.00      1.90      0.00      0.00     97.14

17:41:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:57        all      0.24      0.00      0.00      0.00      0.00     99.76
17:41:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:57          3      0.00      0.00      0.00      0.00      0.00    100.00

17:41:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:58        all      0.00      0.00      0.00      0.00      0.00    100.00
17:41:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:58          3      0.95      0.00      0.00      0.00      0.00     99.05

17:41:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:41:59        all      0.23      0.00      0.23      0.00      0.00     99.53
17:41:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:41:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:41:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:41:59          3      0.00      0.00      0.94      0.00      0.00     99.06

17:41:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:00        all      0.25      0.00      0.25      0.00      0.00     99.50
17:42:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:00          3      0.95      0.00      0.95      0.00      0.00     98.10

17:42:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:01        all      0.00      0.00      0.48      0.00      0.00     99.52
17:42:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:01          3      0.96      0.00      0.96      0.00      0.00     98.08

17:42:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:02        all      0.23      0.00      0.23      0.00      0.00     99.54
17:42:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:02          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:02          3      0.00      0.00      0.93      0.00      0.00     99.07

17:42:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:03        all      0.00      0.00      0.29      0.00      0.00     99.71
17:42:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:03          3      0.00      0.00      0.97      0.00      0.00     99.03
```

```
17:42:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:04        all      0.00      0.00      0.00      0.00      0.00    100.00
17:42:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:04          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:04          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:04          3      0.96      0.00      0.00      0.00      0.00     99.04

17:42:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:05        all      0.23      0.00      0.45      0.00      0.00     99.32
17:42:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:05          3      0.00      0.00      1.90      0.00      0.00     98.10

17:42:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:06        all      0.25      0.00      0.49      0.00      0.00     99.26
17:42:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:06          3      0.90      0.00      1.80      0.00      0.00     97.30

17:42:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:07        all      0.22      0.00      0.44      0.00      0.00     99.34
17:42:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:07          3      0.93      0.00      1.87      0.00      0.00     97.20

17:42:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:08        all      0.28      0.00      0.55      0.00      0.00     99.17
17:42:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:08          3      0.95      0.00      1.90      0.00      0.00     97.14

17:42:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:09        all      0.00      0.00      0.27      0.00      0.00     99.73
17:42:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:09          3      0.00      0.00      1.87      0.00      0.00     98.13

17:42:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:10        all      0.00      0.00      0.49      0.00      0.00     99.51
17:42:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:10          3      0.00      0.00      0.97      0.00      0.00     99.03

17:42:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:11        all      0.56      0.00      0.38      0.00      0.00     99.06
17:42:11          0      0.68      0.00      0.00      0.00      0.00     99.32
17:42:11          1      0.93      0.00      0.00      0.00      0.00     99.07
17:42:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:11          3      1.87      0.00      2.80      0.93      0.00     94.39

17:42:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
17:42:12        all      0.74      0.00      0.74      0.00      0.00     98.53
17:42:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:12          2      0.00      0.00      0.97      0.00      0.00     99.03
17:42:12          3      1.94      0.00      2.91      0.00      0.00     95.15

17:42:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:13        all      0.00      0.00      1.42      0.00      0.00     98.58
17:42:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:13          3      0.00      0.00      2.91      0.00      0.00     97.09

17:42:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:14        all      0.25      0.00      0.50      0.00      0.00     99.25
17:42:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:14          3      0.00      0.00      1.96      0.00      0.00     98.04

17:42:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:15        all      0.00      0.00      0.00      0.00      0.00    100.00
17:42:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:15          3      1.00      0.00      0.00      0.00      0.00     99.00

17:42:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:16        all      0.00      0.00      0.00      0.25      0.00     99.75
17:42:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:16          3      0.00      0.00      0.00      0.00      0.00    100.00

17:42:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:17        all      0.00      0.00      0.00      0.00      0.00    100.00
17:42:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:17          3      0.00      0.00      0.00      0.00      0.00    100.00

17:42:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:18        all      0.00      0.00      0.00      0.00      0.00    100.00
17:42:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:18          3      0.00      0.00      0.98      0.00      0.00     99.02

17:42:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:42:19        all      0.00      0.00      0.25      0.00      0.00     99.75
17:42:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:42:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:42:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:42:19          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 75: Iostat monitoring for the 150 threads third trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11        _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.54    0.05    0.42     1.53    15.69    36.75     0.00    4.23   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    2.00     0.00    24.00    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.25    0.00    0.00   99.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.34    0.00    0.00   99.46

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.39    0.00    0.54    0.00    0.00   99.07

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   153.80    0.00   12.00     0.00  1326.40   110.53     0.04    3.60   0.13   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.59    0.00    0.44    0.00    0.00   98.97

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.30    0.00    0.25    0.00    0.00   99.46

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    1.00     0.00    20.80    20.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.20    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.40    0.00    2.20     0.00    36.80    16.73     0.00    0.73   0.73   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.20    0.00    0.00   99.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.30    0.00    0.00   99.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.19    0.00    0.44    0.00    0.00   99.37

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.30    0.00    0.50    0.00    0.00   99.20

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   199.00    0.00   14.40     0.00  1707.20   118.56     0.04    2.61   0.11   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.05    0.05    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
```

```
sda               0.00    1.40    0.00    1.20    0.00   20.80   17.33    0.00    0.67   0.67   0.08
```

Table 76: Jmeter 200 threads test first trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	200	55	42	178
19033-h-0.htm	200	146	95	390
1.css	200	48	42	70
i001_th.jpg	200	52	44	110
pgepub.css	200	51	43	76
0.css	200	56	43	95
i002_th.jpg	200	53	44	95
title.jpg	200	50	42	74
plate02_th.jpg	200	68	50	195
i008_th.jpg	200	54	45	106
plate01_th.jpg	200	70	50	220
i009_th.jpg	200	55	46	209
cover_th.jpg	200	63	49	262
i005_th.jpg	200	54	44	172
i003_th.jpg	200	55	45	113
i015_th.jpg	200	54	44	103
i011_th.jpg	200	53	45	111
i017_th.jpg	200	55	45	158
plate04_th.jpg	200	68	51	255
i022_th.jpg	200	54	44	98
i007_th.jpg	200	51	45	95
i020_th.jpg	200	53	45	91
i004_th.jpg	200	53	45	93
plate03_th.jpg	200	69	50	214
i018_th.jpg	200	53	45	85
i019_th.jpg	200	51	43	77
i016_th.jpg	200	54	46	95
i010_th.jpg	200	52	44	77
i012_th.jpg	200	57	44	103
i014_th.jpg	200	54	45	109
i021_th.jpg	200	52	45	70
i013_th.jpg	200	55	45	116
i006_th.jpg	200	55	45	110
TOTAL	6600	58	42	390

Table 77: Systat monitoring for the 200 threads first trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:44:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:05        all      0.00      0.00      0.00      0.00      0.00    100.00
17:44:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:05          3      0.00      0.00      0.00      0.00      0.00    100.00

17:44:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:06        all      0.00      0.00      0.28      0.00      0.00     99.72
17:44:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:06          3      0.00      0.00      0.99      0.00      0.00     99.01

17:44:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:07        all      0.00      0.00      0.00      0.00      0.00    100.00
17:44:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:07          3      0.00      0.00      0.00      0.00      0.00    100.00

17:44:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:08        all      0.00      0.00      0.28      0.00      0.00     99.72
17:44:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:08          3      0.00      0.00      0.99      0.00      0.00     99.01

17:44:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:09        all      0.00      0.00      0.00      0.00      0.00    100.00
17:44:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:09          3      0.00      0.00      0.00      0.00      0.00    100.00

17:44:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:10        all      0.00      0.00      0.80      0.00      0.00     99.20
17:44:10          0      0.00      0.00      1.00      0.00      0.00     99.00
17:44:10          1      0.00      0.00      1.00      0.00      0.00     99.00
17:44:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:10          3      0.00      0.00      0.95      0.00      0.00     99.05

17:44:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:11        all      0.23      0.00      0.23      0.00      0.00     99.55
17:44:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:11          2      1.47      0.00      0.00      0.00      0.00     98.53
17:44:11          3      0.00      0.00      0.00      0.00      0.00    100.00

17:44:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:12        all      1.21      0.00      0.49      0.24      0.00     98.06
17:44:12          0      0.00      0.00      0.00      0.00      0.00    100.00
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17:44:12          1      0.00      0.00      0.00      0.99      0.00     99.01
17:44:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:12          3      3.70      0.00      1.85      0.00      0.00     94.44

17:44:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:13        all      0.82      0.00      0.54      0.00      0.00     98.64
17:44:13          0      0.00      0.00      1.06      0.00      0.00     98.94
17:44:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:13          2      1.52      0.00      0.00      0.00      0.00     98.48
17:44:13          3      0.95      0.00      0.95      0.00      0.00     98.10

17:44:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:14        all      0.00      0.00      0.51      0.00      0.00     99.49
17:44:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:14          3      0.93      0.00      0.93      0.00      0.00     98.15

17:44:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:15        all      0.49      0.00      0.74      0.00      0.00     98.77
17:44:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:15          3      0.90      0.00      4.50      0.00      0.00     94.59

17:44:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:16        all      0.70      0.00      0.70      0.00      0.00     98.59
17:44:16          0      0.95      0.00      0.95      0.00      0.00     98.10
17:44:16          1      1.03      0.00      0.00      0.00      0.00     98.97
17:44:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:16          3      1.83      0.00      0.92      0.00      0.00     97.25

17:44:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:17        all      0.00      0.00      0.26      0.00      0.00     99.74
17:44:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:17          3      0.93      0.00      1.87      0.00      0.00     97.20

17:44:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:18        all      0.50      0.00      0.50      0.00      0.00     99.00
17:44:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:18          2      0.00      0.00      0.96      0.00      0.00     99.04
17:44:18          3      0.93      0.00      1.87      0.00      0.00     97.20

17:44:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:19        all      0.00      0.00      0.48      0.00      0.00     99.52
17:44:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:19          1      0.00      0.00      0.83      0.00      0.00     99.17
17:44:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:19          3      0.00      0.00      0.96      0.00      0.00     99.04

17:44:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:20        all      0.25      0.00      0.74      0.00      0.00     99.02
17:44:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:20          2      0.00      0.00      0.00      0.00      0.00    100.00
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17:44:20         3      1.89      0.00      1.89      0.00      0.00     96.23

17:44:20       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:21       all      0.49      0.00      0.97      0.00      0.00     98.54
17:44:21         0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:21         1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:21         2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:21         3      0.92      0.00      1.83      0.00      0.00     97.25

17:44:21       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:22       all      0.48      0.00      0.72      0.00      0.00     98.80
17:44:22         0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:22         1      0.00      0.00      1.22      0.00      0.00     98.78
17:44:22         2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:22         3      1.89      0.00      1.89      0.00      0.00     96.23

17:44:22       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:23       all      0.25      0.00      0.25      0.00      0.00     99.49
17:44:23         0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:23         1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:23         2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:23         3      0.95      0.00      0.95      0.00      0.00     98.10

17:44:23       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:24       all      0.79      0.00      0.79      0.00      0.00     98.41
17:44:24         0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:24         1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:24         2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:24         3      2.83      0.00      2.83      0.00      0.00     94.34

17:44:24       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:25       all      0.46      0.00      0.23      0.00      0.00     99.32
17:44:25         0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:25         1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:25         2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:25         3      1.89      0.00      1.89      0.00      0.00     96.23

17:44:25       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:26       all      0.00      0.00      0.49      0.00      0.00     99.51
17:44:26         0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:26         1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:26         2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:26         3      0.00      0.00      0.96      0.00      0.00     99.04

17:44:26       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:27       all      0.99      0.00      0.49      0.00      0.00     98.52
17:44:27         0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:27         1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:27         2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:27         3      3.67      0.00      1.83      0.00      0.00     94.50

17:44:27       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:28       all      0.79      0.00      0.26      0.00      0.00     98.95
17:44:28         0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:28         1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:28         2      0.96      0.00      0.00      0.00      0.00     99.04
17:44:28         3      2.83      0.00      2.83      0.00      0.00     94.34
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17:44:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:29        all      0.47      0.00      0.47      0.00      0.00     99.05
17:44:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:29          3      1.92      0.00      1.92      0.00      0.00     96.15

17:44:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:30        all      0.27      0.00      0.00      0.00      0.00     99.73
17:44:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:30          3      0.95      0.00      0.95      0.00      0.00     98.10

17:44:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:31        all      0.24      0.00      0.48      0.00      0.00     99.28
17:44:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:31          3      0.95      0.00      0.00      0.00      0.00     99.05

17:44:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:32        all      0.00      0.00      0.00      0.00      0.00    100.00
17:44:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:32          3      0.00      0.00      0.93      0.00      0.00     99.07

17:44:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:33        all      0.24      0.00      0.00      0.00      0.00     99.76
17:44:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:33          3      0.00      0.00      0.00      0.00      0.00    100.00

17:44:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:34        all      0.26      0.00      0.26      0.00      0.00     99.49
17:44:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:34          3      0.93      0.00      0.93      0.00      0.00     98.15

17:44:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:35        all      0.00      0.00      0.00      0.00      0.00    100.00
17:44:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:35          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:35          3      0.00      0.00      0.98      0.00      0.00     99.02

17:44:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:36        all      0.25      0.00      0.50      0.00      0.00     99.25
17:44:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:36          1      1.18      0.00      0.00      0.00      0.00     98.82
17:44:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:36          3      0.00      0.00      0.00      0.00      0.00    100.00

17:44:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:37        all      0.00      0.00      0.00      0.00      0.00    100.00
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17:44:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:37          3      0.00      0.00      0.93      0.00      0.00     99.07

17:44:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:38        all      0.00      0.00      0.46      0.00      0.00     99.54
17:44:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:38          1      0.00      0.00      1.00      0.00      0.00     99.00
17:44:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:38          3      0.00      0.00      0.95      0.00      0.00     99.05

17:44:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:39        all      0.00      0.00      0.00      0.00      0.00    100.00
17:44:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:39          3      0.00      0.00      0.92      0.00      0.00     99.08

17:44:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:40        all      0.00      0.00      0.27      0.00      0.00     99.73
17:44:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:40          3      0.00      0.00      0.00      0.00      0.00    100.00

17:44:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:41        all      0.24      0.00      0.24      0.00      0.00     99.53
17:44:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:41          3      0.92      0.00      0.92      0.00      0.00     98.17

17:44:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:42        all      0.00      0.00      0.00      0.00      0.00    100.00
17:44:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:42          3      0.00      0.00      0.00      0.00      0.00    100.00

17:44:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:43        all      0.42      0.00      0.42      0.00      0.00     99.15
17:44:43          0      0.00      0.00      0.96      0.00      0.00     99.04
17:44:43          1      0.86      0.00      0.86      0.00      0.00     98.28
17:44:43          2      0.68      0.00      0.00      0.00      0.00     99.32
17:44:43          3      0.00      0.00      1.85      0.00      0.00     98.15

17:44:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:44        all      0.28      0.00      0.28      0.00      0.00     99.45
17:44:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:44          3      0.92      0.00      0.00      0.00      0.00     99.08

17:44:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:45        all      0.24      0.00      0.49      0.00      0.00     99.27
17:44:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:45          1      0.00      0.00      0.00      0.00      0.00    100.00
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17:44:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:45          3      0.89      0.00      1.79      0.00      0.00     97.32

17:44:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:46        all      0.22      0.00      0.44      0.00      0.00     99.34
17:44:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:46          1      0.00      0.00      1.04      0.00      0.00     98.96
17:44:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:46          3      0.95      0.00      0.95      0.00      0.00     98.10

17:44:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:47        all      0.00      0.00      0.56      0.00      0.00     99.44
17:44:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:47          3      0.00      0.00      1.85      0.00      0.00     98.15

17:44:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:48        all      0.26      0.00      0.26      0.00      0.00     99.49
17:44:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:48          3      0.94      0.00      0.94      0.00      0.00     98.11

17:44:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:49        all      0.69      0.00      0.00      0.00      0.00     99.31
17:44:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:49          3      2.73      0.00      0.00      0.00      0.00     97.27

17:44:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:50        all      0.26      0.00      0.53      0.00      0.00     99.21
17:44:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:50          3      0.91      0.00      1.82      0.00      0.00     97.27

17:44:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:51        all      0.23      0.00      0.70      0.00      0.00     99.07
17:44:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:51          3      0.94      0.00      1.89      0.00      0.00     97.17

17:44:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:52        all      0.75      0.00      0.75      0.00      0.00     98.51
17:44:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:52          1      1.15      0.00      0.00      0.00      0.00     98.85
17:44:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:52          3      2.70      0.00      1.80      0.00      0.00     95.50

17:44:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:53        all      0.72      0.00      0.48      0.00      0.00     98.80
17:44:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:53          3      2.80      0.00      1.87      0.00      0.00     95.33
```

```
17:44:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:54        all      1.49      0.00      0.50      0.00      0.00     98.02
17:44:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:54          3      5.41      0.00      2.70      0.00      0.00     91.89

17:44:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:55        all      0.26      0.00      0.51      0.00      0.00     99.23
17:44:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:55          3      0.00      0.00      0.97      0.00      0.00     99.03

17:44:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:56        all      0.47      0.00      0.24      0.00      0.00     99.29
17:44:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:56          3      1.89      0.00      0.00      0.00      0.00     98.11

17:44:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:57        all      0.24      0.00      0.24      0.00      0.00     99.51
17:44:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:57          3      0.92      0.00      2.75      0.00      0.00     96.33

17:44:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:58        all      0.76      0.00      0.51      0.00      0.00     98.74
17:44:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:58          2      0.96      0.00      0.00      0.00      0.00     99.04
17:44:58          3      2.78      0.00      0.93      0.00      0.00     96.30

17:44:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:44:59        all      0.73      0.00      0.00      0.00      0.00     99.27
17:44:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:44:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:44:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:44:59          3      1.90      0.00      0.95      0.00      0.00     97.14

17:44:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:45:00        all      0.00      0.00      0.26      0.00      0.00     99.74
17:45:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:45:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:45:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:45:00          3      0.98      0.00      0.00      0.00      0.00     99.02

17:45:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:45:01        all      0.00      0.00      0.24      0.00      0.00     99.76
17:45:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:45:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:45:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:45:01          3      0.00      0.00      1.00      0.00      0.00     99.00
```

Table 78: Iostat monitoring for the 200 threads first trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.55    0.05    0.42     1.53    15.75    36.82     0.00    4.22   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.40     0.00    12.80    32.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.34    0.00    0.29    0.05    0.00   99.33

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.40    0.00    0.60    0.00    0.00   99.01

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.29    0.00    0.68    0.00    0.00   99.03

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    2.60     0.00    22.40     8.62     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.54    0.00    0.44    0.00    0.00   99.01

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   137.40    0.00   10.80     0.00  1185.60   109.78     0.03    3.19   0.15   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.35    0.00    0.20    0.00    0.00   99.45

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.00     0.00    19.20    19.20     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.19    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.20     0.00    20.80    17.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.40    0.00    0.00   99.41

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.49    0.00    0.49    0.00    0.00   99.02

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.59    0.00    0.39    0.00    0.00   99.02

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   226.20    0.00   18.00     0.00  1953.60   108.53     0.08    4.58   0.18   0.32

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.30    0.00    0.15    0.00    0.00   99.55

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00
```

Table 79: Jmeter 200 threads test second trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	200	56	42	169
19033-h-0.htm	200	152	93	441
1.css	200	48	42	103
i001_th.jpg	200	52	42	135
pgepub.css	200	52	43	103
0.css	200	55	43	117
i002_th.jpg	200	53	44	130
title.jpg	200	50	42	104
plate02_th.jpg	200	72	49	211
i008_th.jpg	200	56	44	336
plate01_th.jpg	200	72	50	249
i009_th.jpg	200	54	45	164
cover_th.jpg	200	62	48	158
i005_th.jpg	200	53	44	103
i003_th.jpg	200	55	44	96
i015_th.jpg	200	55	44	110
i011_th.jpg	200	53	45	96
i017_th.jpg	200	55	45	113
plate04_th.jpg	200	69	51	223
i022_th.jpg	200	55	45	239
i007_th.jpg	200	51	44	104
i020_th.jpg	200	56	44	578
i004_th.jpg	200	54	44	143
plate03_th.jpg	200	74	49	256
i018_th.jpg	200	54	44	154
i019_th.jpg	200	51	42	129
i016_th.jpg	200	57	44	445
i010_th.jpg	200	53	42	92
i012_th.jpg	200	57	44	247
i014_th.jpg	200	55	45	142
i021_th.jpg	200	54	44	114
i013_th.jpg	200	55	44	150
i006_th.jpg	200	57	45	183
TOTAL	6600	59	42	578

Table 80: Systat monitoring for the 200 threads second trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:46:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:38        all      0.00      0.00      0.29      0.00      0.00     99.71
17:46:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:38          3      0.00      0.00      0.00      0.00      0.00    100.00

17:46:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:39        all      0.00      0.00      0.00      0.00      0.00    100.00
17:46:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:39          3      0.00      0.00      0.99      0.00      0.00     99.01

17:46:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:40        all      0.00      0.00      0.00      0.00      0.00    100.00
17:46:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:40          3      0.00      0.00      0.00      0.00      0.00    100.00

17:46:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:41        all      0.00      0.00      0.25      0.00      0.00     99.75
17:46:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:41          3      0.00      0.00      0.00      0.00      0.00    100.00

17:46:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:42        all      0.00      0.00      0.25      0.00      0.00     99.75
17:46:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:42          3      0.00      0.00      0.99      0.00      0.00     99.01

17:46:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:43        all      0.00      0.00      0.00      0.00      0.00    100.00
17:46:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:43          3      0.00      0.00      0.00      0.00      0.00    100.00

17:46:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:44        all      0.25      0.00      0.50      0.00      0.00     99.25
17:46:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:44          3      0.97      0.00      1.94      0.00      0.00     97.09

17:46:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:45        all      0.00      0.00      0.24      0.00      0.00     99.76
17:46:45          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:46:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:45          3      0.00      0.00      0.00      0.00      0.00    100.00

17:46:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:46        all      0.00      0.00      0.27      0.00      0.00     99.73
17:46:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:46          3      0.00      0.00      0.93      0.00      0.00     99.07

17:46:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:47        all      0.00      0.00      0.00      0.00      0.00    100.00
17:46:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:47          3      0.00      0.00      0.00      0.00      0.00    100.00

17:46:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:48        all      0.00      0.00      0.00      0.00      0.00    100.00
17:46:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:48          3      0.00      0.00      0.91      0.00      0.00     99.09

17:46:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:49        all      0.00      0.00      0.26      0.00      0.00     99.74
17:46:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:49          3      0.00      0.00      0.00      0.00      0.00    100.00

17:46:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:50        all      0.00      0.00      0.23      0.00      0.00     99.77
17:46:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:50          3      0.00      0.00      0.91      0.00      0.00     99.09

17:46:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:51        all      0.00      0.00      0.00      0.00      0.00    100.00
17:46:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:51          3      0.00      0.00      0.94      0.00      0.00     99.06

17:46:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:52        all      0.00      0.00      0.49      0.00      0.00     99.51
17:46:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:52          3      0.00      0.00      0.95      0.00      0.00     99.05

17:46:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:53        all      0.00      0.00      0.00      0.00      0.00    100.00
17:46:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:53          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:46:53          3      0.00      0.00      0.00      0.00      0.00    100.00

17:46:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:54        all      0.28      0.00      0.56      0.00      0.00     99.16
17:46:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:54          3      0.91      0.00      1.82      0.00      0.00     97.27

17:46:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:55        all      0.00      0.00      0.26      0.00      0.00     99.74
17:46:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:55          3      0.00      0.00      0.94      0.00      0.00     99.06

17:46:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:56        all      0.24      0.00      0.24      0.00      0.00     99.52
17:46:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:56          3      0.93      0.00      0.00      0.00      0.00     99.07

17:46:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:57        all      0.23      0.00      0.23      0.00      0.00     99.53
17:46:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:57          3      0.94      0.00      0.94      0.00      0.00     98.11

17:46:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:58        all      0.00      0.00      0.00      0.00      0.00    100.00
17:46:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:58          3      0.00      0.00      0.92      0.92      0.00     98.17

17:46:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:46:59        all      1.01      0.00      0.50      0.00      0.00     98.49
17:46:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:46:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:46:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:46:59          3      3.57      0.00      1.79      0.00      0.00     94.64

17:46:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:00        all      0.51      0.00      0.25      0.00      0.00     99.24
17:47:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:00          3      1.87      0.00      0.00      0.00      0.00     98.13

17:47:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:01        all      0.48      0.00      0.48      0.00      0.00     99.04
17:47:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:01          3      1.89      0.00      1.89      0.00      0.00     96.23
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17:47:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:02        all      0.47      0.00      0.70      0.00      0.00     98.83
17:47:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:02          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:02          3      1.87      0.00      2.80      0.00      0.00     95.33

17:47:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:03        all      0.46      0.00      0.69      0.00      0.00     98.84
17:47:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:03          3      1.87      0.00      3.74      0.00      0.00     94.39

17:47:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:04        all      0.57      0.00      0.00      0.00      0.00     99.43
17:47:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:04          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:04          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:04          3      1.90      0.00      0.95      0.00      0.00     97.14

17:47:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:05        all      0.25      0.00      0.25      0.00      0.00     99.50
17:47:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:05          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:05          3      0.95      0.00      0.00      0.00      0.00     99.05

17:47:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:06        all      0.25      0.00      0.25      0.00      0.00     99.50
17:47:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:06          3      0.96      0.00      0.96      0.00      0.00     98.08

17:47:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:07        all      0.00      0.00      0.25      0.00      0.00     99.75
17:47:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:07          3      0.00      0.00      0.97      0.00      0.00     99.03

17:47:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:08        all      0.62      0.00      0.21      0.00      0.00     99.17
17:47:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:08          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:08          3      2.75      0.00      0.92      0.00      0.00     96.33

17:47:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:09        all      0.28      0.00      0.28      0.00      0.00     99.44
17:47:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:09          3      0.96      0.00      0.96      0.00      0.00     98.08

17:47:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:10        all      0.49      0.00      0.74      0.00      0.00     98.77
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17:47:10          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:10          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:10          3      1.90      0.00      2.86      0.00      0.00     95.24

17:47:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:11        all      0.49      0.00      0.73      0.00      0.00     98.78
17:47:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:11          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:11          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:11          3      1.87      0.00      2.80      0.00      0.00     95.33

17:47:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:12        all      0.00      0.00      0.54      0.00      0.00     99.46
17:47:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:12          3      0.00      0.00      1.92      0.00      0.00     98.08

17:47:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:13        all      0.64      0.00      0.21      0.00      0.00     99.15
17:47:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:13          3      2.80      0.00      0.93      0.00      0.00     96.26

17:47:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:14        all      0.26      0.00      0.26      0.00      0.00     99.47
17:47:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:14          3      0.96      0.00      0.96      0.00      0.00     98.08

17:47:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:15        all      0.00      0.00      0.00      0.00      0.00    100.00
17:47:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:15          3      0.00      0.00      0.00      0.00      0.00    100.00

17:47:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:16        all      0.00      0.00      0.49      0.00      0.00     99.51
17:47:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:16          3      0.00      0.00      0.93      0.00      0.00     99.07

17:47:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:17        all      0.00      0.00      0.00      0.00      0.00    100.00
17:47:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:17          3      0.00      0.00      0.94      0.00      0.00     99.06

17:47:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:18        all      0.45      0.00      0.00      0.00      0.00     99.55
17:47:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:18          1      0.00      0.00      0.00      0.00      0.00    100.00
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17:47:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:18          3      1.90      0.00      0.00      0.00      0.00     98.10

17:47:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:19        all      0.00      0.00      0.29      0.00      0.00     99.71
17:47:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:19          3      0.00      0.00      0.93      0.00      0.00     99.07

17:47:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:20        all      0.00      0.00      0.00      0.00      0.00    100.00
17:47:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:20          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:20          3      0.00      0.00      0.00      0.00      0.00    100.00

17:47:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:21        all      0.00      0.00      0.27      0.00      0.00     99.73
17:47:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:21          3      0.00      0.00      0.95      0.00      0.00     99.05

17:47:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:22        all      0.24      0.00      0.24      0.00      0.00     99.51
17:47:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:22          3      0.94      0.00      0.00      0.00      0.00     99.06

17:47:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:23        all      0.00      0.00      0.22      0.00      0.00     99.78
17:47:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:23          3      0.00      0.00      1.85      0.00      0.00     98.15

17:47:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:24        all      0.00      0.00      0.52      0.00      0.00     99.48
17:47:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:24          3      0.00      0.00      1.92      0.00      0.00     98.08

17:47:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:25        all      0.26      0.00      0.26      0.00      0.00     99.48
17:47:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:25          3      0.91      0.00      0.91      0.00      0.00     98.18

17:47:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:26        all      0.46      0.00      0.23      0.00      0.00     99.31
17:47:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:26          3      1.87      0.00      1.87      0.00      0.00     96.26
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17:47:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:27        all      0.49      0.00      0.00      0.00      0.00     99.51
17:47:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:27          3      1.77      0.00      0.88      0.00      0.00     97.35

17:47:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:28        all      0.22      0.00      0.22      0.22      0.00     99.34
17:47:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:28          3      0.90      0.00      0.00      0.90      0.00     98.20

17:47:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:29        all      0.00      0.00      0.26      0.00      0.00     99.74
17:47:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:29          3      0.00      0.00      1.89      0.00      0.00     98.11

17:47:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:30        all      0.26      0.00      0.26      0.00      0.00     99.48
17:47:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:30          3      0.95      0.00      0.00      0.00      0.00     99.05

17:47:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:31        all      0.24      0.00      0.24      0.00      0.00     99.52
17:47:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:31          3      0.93      0.00      0.93      0.00      0.00     98.13

17:47:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:32        all      0.75      0.00      0.50      0.00      0.00     98.75
17:47:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:32          3      2.75      0.00      1.83      0.00      0.00     95.41

17:47:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:33        all      0.44      0.00      0.22      0.00      0.00     99.34
17:47:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:33          3      1.85      0.00      0.93      0.00      0.00     97.22

17:47:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:34        all      0.27      0.00      0.54      0.00      0.00     99.18
17:47:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:34          3      0.97      0.00      0.97      0.00      0.00     98.06

17:47:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
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17:47:35        all      0.00      0.00      0.53      0.00      0.00     99.47
17:47:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:35          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:35          3      0.00      0.00      1.00      0.00      0.00     99.00

17:47:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:36        all      0.25      0.00      0.00      0.00      0.00     99.75
17:47:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:36          3      0.99      0.00      0.00      0.00      0.00     99.01

17:47:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:37        all      0.00      0.00      0.25      0.00      0.00     99.75
17:47:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:37          3      0.00      0.00      0.00      0.00      0.00    100.00

17:47:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:38        all      0.00      0.00      0.00      0.00      0.00    100.00
17:47:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:38          3      0.00      0.00      0.00      0.00      0.00    100.00

17:47:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:39        all      0.00      0.00      0.00      0.00      0.00    100.00
17:47:39          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:39          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:39          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:39          3      0.00      0.00      0.99      0.00      0.00     99.01

17:47:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:40        all      0.00      0.00      0.00      0.00      0.00    100.00
17:47:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:40          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:40          3      0.00      0.00      0.99      0.00      0.00     99.01

17:47:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:47:41        all      0.25      0.00      0.00      0.00      0.00     99.75
17:47:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:47:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:47:41          2      0.00      0.00      0.00      0.00      0.00    100.00
17:47:41          3      0.98      0.00      0.00      0.00      0.00     99.02
```

Table 81: Iostat monitoring for the 200 threads second trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.55    0.05    0.42     1.53    15.82    36.90     0.00    4.22   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.25    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    1.00     0.00    14.40    14.40     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    2.20     0.00    20.80     9.45     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.29    0.00    0.00   99.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.00     0.00    12.80    12.80     0.00    0.80   0.80   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.44    0.00    0.25    0.00    0.00   99.31

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    0.60     0.00    17.60    29.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.40    0.00    0.45    0.00    0.00   99.15

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   137.80    0.00   11.00     0.00  1190.40   108.22     0.02    2.11   0.07   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.34    0.00    0.44    0.00    0.00   99.22

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.25    0.00    0.25    0.00    0.00   99.51

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.20     0.00    20.80    17.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.00     0.00    11.20    11.20     0.00    1.60   0.80   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.29    0.00    0.00   99.51

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    2.40     0.00    24.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.20    0.05    0.00   99.56

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    1.33   1.33   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.40    0.00    0.35    0.00    0.00   99.26

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   224.00    0.00   16.80     0.00  1926.40   114.67     0.08    4.76   0.14   0.24

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.05    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
```

```
sda               0.00     1.40    0.00    1.00     0.00    19.20    19.20     0.00    0.00    0.00    0.00
```

Table 82: Jmeter 200 threads test third trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	200	61	42	541
19033-h-0.htm	200	167	95	508
1.css	200	53	42	106
i001_th.jpg	200	54	42	117
pgepub.css	200	53	42	86
0.css	200	55	42	111
i002_th.jpg	200	55	44	113
title.jpg	200	53	42	106
plate02_th.jpg	200	77	50	231
i008_th.jpg	200	56	45	127
plate01_th.jpg	200	74	51	163
i009_th.jpg	200	59	45	524
cover_th.jpg	200	73	49	308
i005_th.jpg	200	55	45	101
i003_th.jpg	200	57	44	116
i015_th.jpg	200	56	45	127
i011_th.jpg	200	57	46	156
i017_th.jpg	200	56	45	124
plate04_th.jpg	200	79	50	343
i022_th.jpg	200	55	44	103
i007_th.jpg	200	55	44	120
i020_th.jpg	200	56	44	99
i004_th.jpg	200	57	44	129
plate03_th.jpg	200	75	51	159
i018_th.jpg	200	57	45	123
i019_th.jpg	200	54	44	98
i016_th.jpg	200	58	44	124
i010_th.jpg	200	54	43	107
i012_th.jpg	200	61	46	462
i014_th.jpg	200	56	45	146
i021_th.jpg	200	55	44	106
i013_th.jpg	200	59	44	132
i006_th.jpg	200	60	45	217
TOTAL	6600	62	42	541

Table 83: Systat monitoring for the 200 threads third trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:49:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:40        all      0.00      0.00      0.00      0.00      0.00    100.00
17:49:40          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:40          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:40          2      1.30      0.00      0.00      0.00      0.00     98.70
17:49:40          3      0.00      0.00      0.99      0.00      0.00     99.01

17:49:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:41        all      0.00      0.00      0.26      0.00      0.00     99.74
17:49:41          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:41          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:41          2      0.00      0.00      0.99      0.00      0.00     99.01
17:49:41          3      0.00      0.00      0.00      0.00      0.00    100.00

17:49:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:42        all      0.00      0.00      0.25      0.00      0.00     99.75
17:49:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:42          3      0.00      0.00      1.00      0.00      0.00     99.00

17:49:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:43        all      0.25      0.00      0.00      0.00      0.00     99.75
17:49:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:43          3      0.00      0.00      0.00      0.00      0.00    100.00

17:49:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:44        all      0.00      0.00      0.00      0.00      0.00    100.00
17:49:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:44          3      0.00      0.00      0.00      0.00      0.00    100.00

17:49:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:45        all      0.24      0.00      0.47      0.00      0.00     99.29
17:49:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:45          3      0.97      0.00      1.94      0.00      0.00     97.09

17:49:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:46        all      0.68      0.00      0.45      0.00      0.00     98.87
17:49:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:46          3      2.80      0.00      2.80      0.00      0.00     94.39

17:49:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:47        all      0.53      0.00      0.53      0.00      0.00     98.95
17:49:47          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:49:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:47          3      1.87      0.00      2.80      0.00      0.00     95.33

17:49:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:48        all      0.46      0.00      0.23      0.00      0.00     99.30
17:49:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:48          3      1.89      0.00      0.94      0.00      0.00     97.17

17:49:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:49        all      0.48      0.00      0.72      0.00      0.00     98.80
17:49:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:49          3      1.87      0.00      1.87      0.00      0.00     96.26

17:49:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:50        all      0.75      0.00      0.50      0.00      0.00     98.74
17:49:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:50          3      2.80      0.00      0.93      0.00      0.00     96.26

17:49:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:51        all      0.51      0.00      0.76      0.00      0.00     98.73
17:49:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:51          3      1.92      0.00      2.88      0.00      0.00     95.19

17:49:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:52        all      0.47      0.00      0.47      0.00      0.00     99.05
17:49:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:52          3      1.89      0.00      2.83      0.00      0.00     95.28

17:49:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:53        all      0.79      0.00      0.26      0.00      0.00     98.94
17:49:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:53          3      2.86      0.00      1.90      0.00      0.00     95.24

17:49:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:54        all      1.13      0.00      0.90      0.00      0.00     97.97
17:49:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:54          3      4.63      0.00      2.78      0.00      0.00     92.59

17:49:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:55        all      0.52      0.00      0.52      0.00      0.00     98.97
17:49:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:55          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:49:55          3      1.94      0.00      0.97      0.00      0.00     97.09

17:49:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:56        all      0.24      0.00      0.48      0.00      0.00     99.27
17:49:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:56          3      0.93      0.00      2.78      0.00      0.00     96.30

17:49:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:57        all      0.27      0.00      0.54      0.00      0.00     99.20
17:49:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:57          3      0.96      0.00      1.92      0.00      0.00     97.12

17:49:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:58        all      0.00      0.00      0.23      0.00      0.00     99.77
17:49:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:58          3      0.00      0.00      0.95      0.00      0.00     99.05

17:49:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:49:59        all      0.00      0.00      0.27      0.00      0.00     99.73
17:49:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:49:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:49:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:49:59          3      0.00      0.00      0.95      0.00      0.00     99.05

17:49:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:00        all      0.00      0.00      0.00      0.00      0.00    100.00
17:50:00          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:00          3      0.96      0.00      0.00      0.00      0.00     99.04

17:50:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:01        all      0.00      0.00      0.22      0.00      0.00     99.78
17:50:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:01          3      0.00      0.00      0.00      0.00      0.00    100.00

17:50:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:02        all      0.00      0.00      0.27      0.00      0.00     99.73
17:50:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:02          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:02          3      0.00      0.00      1.89      0.00      0.00     98.11

17:50:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:03        all      0.00      0.00      0.24      0.00      0.00     99.76
17:50:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:03          3      0.00      0.00      0.00      0.00      0.00    100.00
```

17:50:03	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:04	all	0.00	0.00	0.00	0.00	0.00	100.00
17:50:04	0	0.00	0.00	0.00	0.00	0.00	100.00
17:50:04	1	0.00	0.00	0.00	0.00	0.00	100.00
17:50:04	2	0.00	0.00	0.00	0.00	0.00	100.00
17:50:04	3	0.00	0.00	0.94	0.00	0.00	99.06
17:50:04	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:05	all	0.00	0.00	0.00	0.00	0.00	100.00
17:50:05	0	0.00	0.00	0.00	0.00	0.00	100.00
17:50:05	1	0.00	0.00	0.00	0.00	0.00	100.00
17:50:05	2	0.00	0.00	0.00	0.00	0.00	100.00
17:50:05	3	0.00	0.00	0.00	0.00	0.00	100.00
17:50:05	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:06	all	0.00	0.00	0.45	0.00	0.00	99.55
17:50:06	0	0.00	0.00	0.00	0.00	0.00	100.00
17:50:06	1	0.00	0.00	0.00	0.00	0.00	100.00
17:50:06	2	0.00	0.00	0.00	0.00	0.00	100.00
17:50:06	3	0.00	0.00	0.95	0.00	0.00	99.05
17:50:06	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:07	all	0.25	0.00	0.50	0.00	0.00	99.24
17:50:07	0	0.00	0.00	0.00	0.00	0.00	100.00
17:50:07	1	0.00	0.00	0.00	0.00	0.00	100.00
17:50:07	2	0.00	0.00	0.00	0.00	0.00	100.00
17:50:07	3	0.00	0.00	1.92	0.00	0.00	98.08
17:50:07	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:08	all	0.00	0.00	0.48	0.00	0.00	99.52
17:50:08	0	0.00	0.00	0.00	0.00	0.00	100.00
17:50:08	1	0.00	0.00	0.00	0.00	0.00	100.00
17:50:08	2	0.00	0.00	0.99	0.00	0.00	99.01
17:50:08	3	0.00	0.00	0.93	0.00	0.00	99.07
17:50:08	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:09	all	0.00	0.00	0.49	0.00	0.00	99.51
17:50:09	0	0.00	0.00	0.00	0.00	0.00	100.00
17:50:09	1	0.00	0.00	0.00	0.00	0.00	100.00
17:50:09	2	0.00	0.00	0.00	0.00	0.00	100.00
17:50:09	3	0.00	0.00	1.89	0.00	0.00	98.11
17:50:09	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:10	all	0.00	0.00	0.00	0.00	0.00	100.00
17:50:10	0	0.00	0.00	0.00	0.00	0.00	100.00
17:50:10	1	0.00	0.00	0.00	0.00	0.00	100.00
17:50:10	2	0.00	0.00	0.00	0.00	0.00	100.00
17:50:10	3	0.00	0.00	0.00	0.00	0.00	100.00
17:50:10	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:11	all	0.22	0.00	0.22	0.00	0.00	99.56
17:50:11	0	0.00	0.00	0.00	0.00	0.00	100.00
17:50:11	1	0.00	0.00	0.00	0.00	0.00	100.00
17:50:11	2	0.00	0.00	0.00	0.00	0.00	100.00
17:50:11	3	0.91	0.00	2.73	0.00	0.00	96.36
17:50:11	CPU	%user	%nice	%system	%iowait	%steal	%idle
17:50:12	all	0.00	0.00	0.54	0.00	0.00	99.46

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17:50:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:12          3      0.93      0.00      0.93      0.00      0.00     98.13

17:50:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:13        all      0.23      0.00      0.23      0.00      0.00     99.54
17:50:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:13          3      0.00      0.00      0.94      0.00      0.00     99.06

17:50:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:14        all      0.52      0.00      0.26      0.00      0.00     99.22
17:50:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:14          3      1.90      0.00      0.00      0.00      0.00     98.10

17:50:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:15        all      0.67      0.00      0.22      0.00      0.00     99.10
17:50:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:15          3      2.83      0.00      1.89      0.00      0.00     95.28

17:50:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:16        all      0.25      0.00      0.50      0.00      0.00     99.24
17:50:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:16          3      0.93      0.00      2.80      0.00      0.00     96.26

17:50:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:17        all      0.96      0.00      0.72      0.00      0.00     98.33
17:50:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:17          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:17          3      3.67      0.00      2.75      0.00      0.00     93.58

17:50:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:18        all      0.50      0.00      1.01      0.00      0.00     98.49
17:50:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:18          2      0.00      0.00      1.00      0.00      0.00     99.00
17:50:18          3      1.87      0.00      0.93      0.00      0.00     97.20

17:50:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:19        all      0.25      0.00      0.50      0.00      0.00     99.25
17:50:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:19          3      0.96      0.00      1.92      0.00      0.00     97.12

17:50:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:20        all      0.48      0.00      0.24      0.00      0.00     99.28
17:50:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:20          1      0.00      0.00      0.00      0.00      0.00    100.00
```

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17:50:20          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:20          3      1.89      0.00      0.94      0.00      0.00     97.17

17:50:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:21        all      0.27      0.00      0.27      0.00      0.00     99.45
17:50:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:21          3      0.96      0.00      0.96      0.00      0.00     98.08

17:50:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:22        all      0.47      0.00      0.47      0.00      0.00     99.07
17:50:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:22          3      1.87      0.00      2.80      0.00      0.00     95.33

17:50:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:23        all      0.23      0.00      0.70      0.00      0.00     99.07
17:50:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:23          3      0.93      0.00      2.80      0.00      0.00     96.26

17:50:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:24        all      0.48      0.00      0.48      0.00      0.00     99.03
17:50:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:24          1      0.00      0.00      0.93      0.00      0.00     99.07
17:50:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:24          3      2.80      0.00      1.87      0.00      0.00     95.33

17:50:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:25        all      0.26      0.00      0.53      0.00      0.00     99.21
17:50:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:25          3      0.00      0.00      0.98      0.00      0.00     99.02

17:50:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:26        all      0.26      0.00      0.26      0.00      0.00     99.49
17:50:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:26          3      0.97      0.00      0.97      0.00      0.00     98.06

17:50:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:27        all      0.00      0.00      0.70      0.00      0.00     99.30
17:50:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:27          3      0.00      0.00      2.88      0.00      0.00     97.12

17:50:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:28        all      0.48      0.00      0.72      0.00      0.00     98.79
17:50:28          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:28          3      1.87      0.00      1.87      0.00      0.00     96.26
```

```
17:50:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:29        all      0.00      0.00      0.28      0.00      0.00     99.72
17:50:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:29          3      0.00      0.00      0.96      0.00      0.00     99.04

17:50:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:30        all      0.22      0.00      0.45      0.00      0.00     99.33
17:50:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:30          3      0.93      0.00      1.87      0.00      0.00     97.20

17:50:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:31        all      0.00      0.00      0.00      0.00      0.00    100.00
17:50:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:31          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:31          3      0.00      0.00      0.96      0.00      0.00     99.04

17:50:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:32        all      0.00      0.00      0.26      0.00      0.00     99.74
17:50:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:32          3      0.00      0.00      0.00      0.00      0.00    100.00

17:50:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:33        all      0.22      0.00      0.22      0.00      0.00     99.55
17:50:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:33          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:33          2      0.00      0.00      1.00      0.00      0.00     99.00
17:50:33          3      1.89      0.00      0.94      0.00      0.00     97.17

17:50:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:34        all      0.24      0.00      0.00      0.00      0.00     99.76
17:50:34          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:34          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:34          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:34          3      0.00      0.00      0.95      0.00      0.00     99.05

17:50:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:35        all      0.00      0.00      0.27      0.00      0.00     99.73
17:50:35          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:35          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:35          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:35          3      0.00      0.00      0.00      0.00      0.00    100.00

17:50:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:36        all      0.25      0.00      0.00      0.00      0.00     99.75
17:50:36          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:36          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:36          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:36          3      1.00      0.00      0.00      0.00      0.00     99.00

17:50:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
17:50:37        all      0.00      0.00      0.00      0.00      0.00    100.00
17:50:37          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:37          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:37          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:37          3      0.00      0.00      0.99      0.00      0.00     99.01

17:50:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:50:38        all      0.24      0.00      0.00      0.00      0.00     99.76
17:50:38          0      0.00      0.00      0.00      0.00      0.00    100.00
17:50:38          1      0.00      0.00      0.00      0.00      0.00    100.00
17:50:38          2      0.00      0.00      0.00      0.00      0.00    100.00
17:50:38          3      0.99      0.00      0.00      0.00      0.00     99.01
```

Table 84: Iostat monitoring for the 200 threads third trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.56    0.05    0.42     1.53    15.89    36.98     0.00    4.21   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.40     0.00    20.80    14.86     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.39    0.00    0.34    0.00    0.00   99.27

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.59    0.00    0.54    0.00    0.00   98.87

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.44    0.00    0.54    0.00    0.00   99.01

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.80    0.00    1.20     0.00    24.00    20.00     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.29    0.00    0.00   99.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   166.20    0.00   12.80     0.00  1432.00   111.88     0.02    1.81   0.06   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.29    0.00    0.00   99.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.20     0.00    20.80    17.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.59    0.00    0.54    0.00    0.00   98.88

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    2.80     0.00    25.60     9.14     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.35    0.00    0.44    0.00    0.00   99.21

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.30    0.00    0.55    0.00    0.00   99.16

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.25    0.00    0.00   99.66

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.10    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   212.40    0.00   15.80     0.00  1825.60   115.54     0.06    4.00   0.10   0.16
```

Table 85: Jmeter 250 threads test first trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	250	59	44	187
19033-h-0.htm	250	169	96	744
1.css	250	57	43	147
i001_th.jpg	250	60	44	126
pgepub.css	250	61	43	173
0.css	250	57	43	102
i002_th.jpg	250	57	44	124
title.jpg	250	59	42	128
plate02_th.jpg	250	83	52	299
i008_th.jpg	250	60	46	186
plate01_th.jpg	250	79	50	337
i009_th.jpg	250	62	46	166
cover_th.jpg	250	72	49	176
i005_th.jpg	250	58	45	114
i003_th.jpg	250	61	44	122
i015_th.jpg	250	60	45	129
i011_th.jpg	250	59	45	154
i017_th.jpg	250	61	46	118
plate04_th.jpg	250	76	52	242
i022_th.jpg	250	60	45	177
i007_th.jpg	250	59	44	111
i020_th.jpg	250	60	45	122
i004_th.jpg	250	59	44	116
plate03_th.jpg	250	75	51	280
i018_th.jpg	250	59	45	116
i019_th.jpg	250	59	44	159
i016_th.jpg	250	62	45	261
i010_th.jpg	250	61	44	395
i012_th.jpg	250	63	45	191
i014_th.jpg	250	61	44	151
i021_th.jpg	250	60	45	130
i013_th.jpg	250	63	45	314
i006_th.jpg	250	63	46	211
TOTAL	8250	66	42	744

Table 86: Systat monitoring for the 250 threads first trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

17:57:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:57:53        all      0.00      0.00      0.00      0.00      0.00    100.00
17:57:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:57:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:57:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:57:53          3      0.00      0.00      0.00      0.00      0.00    100.00

17:57:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:57:54        all      0.00      0.00      0.23      0.00      0.00     99.77
17:57:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:57:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:57:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:57:54          3      0.00      0.00      0.99      0.00      0.00     99.01

17:57:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:57:55        all      0.00      0.00      0.28      0.00      0.00     99.72
17:57:55          0      0.00      0.00      0.00      0.00      0.00    100.00
17:57:55          1      0.00      0.00      0.00      0.00      0.00    100.00
17:57:55          2      0.00      0.00      0.00      0.00      0.00    100.00
17:57:55          3      0.00      0.00      0.00      0.00      0.00    100.00

17:57:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:57:56        all      0.00      0.00      0.00      0.00      0.00    100.00
17:57:56          0      0.00      0.00      0.00      0.00      0.00    100.00
17:57:56          1      0.00      0.00      0.00      0.00      0.00    100.00
17:57:56          2      0.00      0.00      0.00      0.00      0.00    100.00
17:57:56          3      0.00      0.00      0.99      0.00      0.00     99.01

17:57:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:57:57        all      0.00      0.00      0.00      0.00      0.00    100.00
17:57:57          0      0.00      0.00      0.00      0.00      0.00    100.00
17:57:57          1      0.00      0.00      0.00      0.00      0.00    100.00
17:57:57          2      0.00      0.00      0.00      0.00      0.00    100.00
17:57:57          3      0.00      0.00      0.00      0.00      0.00    100.00

17:57:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:57:58        all      0.23      0.00      0.00      0.00      0.00     99.77
17:57:58          0      0.00      0.00      0.00      0.00      0.00    100.00
17:57:58          1      0.00      0.00      0.00      0.00      0.00    100.00
17:57:58          2      0.00      0.00      0.00      0.00      0.00    100.00
17:57:58          3      1.00      0.00      0.00      0.00      0.00     99.00

17:57:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:57:59        all      0.25      0.00      0.49      0.00      0.00     99.26
17:57:59          0      0.00      0.00      0.00      0.00      0.00    100.00
17:57:59          1      0.00      0.00      0.00      0.00      0.00    100.00
17:57:59          2      0.00      0.00      0.00      0.00      0.00    100.00
17:57:59          3      0.95      0.00      2.86      0.00      0.00     96.19

17:57:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:00        all      0.00      0.00      0.48      0.00      0.00     99.52
17:58:00          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:58:00          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:00          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:00          3      0.00      0.00      0.97      0.00      0.00     99.03

17:58:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:01        all      0.27      0.00      0.27      0.00      0.00     99.45
17:58:01          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:01          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:01          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:01          3      0.97      0.00      0.97      0.00      0.00     98.06

17:58:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:02        all      0.23      0.00      0.68      0.00      0.00     99.10
17:58:02          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:02          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:02          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:02          3      0.97      0.00      2.91      0.00      0.00     96.12

17:58:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:03        all      0.00      0.00      0.27      0.00      0.00     99.73
17:58:03          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:03          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:03          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:03          3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:04        all      0.23      0.00      0.23      0.00      0.00     99.54
17:58:04          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:04          1      0.00      0.00      0.94      0.00      0.00     99.06
17:58:04          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:04          3      0.96      0.00      0.96      0.00      0.00     98.08

17:58:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:05        all      0.00      0.00      0.54      0.00      0.00     99.46
17:58:05          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:05          1      0.00      0.00      1.06      0.00      0.00     98.94
17:58:05          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:05          3      0.00      0.00      1.89      0.00      0.00     98.11

17:58:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:06        all      0.23      0.00      0.46      0.00      0.00     99.31
17:58:06          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:06          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:06          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:06          3      0.96      0.00      0.00      0.00      0.00     99.04

17:58:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:07        all      0.00      0.00      0.27      0.00      0.00     99.73
17:58:07          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:07          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:07          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:07          3      0.00      0.00      0.95      0.00      0.00     99.05

17:58:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:08        all      0.00      0.00      0.23      0.00      0.00     99.77
17:58:08          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:08          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:08          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:58:08          3      0.00      0.00      0.93      0.00      0.00     99.07

17:58:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:09        all      0.00      0.00      0.46      0.00      0.00     99.54
17:58:09          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:09          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:09          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:09          3      0.00      0.00      0.93      0.00      0.00     99.07

17:58:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:10        all      0.48      0.00      0.48      0.24      0.00     98.80
17:58:10          0      0.00      0.00      0.98      0.00      0.00     99.02
17:58:10          1      0.00      0.00      0.93      0.00      0.00     99.07
17:58:10          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:10          3      0.93      0.00      2.78      0.93      0.00     95.37

17:58:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:11        all      0.50      0.00      0.76      0.00      0.00     98.74
17:58:11          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:11          1      0.98      0.00      0.00      0.00      0.00     99.02
17:58:11          2      1.08      0.00      1.08      0.00      0.00     97.85
17:58:11          3      0.94      0.00      1.89      0.00      0.00     97.17

17:58:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:12        all      0.49      0.00      0.24      0.24      0.00     99.02
17:58:12          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:12          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:12          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:12          3      0.91      0.00      0.91      0.91      0.00     97.27

17:58:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:13        all      0.00      0.00      0.54      0.00      0.00     99.46
17:58:13          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:13          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:13          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:13          3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:14        all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:14          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:14          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:14          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:14          3      0.92      0.00      0.92      0.00      0.00     98.17

17:58:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:15        all      0.27      0.00      0.27      0.00      0.00     99.47
17:58:15          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:15          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:15          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:15          3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:16        all      0.22      0.00      0.22      0.00      0.00     99.57
17:58:16          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:16          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:16          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:16          3      1.79      0.00      1.79      0.00      0.00     96.43
```

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17:58:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:17        all      0.50      0.00      0.50      0.00      0.00     98.99
17:58:17          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:17          1      1.00      0.00      0.00      0.00      0.00     99.00
17:58:17          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:17          3      0.91      0.00      1.82      0.00      0.00     97.27

17:58:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:18        all      0.47      0.00      0.47      0.00      0.00     99.06
17:58:18          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:18          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:18          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:18          3      0.93      0.00      1.85      0.00      0.00     97.22

17:58:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:19        all      0.25      0.00      0.50      0.00      0.00     99.25
17:58:19          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:19          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:19          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:19          3      1.79      0.00      1.79      0.00      0.00     96.43

17:58:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:20        all      0.48      0.00      0.72      0.00      0.00     98.80
17:58:20          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:20          1      0.00      0.00      1.96      0.00      0.00     98.04
17:58:20          2      0.92      0.00      0.00      0.00      0.00     99.08
17:58:20          3      0.93      0.00      0.00      0.00      0.00     99.07

17:58:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:21        all      0.27      0.00      0.00      0.00      0.00     99.73
17:58:21          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:21          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:21          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:21          3      0.89      0.00      1.79      0.00      0.00     97.32

17:58:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:22        all      0.44      0.00      1.10      0.00      0.00     98.46
17:58:22          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:22          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:22          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:22          3      0.92      0.00      3.67      0.00      0.00     95.41

17:58:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:23        all      0.28      0.00      0.00      0.00      0.00     99.72
17:58:23          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:23          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:23          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:23          3      1.89      0.00      0.94      0.00      0.00     97.17

17:58:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:24        all      1.12      0.00      0.89      0.00      0.00     97.99
17:58:24          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:24          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:24          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:24          3      3.70      0.00      2.78      0.00      0.00     93.52

17:58:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:25        all      0.27      0.00      1.08      0.00      0.00     98.65
```

```
17:58:25          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:25          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:25          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:25          3      0.94      0.00      2.83      0.00      0.00     96.23

17:58:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:26        all      0.87      0.00      0.65      0.00      0.00     98.47
17:58:26          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:26          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:26          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:26          3      4.42      0.00      3.54      0.00      0.00     92.04

17:58:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:27        all      0.81      0.00      0.54      0.00      0.00     98.64
17:58:27          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:27          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:27          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:27          3      2.70      0.00      1.80      0.00      0.00     95.50

17:58:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:28        all      0.88      0.00      0.66      0.00      0.00     98.45
17:58:28          0      0.93      0.00      0.00      0.00      0.00     99.07
17:58:28          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:28          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:28          3      2.80      0.00      2.80      0.00      0.00     94.39

17:58:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:29        all      0.25      0.00      0.25      0.00      0.00     99.50
17:58:29          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:29          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:29          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:29          3      0.96      0.00      0.96      0.00      0.00     98.08

17:58:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:30        all      0.50      0.00      0.99      0.00      0.00     98.51
17:58:30          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:30          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:30          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:30          3      1.92      0.00      2.88      0.00      0.00     95.19

17:58:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:31        all      0.54      0.00      0.54      0.00      0.00     98.92
17:58:31          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:31          1      1.00      0.00      0.00      0.00      0.00     99.00
17:58:31          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:31          3      1.83      0.00      1.83      0.00      0.00     96.33

17:58:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:32        all      0.00      0.00      0.67      0.00      0.00     99.33
17:58:32          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:32          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:32          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:32          3      0.00      0.00      4.72      0.00      0.00     95.28

17:58:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:33        all      1.06      0.00      0.80      0.00      0.00     98.14
17:58:33          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:33          1      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:58:33          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:33          3      3.74      0.00      0.93      0.00      0.00     95.33

17:58:33       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:34       all      0.44      0.00      0.44      0.00      0.00     99.11
17:58:34         0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:34         1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:34         2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:34         3      1.90      0.00      1.90      0.00      0.00     96.19

17:58:34       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:35       all      0.28      0.00      0.56      0.00      0.00     99.15
17:58:35         0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:35         1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:35         2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:35         3      0.96      0.00      1.92      0.00      0.00     97.12

17:58:35       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:36       all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:36         0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:36         1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:36         2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:36         3      0.00      0.00      0.97      0.00      0.00     99.03

17:58:36       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:37       all      0.27      0.00      0.81      0.00      0.00     98.92
17:58:37         0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:37         1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:37         2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:37         3      0.00      0.00      1.89      0.00      0.00     98.11

17:58:37       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:38       all      0.00      0.00      0.22      0.00      0.00     99.78
17:58:38         0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:38         1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:38         2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:38         3      0.92      0.00      0.92      0.00      0.00     98.17

17:58:38       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:39       all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:39         0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:39         1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:39         2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:39         3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:39       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:40       all      0.00      0.00      0.24      0.00      0.00     99.76
17:58:40         0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:40         1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:40         2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:40         3      0.00      0.00      1.87      0.00      0.00     98.13

17:58:40       CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:41       all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:41         0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:41         1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:41         2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:41         3      0.00      0.00      0.00      0.00      0.00    100.00
```

```
17:58:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:42        all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:42          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:42          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:42          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:42          3      0.00      0.00      0.92      0.00      0.00     99.08

17:58:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:43        all      0.00      0.00      0.27      0.00      0.00     99.73
17:58:43          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:43          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:43          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:43          3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:44        all      0.00      0.00      0.22      0.00      0.00     99.78
17:58:44          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:44          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:44          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:44          3      0.00      0.00      0.92      0.00      0.00     99.08

17:58:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:45        all      0.54      0.00      0.00      0.00      0.00     99.46
17:58:45          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:45          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:45          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:45          3      0.92      0.00      0.00      0.00      0.00     99.08

17:58:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:46        all      0.22      0.00      0.22      0.00      0.00     99.56
17:58:46          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:46          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:46          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:46          3      0.92      0.00      0.92      0.00      0.00     98.17

17:58:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:47        all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:47          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:47          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:47          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:47          3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:48        all      0.00      0.00      0.22      0.00      0.00     99.78
17:58:48          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:48          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:48          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:48          3      0.89      0.00      0.89      0.00      0.00     98.21

17:58:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:49        all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:49          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:49          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:49          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:49          3      0.00      0.00      0.92      0.00      0.00     99.08

17:58:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
17:58:50        all      0.00      0.00      0.24      0.00      0.00     99.76
17:58:50          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:50          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:50          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:50          3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:51        all      0.28      0.00      0.00      0.00      0.00     99.72
17:58:51          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:51          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:51          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:51          3      0.99      0.00      0.00      0.00      0.00     99.01

17:58:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:52        all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:52          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:52          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:52          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:52          3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:53        all      0.00      0.00      0.00      0.00      0.00    100.00
17:58:53          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:53          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:53          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:53          3      0.00      0.00      0.00      0.00      0.00    100.00

17:58:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
17:58:54        all      0.22      0.00      0.22      0.00      0.00     99.56
17:58:54          0      0.00      0.00      0.00      0.00      0.00    100.00
17:58:54          1      0.00      0.00      0.00      0.00      0.00    100.00
17:58:54          2      0.00      0.00      0.00      0.00      0.00    100.00
17:58:54          3      0.00      0.00      1.00      0.00      0.00     99.00
```

Table 87: Iostat monitoring for the 250 threads first trial Varnish

```
     Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.57    0.05    0.43     1.53    15.95    37.02     0.00    4.20   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    2.67   2.67   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.19    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.00    0.00    0.60     0.00    20.80    34.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.50    0.00    0.00   99.30

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    2.00     0.00    20.80    10.40     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.14    0.00    0.38    0.05    0.00   99.42

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.60     0.00     6.40    10.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.25    0.00    0.30    0.05    0.00   99.40

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.39    0.00    0.44    0.00    0.00   99.17

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.54    0.00    0.69    0.00    0.00   98.78

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   218.20    0.00   16.20     0.00  1875.20   115.75     0.05    3.26   0.10   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.69    0.00    0.59    0.00    0.00   98.73

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.00     0.00    19.20    19.20     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.35    0.00    0.60    0.00    0.00   99.05

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.80     0.00    12.80    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.25    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.60     0.00    16.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.81

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.00     0.00    12.80    12.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.60     0.00    14.40    24.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.05    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
```

```
sda               0.00     0.80    0.00    1.20     0.00    16.00    13.33     0.00    1.33   1.33   0.16
```

Table 88: Jmeter 250 threads test second trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	250	65	44	359
19033-h-0.htm	250	179	102	879
1.css	250	60	43	131
i001_th.jpg	250	62	44	138
pgepub.css	250	64	43	120
0.css	250	62	44	130
i002_th.jpg	250	62	44	124
title.jpg	250	64	43	134
plate02_th.jpg	250	88	49	456
i008_th.jpg	250	62	45	165
plate01_th.jpg	250	90	52	400
i009_th.jpg	250	66	46	281
cover_th.jpg	250	83	50	348
i005_th.jpg	250	65	45	181
i003_th.jpg	250	65	44	141
i015_th.jpg	250	64	45	144
i011_th.jpg	250	65	45	141
i017_th.jpg	250	69	46	243
plate04_th.jpg	250	90	53	334
i022_th.jpg	250	63	46	166
i007_th.jpg	250	64	44	144
i020_th.jpg	250	64	45	125
i004_th.jpg	250	63	44	137
plate03_th.jpg	250	89	49	278
i018_th.jpg	250	62	45	138
i019_th.jpg	250	63	43	204
i016_th.jpg	250	68	45	401
i010_th.jpg	250	61	44	123
i012_th.jpg	250	66	44	276
i014_th.jpg	250	70	45	1029
i021_th.jpg	250	64	46	195
i013_th.jpg	250	65	46	164
i006_th.jpg	250	68	45	247
TOTAL	8250	71	43	1029

Table 89: Systat monitoring for the 250 threads second trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

18:00:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:20        all      0.00      0.00      0.00      0.00      0.00    100.00
18:00:20          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:20          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:20          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:20          3      0.00      0.00      0.00      0.00      0.00    100.00

18:00:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:21        all      0.00      0.00      0.00      0.00      0.00    100.00
18:00:21          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:21          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:21          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:21          3      0.00      0.00      0.00      0.00      0.00    100.00

18:00:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:22        all      0.25      0.00      0.25      0.00      0.00     99.50
18:00:22          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:22          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:22          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:22          3      0.99      0.00      0.99      0.00      0.00     98.02

18:00:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:23        all      0.00      0.00      0.00      0.00      0.00    100.00
18:00:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:23          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:23          2      0.97      0.00      0.00      0.00      0.00     99.03
18:00:23          3      0.00      0.00      0.00      0.00      0.00    100.00

18:00:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:24        all      0.00      0.00      0.23      0.00      0.00     99.77
18:00:24          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:24          3      0.00      0.00      0.00      0.00      0.00    100.00

18:00:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:25        all      0.00      0.00      0.00      0.00      0.00    100.00
18:00:25          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:25          3      0.00      0.00      1.00      0.00      0.00     99.00

18:00:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:26        all      0.25      0.00      0.00      0.00      0.00     99.75
18:00:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:26          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:26          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:26          3      0.00      0.00      0.00      0.00      0.00    100.00

18:00:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:27        all      0.24      0.00      0.00      0.00      0.00     99.76
18:00:27          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:00:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:27          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:27          3      0.95      0.00      0.00      0.00      0.00     99.05

18:00:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:28        all      0.23      0.00      0.23      0.00      0.00     99.53
18:00:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:28          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:28          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:28          3      0.92      0.00      0.92      0.00      0.00     98.17

18:00:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:29        all      0.45      0.00      0.00      0.00      0.00     99.55
18:00:29          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:29          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:29          3      1.89      0.00      0.00      0.00      0.00     98.11

18:00:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:30        all      0.52      0.00      0.79      0.00      0.00     98.69
18:00:30          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:30          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:30          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:30          3      1.82      0.00      1.82      0.00      0.00     96.36

18:00:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:31        all      0.76      0.00      0.51      0.00      0.00     98.73
18:00:31          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:31          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:31          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:31          3      2.68      0.00      2.68      0.00      0.00     94.64

18:00:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:32        all      0.94      0.00      0.71      0.00      0.00     98.35
18:00:32          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:32          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:32          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:32          3      4.50      0.00      2.70      0.00      0.00     92.79

18:00:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:33        all      0.49      0.00      0.98      0.00      0.00     98.53
18:00:33          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:33          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:33          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:33          3      1.85      0.00      2.78      0.00      0.00     95.37

18:00:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:34        all      0.66      0.00      1.10      0.00      0.00     98.23
18:00:34          0      0.00      0.00      0.94      0.00      0.00     99.06
18:00:34          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:34          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:34          3      1.79      0.00      4.46      0.00      0.00     93.75

18:00:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:35        all      1.37      0.00      0.82      0.00      0.00     97.80
18:00:35          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:35          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:35          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:00:35          3      4.67      0.00      2.80      0.00      0.00     92.52

18:00:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:36        all      0.74      0.00      1.23      0.00      0.00     98.04
18:00:36          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:36          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:36          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:36          3      2.73      0.00      3.64      0.00      0.00     93.64

18:00:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:37        all      0.24      0.00      1.22      0.00      0.00     98.54
18:00:37          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:37          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:37          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:37          3      0.93      0.00      4.67      0.00      0.00     94.39

18:00:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:38        all      0.72      0.00      0.96      0.00      0.00     98.33
18:00:38          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:38          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:38          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:38          3      2.68      0.00      4.46      0.00      0.00     92.86

18:00:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:39        all      0.89      0.00      0.89      0.00      0.00     98.22
18:00:39          0      0.98      0.00      0.98      0.00      0.00     98.04
18:00:39          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:39          2      0.71      0.00      0.00      0.00      0.00     99.29
18:00:39          3      2.78      0.00      2.78      0.00      0.00     94.44

18:00:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:40        all      0.84      0.00      1.12      0.00      0.00     98.04
18:00:40          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:40          1      0.00      0.00      0.98      0.00      0.00     99.02
18:00:40          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:40          3      2.88      0.00      2.88      0.00      0.00     94.23

18:00:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:41        all      1.25      0.00      1.25      0.00      0.00     97.50
18:00:41          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:41          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:41          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:41          3      4.55      0.00      3.64      0.00      0.00     91.82

18:00:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:42        all      0.44      0.00      1.33      0.00      0.00     98.22
18:00:42          0      0.00      0.00      0.86      0.00      0.00     99.14
18:00:42          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:42          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:42          3      1.85      0.00      5.56      0.00      0.00     92.59

18:00:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:43        all      0.53      0.00      1.06      0.00      0.00     98.40
18:00:43          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:43          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:43          2      0.00      0.00      1.30      0.00      0.00     98.70
18:00:43          3      0.93      0.00      2.80      0.00      0.00     96.26
```

```
18:00:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:44        all      0.44      0.00      0.67      0.00      0.00     98.89
18:00:44          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:44          1      0.99      0.00      0.00      0.00      0.00     99.01
18:00:44          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:44          3      1.90      0.00      1.90      0.00      0.00     96.19

18:00:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:45        all      0.26      0.00      0.77      0.00      0.00     98.98
18:00:45          0      0.00      0.00      1.90      0.00      0.00     98.10
18:00:45          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:45          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:45          3      0.97      0.00      0.97      0.00      0.00     98.06

18:00:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:46        all      1.11      0.00      0.28      0.00      0.00     98.61
18:00:46          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:46          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:46          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:46          3      2.80      0.00      1.87      0.00      0.00     95.33

18:00:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:47        all      0.23      0.00      0.23      0.00      0.00     99.53
18:00:47          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:47          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:47          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:47          3      1.89      0.00      0.00      0.00      0.00     98.11

18:00:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:48        all      0.00      0.00      0.73      0.00      0.00     99.27
18:00:48          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:48          1      0.00      0.00      1.94      0.00      0.00     98.06
18:00:48          2      0.00      0.00      0.83      0.00      0.00     99.17
18:00:48          3      0.00      0.00      0.95      0.00      0.00     99.05

18:00:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:49        all      0.24      0.00      0.24      0.00      0.00     99.52
18:00:49          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:49          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:49          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:49          3      0.00      0.00      0.94      0.00      0.00     99.06

18:00:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:50        all      0.00      0.00      0.00      0.00      0.00    100.00
18:00:50          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:50          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:50          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:50          3      0.00      0.00      0.00      0.00      0.00    100.00

18:00:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:51        all      0.23      0.00      0.46      0.00      0.00     99.31
18:00:51          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:51          1      0.98      0.00      0.98      0.00      0.00     98.04
18:00:51          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:51          3      0.00      0.00      0.96      0.00      0.00     99.04

18:00:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:52        all      0.00      0.00      0.27      0.00      0.00     99.73
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18:00:52          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:52          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:52          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:52          3      0.00      0.00      0.93      0.00      0.00     99.07

18:00:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:53        all      0.00      0.00      0.24      0.00      0.00     99.76
18:00:53          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:53          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:53          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:53          3      0.00      0.00      0.00      0.00      0.00    100.00

18:00:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:54        all      0.22      0.00      0.66      0.00      0.00     99.13
18:00:54          0      0.90      0.00      0.00      0.00      0.00     99.10
18:00:54          1      0.00      0.00      1.00      0.00      0.00     99.00
18:00:54          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:54          3      0.00      0.00      0.93      0.00      0.00     99.07

18:00:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:55        all      0.00      0.00      0.28      0.00      0.00     99.72
18:00:55          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:55          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:55          2      0.00      0.00      1.72      0.00      0.00     98.28
18:00:55          3      0.92      0.00      0.00      0.00      0.00     99.08

18:00:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:56        all      0.00      0.00      0.00      0.00      0.00    100.00
18:00:56          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:56          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:56          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:56          3      0.00      0.00      1.83      0.00      0.00     98.17

18:00:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:57        all      0.22      0.00      0.65      0.00      0.00     99.13
18:00:57          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:57          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:57          2      0.00      0.00      0.77      0.00      0.00     99.23
18:00:57          3      0.93      0.00      0.93      0.00      0.00     98.13

18:00:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:58        all      0.28      0.00      0.28      0.00      0.00     99.44
18:00:58          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:58          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:58          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:58          3      0.00      0.00      0.00      0.00      0.00    100.00

18:00:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:00:59        all      0.24      0.00      0.24      0.00      0.00     99.52
18:00:59          0      0.00      0.00      0.00      0.00      0.00    100.00
18:00:59          1      0.00      0.00      0.00      0.00      0.00    100.00
18:00:59          2      0.00      0.00      0.00      0.00      0.00    100.00
18:00:59          3      0.90      0.00      0.90      0.00      0.00     98.20

18:00:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:00        all      0.23      0.00      0.68      0.00      0.00     99.10
18:01:00          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:00          1      0.00      0.00      1.00      0.00      0.00     99.00
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18:01:00          2      0.81      0.00      0.00      0.00      0.00     99.19
18:01:00          3      0.00      0.00      1.87      0.00      0.00     98.13

18:01:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:01        all      0.27      0.00      0.00      0.00      0.00     99.73
18:01:01          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:01          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:01          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:01          3      0.93      0.00      0.00      0.00      0.00     99.07

18:01:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:02        all      0.25      0.00      0.50      0.00      0.00     99.25
18:01:02          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:02          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:02          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:02          3      0.91      0.00      2.73      0.00      0.00     96.36

18:01:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:03        all      0.65      0.00      0.65      0.00      0.00     98.70
18:01:03          0      0.00      0.00      0.85      0.00      0.00     99.15
18:01:03          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:03          2      0.00      0.00      0.73      0.00      0.00     99.27
18:01:03          3      1.87      0.00      0.93      0.00      0.00     97.20

18:01:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:04        all      0.54      0.00      0.81      0.00      0.00     98.66
18:01:04          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:04          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:04          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:04          3      1.87      0.00      3.74      0.00      0.00     94.39

18:01:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:05        all      0.52      0.00      0.26      0.00      0.00     99.22
18:01:05          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:05          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:05          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:05          3      2.78      0.00      0.93      0.00      0.00     96.30

18:01:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:06        all      0.43      0.00      0.87      0.00      0.00     98.70
18:01:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:06          1      0.00      0.00      1.00      0.00      0.00     99.00
18:01:06          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:06          3      0.00      0.00      1.89      0.00      0.00     98.11

18:01:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:07        all      1.07      0.00      0.27      0.00      0.00     98.67
18:01:07          0      0.96      0.00      0.00      0.00      0.00     99.04
18:01:07          1      0.99      0.00      0.00      0.00      0.00     99.01
18:01:07          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:07          3      3.57      0.00      3.57      0.89      0.00     91.96

18:01:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:08        all      0.50      0.00      0.50      0.00      0.00     99.01
18:01:08          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:08          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:08          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:08          3      1.90      0.00      0.95      0.00      0.00     97.14
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18:01:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:09        all      0.88      0.00      0.44      0.00      0.00     98.69
18:01:09          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:09          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:09          2      0.00      0.00      0.72      0.00      0.00     99.28
18:01:09          3      2.86      0.00      0.95      0.00      0.00     96.19

18:01:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:10        all      0.54      0.00      1.35      0.00      0.00     98.11
18:01:10          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:10          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:10          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:10          3      2.86      0.00      2.86      0.00      0.00     94.29

18:01:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:11        all      0.51      0.00      0.76      0.00      0.00     98.73
18:01:11          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:11          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:11          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:11          3      0.93      0.00      3.70      0.00      0.00     95.37

18:01:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:12        all      1.08      0.00      1.52      0.00      0.00     97.40
18:01:12          0      0.00      0.00      0.91      0.00      0.00     99.09
18:01:12          1      0.00      0.00      1.00      0.00      0.00     99.00
18:01:12          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:12          3      4.55      0.00      4.55      0.00      0.00     90.91

18:01:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:13        all      0.81      0.00      1.08      0.00      0.00     98.11
18:01:13          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:13          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:13          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:13          3      2.83      0.00      2.83      0.00      0.00     94.34

18:01:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:14        all      0.49      0.00      0.49      0.00      0.00     99.02
18:01:14          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:14          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:14          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:14          3      1.89      0.00      2.83      0.00      0.00     95.28

18:01:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:15        all      0.45      0.00      0.68      0.00      0.00     98.87
18:01:15          0      0.00      0.00      1.98      0.00      0.00     98.02
18:01:15          1      1.00      0.00      0.00      0.00      0.00     99.00
18:01:15          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:15          3      0.99      0.00      0.99      0.00      0.00     98.02

18:01:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:16        all      0.28      0.00      0.28      0.00      0.00     99.45
18:01:16          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:16          1      0.00      0.00      0.99      0.00      0.00     99.01
18:01:16          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:16          3      0.97      0.00      0.00      0.00      0.00     99.03

18:01:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
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18:01:17        all      0.51      0.00      0.25      0.00      0.00     99.24
18:01:17          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:17          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:17          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:17          3      1.85      0.00      1.85      0.00      0.00     96.30

18:01:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:18        all      0.22      0.00      0.65      0.00      0.00     99.13
18:01:18          0      0.86      0.00      0.86      0.00      0.00     98.28
18:01:18          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:18          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:18          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:19        all      0.00      0.00      0.00      0.00      0.00    100.00
18:01:19          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:19          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:19          2      0.00      0.00      1.75      0.00      0.00     98.25
18:01:19          3      0.99      0.00      0.00      0.00      0.00     99.01

18:01:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:20        all      0.00      0.00      0.00      0.00      0.00    100.00
18:01:20          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:20          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:20          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:20          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:21        all      0.21      0.00      0.41      0.00      0.00     99.38
18:01:21          0      0.00      0.00      1.61      0.00      0.00     98.39
18:01:21          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:21          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:21          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:22        all      0.00      0.00      0.31      0.00      0.00     99.69
18:01:22          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:22          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:22          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:22          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:23        all      0.00      0.00      0.25      0.00      0.00     99.75
18:01:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:23          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:23          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:23          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:24        all      0.21      0.00      0.42      0.00      0.00     99.38
18:01:24          0      0.00      0.00      0.81      0.00      0.00     99.19
18:01:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:24          3      0.99      0.00      0.00      0.00      0.00     99.01

18:01:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:25        all      0.00      0.00      0.31      0.00      0.00     99.69
18:01:25          0      0.00      0.00      0.00      0.00      0.00    100.00
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18:01:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:25          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:26        all      0.00      0.00      0.00      0.00      0.00    100.00
18:01:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:26          1      0.00      0.00      0.99      0.00      0.00     99.01
18:01:26          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:26          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:27        all      0.00      0.00      0.42      0.00      0.00     99.58
18:01:27          0      0.00      0.00      0.86      0.00      0.00     99.14
18:01:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:27          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:27          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:28        all      0.31      0.00      0.00      0.00      0.00     99.69
18:01:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:28          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:28          2      1.64      0.00      0.00      0.00      0.00     98.36
18:01:28          3      0.99      0.00      0.00      0.00      0.00     99.01

18:01:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:29        all      0.25      0.00      0.00      0.00      0.00     99.75
18:01:29          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:29          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:29          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:30        all      0.21      0.00      0.41      0.00      0.00     99.38
18:01:30          0      0.81      0.00      0.81      0.00      0.00     98.39
18:01:30          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:30          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:30          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:31        all      0.00      0.00      0.00      0.00      0.00    100.00
18:01:31          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:31          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:31          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:31          3      0.99      0.00      0.00      0.00      0.00     99.01

18:01:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:32        all      0.25      0.00      0.00      0.00      0.00     99.75
18:01:32          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:32          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:32          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:32          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:33        all      0.00      0.00      0.21      0.00      0.00     99.79
18:01:33          0      0.00      0.00      0.81      0.00      0.00     99.19
18:01:33          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:33          2      0.00      0.00      0.70      0.00      0.00     99.30
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18:01:33          3      1.00      0.00      0.00      0.00      0.00     99.00

18:01:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:34        all      0.31      0.00      0.31      0.00      0.00     99.38
18:01:34          0      1.30      0.00      0.00      0.00      0.00     98.70
18:01:34          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:34          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:34          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:35        all      0.25      0.00      0.00      0.00      0.00     99.75
18:01:35          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:35          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:35          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:35          3      0.99      0.00      0.00      0.00      0.00     99.01

18:01:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:36        all      0.25      0.00      0.00      0.00      0.00     99.75
18:01:36          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:36          1      0.99      0.00      0.00      0.00      0.00     99.01
18:01:36          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:36          3      0.99      0.00      0.00      0.00      0.00     99.01

18:01:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:37        all      0.25      0.00      0.50      0.00      0.00     99.25
18:01:37          0      0.00      0.00      1.01      0.00      0.00     98.99
18:01:37          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:37          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:37          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:38        all      0.00      0.00      0.25      0.00      0.00     99.75
18:01:38          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:38          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:38          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:38          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:39        all      0.00      0.00      0.00      0.00      0.00    100.00
18:01:39          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:39          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:39          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:39          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:40        all      0.50      0.00      0.25      0.00      0.00     99.24
18:01:40          0      1.06      0.00      1.06      0.00      0.00     97.87
18:01:40          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:40          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:40          3      0.99      0.00      0.00      0.00      0.00     99.01

18:01:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:41        all      0.00      0.00      0.00      0.00      0.00    100.00
18:01:41          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:41          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:41          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:41          3      0.00      0.00      0.99      0.00      0.00     99.01
```

```
18:01:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:42        all      0.00      0.00      0.25      0.00      0.00     99.75
18:01:42          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:42          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:42          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:42          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:43        all      0.00      0.00      0.74      0.00      0.00     99.26
18:01:43          0      0.99      0.00      0.99      0.00      0.00     98.02
18:01:43          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:43          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:43          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:44        all      0.00      0.00      0.00      0.00      0.00    100.00
18:01:44          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:44          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:44          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:44          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:45        all      0.00      0.00      0.00      0.00      0.00    100.00
18:01:45          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:45          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:45          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:45          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:46        all      0.00      0.00      0.74      0.00      0.00     99.26
18:01:46          0      0.00      0.00      0.99      0.00      0.00     99.01
18:01:46          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:46          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:46          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:47        all      0.00      0.00      0.26      0.00      0.00     99.74
18:01:47          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:47          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:47          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:47          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:48        all      0.00      0.00      0.25      0.00      0.00     99.75
18:01:48          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:48          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:48          2      0.00      0.00      0.97      0.00      0.00     99.03
18:01:48          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:49        all      0.25      0.00      0.75      0.00      0.00     99.00
18:01:49          0      0.00      0.00      1.00      0.00      0.00     99.00
18:01:49          1      0.00      0.00      0.99      0.00      0.00     99.01
18:01:49          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:49          3      0.00      0.00      0.99      0.00      0.00     99.01

18:01:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:50        all      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:01:50          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:50          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:50          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:50          3      0.00      0.00      1.00      0.00      0.00     99.00

18:01:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:51        all      0.00      0.00      0.25      0.00      0.00     99.75
18:01:51          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:51          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:51          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:51          3      0.00      0.00      0.00      0.00      0.00    100.00

18:01:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:52        all      0.25      0.00      0.50      0.00      0.00     99.26
18:01:52          0      0.99      0.00      0.99      0.00      0.00     98.02
18:01:52          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:52          2      0.00      0.00      0.97      0.00      0.00     99.03
18:01:52          3      0.00      0.00      0.98      0.00      0.00     99.02

18:01:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:01:53        all      0.00      0.00      0.25      0.00      0.00     99.75
18:01:53          0      0.00      0.00      0.00      0.00      0.00    100.00
18:01:53          1      0.00      0.00      0.00      0.00      0.00    100.00
18:01:53          2      0.00      0.00      0.00      0.00      0.00    100.00
18:01:53          3      0.00      0.00      0.99      0.00      0.00     99.01
```

Table 90: Iostat monitoring for the 250 threads second trial Varnish

```
    Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.58    0.05    0.43     1.53    16.03    37.12     0.00    4.20   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.05    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    2.00     0.00    16.00     8.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.81

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.63    0.00    0.44    0.00    0.00   98.93

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    78.60    0.00    6.60     0.00   681.60   103.27     0.02    3.15   0.12   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.68    0.00    1.17    0.00    0.00   98.15

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.89    0.00    1.09    0.00    0.00   98.02

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.80     0.00    14.40    18.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.40    0.00    0.54    0.00    0.00   99.06

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.80    0.00    0.80     0.00    20.80    26.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.30    0.00    0.00   99.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.39    0.00    0.00   99.51

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    2.20     0.00    27.20    12.36     0.00    0.36   0.36   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.29    0.00    0.38    0.00    0.00   99.33

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   282.80    0.00   20.60     0.00  2427.20   117.83     0.07    3.46   0.12   0.24

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.65    0.00    0.60    0.00    0.00   98.76

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.80     0.00    12.80    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.73    0.00    1.02    0.00    0.00   98.25

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.80     0.00    14.40    18.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.45    0.00    0.40    0.00    0.00   99.14

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.30    0.00    0.00   99.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.00     0.00    17.60    17.60     0.00    0.00   0.00   0.00
```

```
avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.30    0.00    0.00   99.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    1.00     0.00    16.00    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.10    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    2.60     0.00    27.20    10.46     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.20    0.00    0.00   99.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   138.60    0.00   10.80     0.00  1195.20   110.67     0.03    2.44   0.07   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.25    0.00    0.00   99.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.80     0.00     8.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.24    0.00    0.00   99.76

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.36    0.00    0.00   99.54

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    1.00     0.00    14.40    14.40     0.00    0.00   0.00   0.00
```

Table 91: Jmeter 250 threads test third trial Varnish

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	250	63	43	219
19033-h-0.htm	250	163	95	437
1.css	250	59	43	135
i001_th.jpg	250	64	44	470
pgepub.css	250	61	43	126
0.css	250	60	43	404
i002_th.jpg	250	61	45	133
title.jpg	250	60	43	123
plate02_th.jpg	250	83	52	1334
i008_th.jpg	250	60	45	128
plate01_th.jpg	250	81	51	335
i009_th.jpg	250	61	46	123
cover_th.jpg	250	73	49	236
i005_th.jpg	250	61	45	118
i003_th.jpg	250	62	46	133
i015_th.jpg	250	62	45	127
i011_th.jpg	250	64	46	204
i017_th.jpg	250	63	46	128
plate04_th.jpg	250	76	51	237
i022_th.jpg	250	60	44	241
i007_th.jpg	250	59	45	114
i020_th.jpg	250	62	45	116
i004_th.jpg	250	62	45	195
plate03_th.jpg	250	77	51	212
i018_th.jpg	250	61	45	130
i019_th.jpg	250	58	44	116
i016_th.jpg	250	62	46	133
i010_th.jpg	250	60	44	127
i012_th.jpg	250	63	44	144
i014_th.jpg	250	65	45	1095
i021_th.jpg	250	63	45	125
i013_th.jpg	250	62	46	118
i006_th.jpg	250	63	45	122
TOTAL	8250	67	43	1334

Table 92: Systat monitoring for the 250 threads third trial Varnish

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

18:04:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:06        all      0.00      0.00      0.26      0.00      0.00     99.74
18:04:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:06          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:06          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:06          3      0.00      0.00      0.00      0.00      0.00    100.00

18:04:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:07        all      0.00      0.00      0.00      0.00      0.00    100.00
18:04:07          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:07          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:07          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:07          3      0.00      0.00      1.00      0.00      0.00     99.00

18:04:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:08        all      0.00      0.00      0.25      0.00      0.00     99.75
18:04:08          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:08          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:08          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:08          3      0.00      0.00      0.00      0.00      0.00    100.00

18:04:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:09        all      0.30      0.00      0.00      0.00      0.00     99.70
18:04:09          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:09          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:09          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:09          3      0.99      0.00      0.00      0.00      0.00     99.01

18:04:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:10        all      0.00      0.00      0.00      0.00      0.00    100.00
18:04:10          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:10          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:10          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:10          3      0.00      0.00      1.00      0.00      0.00     99.00

18:04:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:11        all      0.00      0.00      0.00      0.00      0.00    100.00
18:04:11          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:11          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:11          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:11          3      0.00      0.00      0.00      0.00      0.00    100.00

18:04:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:12        all      0.21      0.00      0.21      0.00      0.00     99.58
18:04:12          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:12          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:12          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:12          3      0.95      0.00      0.95      0.00      0.00     98.10

18:04:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:13        all      0.00      0.00      0.29      0.00      0.00     99.71
18:04:13          0      0.00      0.00      0.00      0.00      0.00    100.00
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18:04:13          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:13          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:13          3      0.00      0.00      0.94      0.00      0.00     99.06

18:04:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:14        all      0.21      0.00      0.41      0.00      0.00     99.38
18:04:14          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:14          1      0.99      0.00      0.00      0.00      0.00     99.01
18:04:14          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:14          3      0.95      0.00      1.90      0.00      0.00     97.14

18:04:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:15        all      0.83      0.00      0.83      0.00      0.00     98.34
18:04:15          0      0.00      0.00      1.02      0.00      0.00     98.98
18:04:15          1      0.00      0.00      1.00      0.00      0.00     99.00
18:04:15          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:15          3      0.95      0.00      0.95      0.00      0.00     98.10

18:04:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:16        all      0.00      0.00      0.22      0.00      0.00     99.78
18:04:16          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:16          1      0.00      0.00      1.02      0.00      0.00     98.98
18:04:16          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:16          3      0.00      0.00      0.93      0.00      0.00     99.07

18:04:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:17        all      0.25      0.00      0.25      0.00      0.00     99.50
18:04:17          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:17          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:17          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:17          3      1.80      0.00      0.90      0.00      0.00     97.30

18:04:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:18        all      0.47      0.00      0.94      0.00      0.00     98.59
18:04:18          0      0.00      0.00      1.02      0.00      0.00     98.98
18:04:18          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:18          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:18          3      0.93      0.00      3.74      0.00      0.00     95.33

18:04:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:19        all      0.59      0.00      0.29      0.00      0.00     99.12
18:04:19          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:19          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:19          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:19          3      1.85      0.00      0.00      0.00      0.00     98.15

18:04:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:20        all      0.21      0.00      0.64      0.00      0.00     99.15
18:04:20          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:20          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:20          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:20          3      0.90      0.00      2.70      0.00      0.00     96.40

18:04:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:21        all      0.87      0.00      0.58      0.00      0.00     98.55
18:04:21          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:21          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:21          2      0.00      0.00      0.00      0.00      0.00    100.00
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18:04:21          3      3.64      0.00      1.82      0.00      0.00     94.55

18:04:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:22        all      0.42      0.00      0.42      0.00      0.00     99.16
18:04:22          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:22          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:22          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:22          3      0.91      0.00      1.82      0.00      0.00     97.27

18:04:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:23        all      0.89      0.00      0.89      0.00      0.00     98.21
18:04:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:23          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:23          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:23          3      2.73      0.00      2.73      0.00      0.00     94.55

18:04:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:24        all      0.42      0.00      0.42      0.00      0.00     99.17
18:04:24          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:24          3      1.90      0.00      1.90      0.00      0.00     96.19

18:04:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:25        all      0.29      0.00      0.59      0.00      0.00     99.12
18:04:25          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:25          3      0.93      0.00      2.80      0.00      0.00     96.26

18:04:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:26        all      0.42      0.00      1.04      0.00      0.00     98.54
18:04:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:26          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:26          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:26          3      2.78      0.00      3.70      0.00      0.00     93.52

18:04:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:27        all      1.47      0.00      0.74      0.00      0.00     97.79
18:04:27          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:27          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:27          3      3.74      0.00      3.74      0.00      0.00     92.52

18:04:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:28        all      0.74      0.00      0.74      0.00      0.00     98.53
18:04:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:28          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:28          2      0.00      0.00      0.93      0.00      0.00     99.07
18:04:28          3      3.64      0.00      2.73      0.00      0.00     93.64

18:04:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:29        all      0.30      0.00      0.30      0.00      0.00     99.40
18:04:29          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:29          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:29          3      0.96      0.00      0.00      0.00      0.00     99.04
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18:04:29	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:30	all	0.42	0.00	0.42	0.00	0.00	99.17
18:04:30	0	0.00	0.00	0.00	0.00	0.00	100.00
18:04:30	1	0.00	0.00	0.00	0.00	0.00	100.00
18:04:30	2	0.00	0.00	0.00	0.00	0.00	100.00
18:04:30	3	0.93	0.00	2.80	0.00	0.00	96.26
18:04:30	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:31	all	0.72	0.00	0.96	0.00	0.00	98.33
18:04:31	0	0.00	0.00	0.00	0.00	0.00	100.00
18:04:31	1	0.00	0.00	0.00	0.00	0.00	100.00
18:04:31	2	0.00	0.00	0.00	0.00	0.00	100.00
18:04:31	3	3.81	0.00	1.90	0.00	0.00	94.29
18:04:31	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:32	all	1.21	0.00	1.21	0.00	0.00	97.58
18:04:32	0	0.00	0.00	0.00	0.00	0.00	100.00
18:04:32	1	0.98	0.00	0.00	0.00	0.00	99.02
18:04:32	2	0.97	0.00	0.97	0.00	0.00	98.06
18:04:32	3	2.83	0.00	4.72	0.00	0.00	92.45
18:04:32	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:33	all	0.62	0.00	0.00	0.00	0.00	99.38
18:04:33	0	0.00	0.00	0.00	0.00	0.00	100.00
18:04:33	1	1.11	0.00	0.00	0.00	0.00	98.89
18:04:33	2	0.00	0.00	0.00	0.00	0.00	100.00
18:04:33	3	0.95	0.00	0.00	0.00	0.00	99.05
18:04:33	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:34	all	0.21	0.00	0.21	0.00	0.00	99.59
18:04:34	0	0.00	0.00	0.00	0.00	0.00	100.00
18:04:34	1	0.00	0.00	0.00	0.00	0.00	100.00
18:04:34	2	0.00	0.00	0.00	0.00	0.00	100.00
18:04:34	3	0.94	0.00	0.00	0.00	0.00	99.06
18:04:34	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:35	all	0.00	0.00	0.31	0.00	0.00	99.69
18:04:35	0	0.00	0.00	0.00	0.00	0.00	100.00
18:04:35	1	0.00	0.00	0.00	0.00	0.00	100.00
18:04:35	2	0.00	0.00	0.00	0.00	0.00	100.00
18:04:35	3	0.00	0.00	1.90	0.00	0.00	98.10
18:04:35	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:36	all	0.00	0.00	0.21	0.00	0.00	99.79
18:04:36	0	0.00	0.00	0.00	0.00	0.00	100.00
18:04:36	1	0.00	0.00	0.00	0.00	0.00	100.00
18:04:36	2	0.00	0.00	0.00	0.00	0.00	100.00
18:04:36	3	0.00	0.00	0.00	0.00	0.00	100.00
18:04:36	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:37	all	0.00	0.00	0.00	0.00	0.00	100.00
18:04:37	0	0.00	0.00	0.00	0.00	0.00	100.00
18:04:37	1	0.00	0.00	0.00	0.00	0.00	100.00
18:04:37	2	0.00	0.00	0.00	0.00	0.00	100.00
18:04:37	3	0.00	0.00	0.93	0.00	0.00	99.07
18:04:37	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:04:38	all	0.00	0.00	0.24	0.00	0.00	99.76

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18:04:38          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:38          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:38          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:38          3      0.00      0.00      0.00      0.00      0.00    100.00

18:04:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:39        all      0.30      0.00      0.60      0.00      0.00     99.11
18:04:39          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:39          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:39          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:39          3      0.93      0.00      0.93      0.00      0.00     98.13

18:04:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:40        all      0.00      0.00      0.21      0.00      0.00     99.79
18:04:40          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:40          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:40          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:40          3      0.00      0.00      1.83      0.00      0.00     98.17

18:04:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:41        all      0.30      0.00      0.00      0.00      0.00     99.70
18:04:41          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:41          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:41          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:41          3      0.92      0.00      0.92      0.00      0.00     98.17

18:04:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:42        all      0.00      0.00      0.20      0.00      0.00     99.80
18:04:42          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:42          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:42          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:42          3      0.00      0.00      0.00      0.00      0.00    100.00

18:04:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:43        all      0.00      0.00      0.30      0.00      0.00     99.70
18:04:43          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:43          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:43          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:43          3      0.00      0.00      0.93      0.00      0.00     99.07

18:04:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:44        all      0.21      0.00      0.00      0.00      0.00     99.79
18:04:44          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:44          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:44          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:44          3      0.92      0.00      0.92      0.00      0.00     98.17

18:04:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:45        all      0.59      0.00      0.59      0.00      0.00     98.82
18:04:45          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:45          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:45          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:45          3      1.79      0.00      1.79      0.00      0.00     96.43

18:04:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:46        all      0.00      0.00      0.41      0.00      0.00     99.59
18:04:46          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:46          1      0.00      0.00      0.00      0.00      0.00    100.00
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18:04:46          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:46          3      0.00      0.00      0.00      0.00      0.00    100.00

18:04:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:47        all      0.00      0.00      0.49      0.00      0.00     99.51
18:04:47          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:47          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:47          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:47          3      0.00      0.00      2.70      0.00      0.00     97.30

18:04:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:48        all      0.48      0.00      0.48      0.00      0.00     99.04
18:04:48          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:48          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:48          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:48          3      1.82      0.00      1.82      0.00      0.00     96.36

18:04:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:49        all      0.00      0.00      0.00      0.00      0.00    100.00
18:04:49          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:49          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:49          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:49          3      0.00      0.00      0.94      0.00      0.00     99.06

18:04:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:50        all      0.41      0.00      0.41      0.00      0.00     99.18
18:04:50          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:50          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:50          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:50          3      1.82      0.00      1.82      0.00      0.00     96.36

18:04:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:51        all      0.90      0.00      0.30      0.00      0.00     98.80
18:04:51          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:51          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:51          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:51          3      1.87      0.00      0.00      0.00      0.00     98.13

18:04:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:52        all      0.21      0.00      0.41      0.00      0.00     99.38
18:04:52          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:52          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:52          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:52          3      1.85      0.00      1.85      0.00      0.00     96.30

18:04:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:53        all      0.90      0.00      0.60      0.00      0.00     98.51
18:04:53          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:53          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:53          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:53          3      1.80      0.00      1.80      0.00      0.00     96.40

18:04:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:54        all      0.41      0.00      1.02      0.00      0.00     98.57
18:04:54          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:54          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:54          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:54          3      1.85      0.00      3.70      0.00      0.00     94.44
```

```
18:04:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:55        all      0.90      0.00      0.60      0.00      0.00     98.50
18:04:55          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:55          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:55          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:55          3      3.54      0.00      1.77      0.00      0.00     94.69

18:04:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:56        all      0.41      0.00      1.23      0.00      0.00     98.36
18:04:56          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:56          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:56          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:56          3      1.89      0.00      3.77      0.00      0.00     94.34

18:04:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:57        all      0.51      0.00      0.76      0.00      0.00     98.74
18:04:57          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:57          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:57          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:57          3      0.92      0.00      3.67      0.00      0.00     95.41

18:04:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:58        all      0.00      0.00      0.89      0.00      0.00     99.11
18:04:58          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:58          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:58          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:58          3      0.93      0.00      2.80      0.00      0.00     96.26

18:04:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:04:59        all      0.98      0.00      0.73      0.24      0.00     98.05
18:04:59          0      0.00      0.00      0.00      0.00      0.00    100.00
18:04:59          1      0.00      0.00      0.00      0.00      0.00    100.00
18:04:59          2      0.00      0.00      0.00      0.00      0.00    100.00
18:04:59          3      2.83      0.00      2.83      0.00      0.00     94.34

18:04:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:05:00        all      0.72      0.00      0.48      0.00      0.00     98.80
18:05:00          0      0.00      0.00      0.00      0.00      0.00    100.00
18:05:00          1      0.00      0.00      0.00      0.00      0.00    100.00
18:05:00          2      0.00      0.00      0.00      0.00      0.00    100.00
18:05:00          3      2.78      0.00      2.78      0.00      0.00     94.44

18:05:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:05:01        all      0.27      0.00      0.27      0.00      0.00     99.46
18:05:01          0      0.00      0.00      0.00      0.00      0.00    100.00
18:05:01          1      0.00      0.00      0.00      0.00      0.00    100.00
18:05:01          2      0.00      0.00      0.00      0.00      0.00    100.00
18:05:01          3      0.93      0.00      1.85      0.00      0.00     97.22

18:05:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:05:02        all      0.20      0.00      0.79      0.00      0.00     99.01
18:05:02          0      0.00      0.00      0.00      0.00      0.00    100.00
18:05:02          1      0.00      0.00      0.91      0.00      0.00     99.09
18:05:02          2      0.00      0.00      0.00      0.00      0.00    100.00
18:05:02          3      1.92      0.00      1.92      0.00      0.00     96.15

18:05:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
```

```
18:05:03        all      0.98      0.00      0.33      0.00      0.00     98.69
18:05:03          0      0.00      0.00      0.00      0.00      0.00    100.00
18:05:03          1      0.00      0.00      0.00      0.00      0.00    100.00
18:05:03          2      0.00      0.00      0.00      0.00      0.00    100.00
18:05:03          3      1.94      0.00      0.00      0.00      0.00     98.06

18:05:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:05:04        all      0.00      0.00      0.00      0.00      0.00    100.00
18:05:04          0      0.00      0.00      0.00      0.00      0.00    100.00
18:05:04          1      0.00      0.00      0.00      0.00      0.00    100.00
18:05:04          2      0.00      0.00      0.00      0.00      0.00    100.00
18:05:04          3      0.00      0.00      0.99      0.00      0.00     99.01

18:05:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:05:05        all      0.00      0.00      0.00      0.00      0.00    100.00
18:05:05          0      0.00      0.00      0.00      0.00      0.00    100.00
18:05:05          1      0.00      0.00      0.00      0.00      0.00    100.00
18:05:05          2      0.00      0.00      0.00      0.00      0.00    100.00
18:05:05          3      0.99      0.00      0.00      0.00      0.00     99.01

18:05:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:05:06        all      0.00      0.00      0.25      0.00      0.00     99.75
18:05:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:05:06          1      0.00      0.00      0.00      0.00      0.00    100.00
18:05:06          2      0.00      0.00      0.00      0.00      0.00    100.00
18:05:06          3      0.00      0.00      0.00      0.00      0.00    100.00
```

Table 93: Iostat monitoring for the 250 threads third trial Varnish

```
     Varnish
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.59    0.05    0.43     1.53    16.12    37.21     0.00    4.19   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.84

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    1.20     0.00     9.60     8.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.39    0.00    0.49    0.00    0.00   99.12

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.54    0.00    0.59    0.00    0.00   98.87

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.59    0.00    0.69    0.00    0.00   98.72

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   141.00    0.00   10.80     0.00  1214.40   112.44     0.03    2.52   0.15   0.16

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.69    0.00    0.54    0.00    0.00   98.78

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.25    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.00     0.00    19.20    19.20     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    2.00     0.00    24.00    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.39    0.00    0.00   99.41

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.54    0.00    0.54    0.00    0.00   98.93

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.60     0.00     9.60    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.49    0.00    0.83    0.00    0.00   98.68

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    1.20     0.00    16.00    13.33     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.44    0.00    0.44    0.05    0.00   99.06

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00   330.40    0.00   23.60     0.00  2832.00   120.00     0.09    4.00   0.10   0.24
```

F.3. Results with CDN

Table 94: Jmeter 50 threads test first trial CDN

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	49	42	147
19033-h-0.htm	50	259	161	685
1.css	50	7446	59	25616
i001_th.jpg	50	6834	81	22150
pgepub.css	50	1569	56	5275
0.css	50	613	57	3187
i002_th.jpg	50	1196	88	2623
title.jpg	50	813	56	3066
plate02_th.jpg	50	892	171	1383
i008_th.jpg	50	1851	108	3620
plate01_th.jpg	50	984	162	1576
i009_th.jpg	50	958	155	3421
cover_th.jpg	50	1000	161	1555
i005_th.jpg	50	847	116	1202
i003_th.jpg	50	1229	114	1387
i015_th.jpg	50	1365	585	1509
i011_th.jpg	50	2354	2194	2456
i017_th.jpg	50	1351	1224	1467
plate04_th.jpg	50	2014	1748	2696
i022_th.jpg	50	625	141	813
i007_th.jpg	50	721	363	1219
i020_th.jpg	50	1655	125	3445
i004_th.jpg	50	450	143	764
plate03_th.jpg	50	568	254	868
i018_th.jpg	50	305	189	471
i019_th.jpg	50	404	167	1010
i016_th.jpg	50	663	344	1099
i010_th.jpg	50	5021	270	9200
i012_th.jpg	50	370	180	1144
i014_th.jpg	50	399	121	900
i021_th.jpg	50	481	90	3136
i013_th.jpg	50	403	120	752
i006_th.jpg	50	353	112	609
TOTAL	1650	1395	42	25616

Table 95: Systat monitoring for the 50 threads first trial CDN

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

18:24:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:04        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:04          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:04          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:04          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:04          3      0.00      0.00      1.00      0.00      0.00     99.00

18:24:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:05        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:05          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:05          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:05          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:05          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:06        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:06          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:06          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:06          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:07        all      0.00      0.00      0.23      0.00      0.00     99.77
18:24:07          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:07          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:07          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:07          3      0.00      0.00      0.00      1.00      0.00     99.00

18:24:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:08        all      0.26      0.00      0.00      0.26      0.00     99.48
18:24:08          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:08          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:08          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:08          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:09        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:09          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:09          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:09          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:09          3      0.00      0.00      1.00      0.00      0.00     99.00

18:24:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:10        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:10          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:10          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:10          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:10          3      0.00      0.00      0.00      1.00      0.00     99.00

18:24:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:11        all      0.00      0.00      0.25      0.25      0.00     99.50
18:24:11          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:24:11          1      0.00      0.00      1.00      0.00      0.00     99.00
18:24:11          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:11          3      0.00      0.00      1.00      0.00      0.00     99.00

18:24:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:12        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:12          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:12          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:12          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:12          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:13        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:13          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:13          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:13          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:13          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:14        all      0.25      0.00      0.25      0.00      0.00     99.50
18:24:14          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:14          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:14          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:14          3      0.98      0.00      0.98      0.98      0.00     97.06

18:24:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:15        all      0.00      0.00      0.00      0.25      0.00     99.75
18:24:15          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:15          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:15          2      0.00      0.00      1.00      0.00      0.00     99.00
18:24:15          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:16        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:16          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:16          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:16          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:16          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:17        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:17          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:17          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:17          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:17          3      0.00      0.00      0.00      0.99      0.00     99.01

18:24:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:18        all      0.25      0.00      0.25      0.25      0.00     99.26
18:24:18          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:18          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:18          2      0.98      0.00      0.00      0.00      0.00     99.02
18:24:18          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:19        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:19          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:19          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:19          2      0.00      0.00      0.00      0.00      0.00    100.00
```

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18:24:19          3      0.00      0.00      0.98      0.98      0.00     98.04

18:24:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:20        all      0.00      0.00      0.25      0.25      0.00     99.51
18:24:20          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:20          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:20          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:20          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:21        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:21          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:21          1      1.00      0.00      0.00      0.00      0.00     99.00
18:24:21          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:21          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:22        all      0.00      0.00      0.50      0.00      0.00     99.50
18:24:22          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:22          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:22          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:22          3      0.00      0.00      1.96      0.00      0.00     98.04

18:24:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:23        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:23          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:23          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:23          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:24        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:24          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:24          3      0.00      0.00      0.98      0.00      0.00     99.02

18:24:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:25        all      0.25      0.00      0.00      0.00      0.00     99.75
18:24:25          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:25          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:26        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:26          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:26          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:26          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:27        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:27          0      0.99      0.00      0.00      0.00      0.00     99.01
18:24:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:27          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:27          3      0.00      0.00      1.00      0.00      0.00     99.00
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18:24:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:28        all      0.25      0.00      0.00      0.00      0.00     99.75
18:24:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:28          1      0.99      0.00      0.00      0.00      0.00     99.01
18:24:28          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:28          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:29        all      0.25      0.00      0.00      0.00      0.00     99.75
18:24:29          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:29          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:29          3      0.99      0.00      0.00      0.00      0.00     99.01

18:24:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:30        all      0.25      0.00      0.00      0.00      0.00     99.75
18:24:30          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:30          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:30          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:30          3      0.99      0.00      0.00      0.00      0.00     99.01

18:24:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:31        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:31          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:31          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:31          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:31          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:32        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:32          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:32          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:32          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:32          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:33        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:33          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:33          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:33          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:33          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:34        all      0.25      0.00      0.25      0.00      0.00     99.51
18:24:34          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:34          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:34          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:34          3      0.00      0.00      0.00      1.00      0.00     99.00

18:24:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:35        all      0.00      0.00      0.00      0.25      0.00     99.75
18:24:35          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:35          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:35          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:35          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:36        all      0.00      0.00      0.25      0.00      0.00     99.75
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18:24:36          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:36          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:36          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:36          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:37        all      0.25      0.00      0.00      0.00      0.00     99.75
18:24:37          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:37          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:37          2      0.95      0.00      0.00      0.00      0.00     99.05
18:24:37          3      0.00      0.00      0.00      1.00      0.00     99.00

18:24:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:38        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:38          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:38          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:38          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:38          3      0.98      0.00      0.98      0.00      0.00     98.04

18:24:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:39        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:39          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:39          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:39          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:39          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:40        all      0.25      0.00      0.00      0.25      0.00     99.50
18:24:40          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:40          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:40          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:40          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:41        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:41          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:41          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:41          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:41          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:42        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:42          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:42          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:42          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:42          3      0.00      0.00      0.00      0.99      0.00     99.01

18:24:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:43        all      0.25      0.00      0.25      0.25      0.00     99.25
18:24:43          0      0.00      0.00      0.99      0.00      0.00     99.01
18:24:43          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:43          2      1.00      0.00      0.00      0.00      0.00     99.00
18:24:43          3      0.99      0.00      0.99      0.00      0.00     98.02

18:24:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:44        all      0.25      0.00      0.00      0.00      0.00     99.75
18:24:44          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:44          1      0.00      0.00      0.00      0.00      0.00    100.00
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18:24:44          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:44          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:45        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:45          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:45          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:45          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:45          3      0.00      0.00      0.00      0.99      0.00     99.01

18:24:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:46        all      0.25      0.00      0.00      0.00      0.00     99.75
18:24:46          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:46          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:46          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:46          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:47        all      0.25      0.00      0.25      0.00      0.00     99.50
18:24:47          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:47          1      0.99      0.00      0.00      0.00      0.00     99.01
18:24:47          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:47          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:48        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:48          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:48          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:48          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:48          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:49        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:49          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:49          1      1.01      0.00      0.00      0.00      0.00     98.99
18:24:49          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:49          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:50        all      0.25      0.00      0.25      0.25      0.00     99.26
18:24:50          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:50          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:50          2      0.98      0.00      0.00      0.00      0.00     99.02
18:24:50          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:51        all      0.25      0.00      0.25      0.00      0.00     99.50
18:24:51          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:51          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:51          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:51          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:52        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:52          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:52          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:52          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:52          3      1.00      0.00      0.00      0.00      0.00     99.00
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18:24:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:53        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:53          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:53          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:53          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:53          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:54        all      0.25      0.00      0.25      0.00      0.00     99.50
18:24:54          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:54          1      0.99      0.00      0.00      0.00      0.00     99.01
18:24:54          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:54          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:55        all      0.25      0.00      0.00      0.00      0.00     99.75
18:24:55          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:55          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:55          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:55          3      0.00      0.00      0.99      0.00      0.00     99.01

18:24:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:56        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:56          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:56          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:56          2      0.00      0.00      1.00      0.00      0.00     99.00
18:24:56          3      0.99      0.00      0.00      0.00      0.00     99.01

18:24:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:57        all      0.26      0.00      0.00      0.00      0.00     99.74
18:24:57          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:57          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:57          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:57          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:58        all      0.00      0.00      0.00      0.00      0.00    100.00
18:24:58          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:58          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:58          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:58          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:24:59        all      0.00      0.00      0.25      0.00      0.00     99.75
18:24:59          0      0.00      0.00      0.00      0.00      0.00    100.00
18:24:59          1      0.00      0.00      0.00      0.00      0.00    100.00
18:24:59          2      0.00      0.00      0.00      0.00      0.00    100.00
18:24:59          3      0.00      0.00      0.00      0.00      0.00    100.00

18:24:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:00        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:00          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:00          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:00          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:00          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
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18:25:01        all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:01          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:01          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:01          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:01          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:02        all      0.29      0.00      0.00      0.00      0.00     99.71
18:25:02          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:02          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:02          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:02          3      1.00      0.00      0.00      0.00      0.00     99.00

18:25:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:03        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:03          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:03          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:03          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:03          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:04        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:04          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:04          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:04          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:04          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:05        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:05          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:05          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:05          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:05          3      1.00      0.00      0.00      0.00      0.00     99.00

18:25:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:06        all      0.00      0.00      0.29      0.00      0.00     99.71
18:25:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:06          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:06          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:06          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:07        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:07          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:07          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:07          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:07          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:08        all      0.25      0.00      0.00      0.00      0.00     99.75
18:25:08          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:08          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:08          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:08          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:09        all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:09          0      0.00      0.00      0.00      0.00      0.00    100.00
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18:25:09         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:09         2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:09         3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:09       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:10       all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:10         0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:10         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:10         2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:10         3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:10       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:11       all      0.00      0.00      0.29      0.00      0.00     99.71
18:25:11         0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:11         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:11         2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:11         3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:11       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:12       all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:12         0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:12         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:12         2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:12         3      0.00      0.00      1.00      0.00      0.00     99.00

18:25:12       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:13       all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:13         0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:13         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:13         2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:13         3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:13       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:14       all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:14         0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:14         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:14         2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:14         3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:14       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:15       all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:15         0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:15         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:15         2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:15         3      0.00      0.00      1.00      0.00      0.00     99.00

18:25:15       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:16       all      0.00      0.00      0.29      0.00      0.00     99.71
18:25:16         0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:16         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:16         2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:16         3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:16       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:17       all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:17         0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:17         1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:17         2      0.00      0.00      0.00      0.00      0.00    100.00
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18:25:17          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:18        all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:18          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:18          1      0.00      0.00      0.99      0.00      0.00     99.01
18:25:18          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:18          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:19        all      0.00      0.00      0.24      0.00      0.00     99.76
18:25:19          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:19          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:19          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:19          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:20        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:20          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:20          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:20          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:20          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:21        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:21          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:21          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:21          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:21          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:22        all      0.25      0.00      0.00      0.00      0.00     99.75
18:25:22          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:22          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:22          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:22          3      0.99      0.00      0.00      0.00      0.00     99.01

18:25:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:23        all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:23          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:23          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:23          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:24        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:24          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:24          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:25        all      0.00      0.00      0.22      0.00      0.00     99.78
18:25:25          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:25          3      0.00      0.00      0.99      0.00      0.00     99.01
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18:25:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:26        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:26          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:26          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:26          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:27        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:27          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:27          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:27          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:28        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:28          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:28          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:28          3      0.99      0.00      0.00      0.00      0.00     99.01

18:25:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:29        all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:29          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:29          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:29          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:30        all      0.22      0.00      0.00      0.00      0.00     99.78
18:25:30          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:30          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:30          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:30          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:31        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:31          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:31          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:31          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:31          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:32        all      0.25      0.00      0.00      0.00      0.00     99.75
18:25:32          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:32          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:32          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:32          3      0.99      0.00      0.00      0.00      0.00     99.01

18:25:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:33        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:33          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:33          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:33          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:33          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:34        all      0.00      0.00      0.00      0.00      0.00    100.00
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18:25:34          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:34          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:34          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:34          3      0.99      0.00      0.00      0.00      0.00     99.01

18:25:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:35        all      0.22      0.00      0.22      0.00      0.00     99.57
18:25:35          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:35          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:35          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:35          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:36        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:36          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:36          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:36          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:36          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:37        all      0.25      0.00      0.00      0.00      0.00     99.75
18:25:37          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:37          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:37          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:37          3      0.99      0.00      0.00      0.00      0.00     99.01

18:25:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:38        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:38          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:38          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:38          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:38          3      0.99      0.00      0.00      0.00      0.00     99.01

18:25:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:39        all      0.25      0.00      0.00      0.00      0.00     99.75
18:25:39          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:39          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:39          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:39          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:40        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:40          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:40          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:40          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:40          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:41        all      0.29      0.00      0.00      0.00      0.00     99.71
18:25:41          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:41          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:41          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:41          3      0.98      0.00      0.00      0.98      0.00     98.04

18:25:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:42        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:42          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:42          1      0.00      0.00      0.00      0.00      0.00    100.00
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18:25:42          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:42          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:43        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:43          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:43          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:43          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:43          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:44        all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:44          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:44          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:44          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:44          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:45        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:45          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:45          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:45          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:45          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:46        all      0.00      0.00      0.29      0.29      0.00     99.42
18:25:46          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:46          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:46          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:46          3      0.99      0.00      0.99      0.00      0.00     98.02

18:25:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:47        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:47          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:47          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:47          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:47          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:48        all      0.25      0.00      0.25      0.00      0.00     99.50
18:25:48          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:48          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:48          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:48          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:49        all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:49          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:49          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:49          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:49          3      0.00      0.00      1.00      0.00      0.00     99.00

18:25:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:50        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:50          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:50          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:50          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:50          3      0.00      0.00      0.00      0.00      0.00    100.00
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18:25:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:51        all      0.00      0.00      0.29      0.00      0.00     99.71
18:25:51          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:51          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:51          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:51          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:52        all      0.25      0.00      0.25      0.00      0.00     99.50
18:25:52          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:52          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:52          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:52          3      0.98      0.00      0.98      0.00      0.00     98.04

18:25:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:53        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:53          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:53          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:53          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:53          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:54        all      0.00      0.00      0.27      0.00      0.00     99.73
18:25:54          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:54          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:54          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:54          3      1.00      0.00      0.00      0.00      0.00     99.00

18:25:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:55        all      0.00      0.00      0.22      0.00      0.00     99.78
18:25:55          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:55          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:55          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:55          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:56        all      0.29      0.00      0.00      0.00      0.00     99.71
18:25:56          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:56          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:56          2      0.99      0.00      0.00      0.00      0.00     99.01
18:25:56          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:57        all      0.25      0.00      0.25      0.00      0.00     99.50
18:25:57          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:57          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:57          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:57          3      0.00      0.00      0.00      0.00      0.00    100.00

18:25:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:25:58        all      0.00      0.00      0.00      0.00      0.00    100.00
18:25:58          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:58          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:58          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:58          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
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18:25:59        all      0.00      0.00      0.25      0.00      0.00     99.75
18:25:59          0      0.00      0.00      0.00      0.00      0.00    100.00
18:25:59          1      0.00      0.00      0.00      0.00      0.00    100.00
18:25:59          2      0.00      0.00      0.00      0.00      0.00    100.00
18:25:59          3      0.00      0.00      0.99      0.00      0.00     99.01

18:25:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:00        all      0.22      0.00      0.00      0.00      0.00     99.78
18:26:00          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:00          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:00          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:00          3      1.00      0.00      0.00      0.00      0.00     99.00

18:26:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:01        all      0.00      0.00      0.28      0.00      0.00     99.72
18:26:01          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:01          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:01          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:01          3      0.99      0.00      0.00      0.00      0.00     99.01

18:26:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:02        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:02          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:02          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:02          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:02          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:03        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:03          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:03          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:03          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:03          3      0.00      0.00      1.00      0.00      0.00     99.00

18:26:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:04        all      0.25      0.00      0.25      0.00      0.00     99.50
18:26:04          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:04          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:04          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:04          3      0.00      0.00      0.00      0.00      0.00    100.00

18:26:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:05        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:05          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:05          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:05          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:05          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:06        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:06          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:06          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:06          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:07        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:07          0      0.00      0.00      0.00      0.00      0.00    100.00
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18:26:07          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:07          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:07          3      0.00      0.00      0.00      0.00      0.00    100.00

18:26:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:08        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:08          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:08          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:08          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:08          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:09        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:09          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:09          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:09          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:09          3      0.00      0.00      1.00      0.00      0.00     99.00

18:26:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:10        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:10          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:10          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:10          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:10          3      0.99      0.00      0.00      0.00      0.00     99.01

18:26:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:11        all      0.25      0.00      0.00      0.00      0.00     99.75
18:26:11          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:11          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:11          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:11          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:12        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:12          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:12          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:12          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:12          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:13        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:13          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:13          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:13          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:13          3      0.00      0.00      0.00      0.00      0.00    100.00

18:26:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:14        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:14          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:14          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:14          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:14          3      0.00      0.00      1.96      0.00      0.00     98.04

18:26:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:15        all      0.25      0.00      0.00      0.00      0.00     99.75
18:26:15          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:15          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:15          2      0.00      0.00      0.00      0.00      0.00    100.00
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18:26:15          3      1.00      0.00      0.00      0.00      0.00     99.00

18:26:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:16        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:16          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:16          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:16          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:16          3      0.00      0.00      0.00      0.00      0.00    100.00

18:26:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:17        all      0.26      0.00      0.00      0.00      0.00     99.74
18:26:17          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:17          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:17          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:17          3      0.99      0.00      0.00      0.00      0.00     99.01

18:26:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:18        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:18          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:18          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:18          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:18          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:19        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:19          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:19          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:19          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:19          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:20        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:20          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:20          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:20          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:20          3      1.00      0.00      0.00      0.00      0.00     99.00

18:26:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:21        all      0.24      0.00      0.24      0.00      0.00     99.51
18:26:21          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:21          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:21          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:21          3      0.00      0.00      0.00      0.00      0.00    100.00

18:26:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:22        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:22          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:22          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:22          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:22          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:23        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:23          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:23          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:23          3      0.00      0.00      0.99      0.00      0.00     99.01
```

```
18:26:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:24        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:24          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:24          3      1.00      0.00      0.00      0.00      0.00     99.00

18:26:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:25        all      0.25      0.00      0.25      0.00      0.00     99.51
18:26:25          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:25          3      0.00      0.00      0.00      0.00      0.00    100.00

18:26:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:26        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:26          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:26          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:26          3      0.00      0.00      0.99      0.99      0.00     98.02

18:26:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:27        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:27          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:27          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:27          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:28        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:28          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:28          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:28          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:29        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:29          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:29          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:29          3      0.00      0.00      1.00      0.00      0.00     99.00

18:26:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:30        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:30          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:30          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:30          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:30          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:31        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:31          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:31          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:31          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:31          3      0.99      0.00      0.00      0.00      0.00     99.01

18:26:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:32        all      0.25      0.00      0.25      0.00      0.00     99.50
```

```
18:26:32          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:32          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:32          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:32          3      0.00      0.00      1.00      0.00      0.00     99.00

18:26:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:33        all      0.00      0.00      0.22      0.00      0.00     99.78
18:26:33          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:33          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:33          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:33          3      0.00      0.00      0.00      0.00      0.00    100.00

18:26:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:34        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:34          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:34          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:34          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:34          3      0.00      0.00      0.99      0.00      0.00     99.01

18:26:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:35        all      0.00      0.00      0.00      0.00      0.00    100.00
18:26:35          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:35          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:35          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:35          3      0.00      0.00      1.00      0.00      0.00     99.00

18:26:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:26:36        all      0.00      0.00      0.25      0.00      0.00     99.75
18:26:36          0      0.00      0.00      0.00      0.00      0.00    100.00
18:26:36          1      0.00      0.00      0.00      0.00      0.00    100.00
18:26:36          2      0.00      0.00      0.00      0.00      0.00    100.00
18:26:36          3      0.00      0.00      0.99      0.00      0.00     99.01
```

Table 96: Iostat monitoring for the 50 threads first trial CDN

```
     CDN
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.59    0.05    0.43     1.52    16.15    37.19     0.00    4.17   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.05    0.00    0.00   99.95

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    2.00     0.00    17.60     8.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.10    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.10    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.20    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.10    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    1.20     0.00    17.60    14.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.40     0.00    16.00    11.43     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    1.20     0.00    22.40    18.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.10    0.05    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    1.00   1.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.15    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.40     0.00    16.00    11.43     0.00    0.57   0.57   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.20    0.00    0.60     0.00    22.40    37.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.05    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    1.40     0.00    19.20    13.71     0.00    0.00   0.00   0.00
```

```
avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.20     0.00     1.60     8.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    2.40     0.00    24.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.60     0.00     6.40    10.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.05    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.60     0.00     6.40    10.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.05    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.40     0.00    20.80    14.86     0.00    1.71   0.57   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.00    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.80     0.00     8.00    10.00     0.00    3.00   1.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.00     0.00     0.00     0.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    1.60     0.00    14.40     9.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.20     0.00    12.80    10.67     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    0.60     0.00    17.60    29.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    1.40     0.00    17.60    12.57     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.80     0.00    11.20    14.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.60     0.00     6.40    10.67     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.60     0.00     6.40    10.67     0.00    0.00   0.00   0.00
```

```
avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    1.40     0.00    12.80     9.14     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.15    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.60     0.00     6.40    10.67     0.00    0.00   0.00   0.00
```

Table 97: Jmeter 50 threads test second trial CDN

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	56	43	136
19033-h-0.htm	50	265	227	353
1.css	50	697	181	3356
i001_th.jpg	50	818	534	1922
pgepub.css	50	684	178	3379
0.css	50	657	355	3384
i002_th.jpg	50	1182	530	3939
title.jpg	50	1161	359	3663
plate02_th.jpg	50	1736	910	4181
i008_th.jpg	50	1435	719	3770
plate01_th.jpg	50	1804	932	2881
i009_th.jpg	50	1616	730	3791
cover_th.jpg	50	2464	905	4961
i005_th.jpg	50	1453	712	3775
i003_th.jpg	50	791	704	1488
i015_th.jpg	50	961	717	3735
i011_th.jpg	50	1145	725	1702
i017_th.jpg	50	970	717	3780
plate04_th.jpg	50	1200	183	2786
i022_th.jpg	50	916	720	3757
i007_th.jpg	50	662	540	3559
i020_th.jpg	50	1041	715	3730
i004_th.jpg	50	609	532	873
plate03_th.jpg	50	1242	1071	4146
i018_th.jpg	50	851	715	3797
i019_th.jpg	50	574	528	716
i016_th.jpg	50	943	710	1294
i010_th.jpg	50	501	354	3410
i012_th.jpg	50	925	712	2399
i014_th.jpg	50	790	708	984
i021_th.jpg	50	940	528	1526
i013_th.jpg	50	766	713	1044
i006_th.jpg	50	869	708	1104
TOTAL	1650	992	43	4961

Table 98: Systat monitoring for the 50 threads second trial CDN

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

18:29:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:29        all      0.00      0.00      0.31      0.00      0.00     99.69
18:29:29          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:29          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:29          3      0.00      0.00      0.99      0.00      0.00     99.01

18:29:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:30        all      0.00      0.00      0.00      0.00      0.00    100.00
18:29:30          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:30          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:30          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:30          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:31        all      0.00      0.00      0.23      0.00      0.00     99.77
18:29:31          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:31          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:31          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:31          3      0.00      0.00      0.99      0.00      0.00     99.01

18:29:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:32        all      0.00      0.00      0.00      0.00      0.00    100.00
18:29:32          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:32          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:32          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:32          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:33        all      0.00      0.00      0.26      0.00      0.00     99.74
18:29:33          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:33          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:33          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:33          3      0.00      0.00      0.99      0.00      0.00     99.01

18:29:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:34        all      0.00      0.00      0.00      0.00      0.00    100.00
18:29:34          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:34          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:34          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:34          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:35        all      0.26      0.00      0.00      0.00      0.00     99.74
18:29:35          0      0.99      0.00      0.00      0.00      0.00     99.01
18:29:35          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:35          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:35          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:36        all      0.21      0.00      0.21      0.00      0.00     99.58
18:29:36          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:29:36          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:36          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:36          3      0.00      0.00      0.99      0.00      0.00     99.01

18:29:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:37        all      0.00      0.00      0.00      0.00      0.00    100.00
18:29:37          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:37          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:37          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:37          3      0.00      0.00      0.00      0.99      0.00     99.01

18:29:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:38        all      0.00      0.00      0.24      0.00      0.00     99.76
18:29:38          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:38          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:38          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:38          3      0.00      0.00      0.99      0.00      0.00     99.01

18:29:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:39        all      0.00      0.00      0.00      0.26      0.00     99.74
18:29:39          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:39          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:39          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:39          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:40        all      0.00      0.00      0.24      0.00      0.00     99.76
18:29:40          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:40          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:40          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:40          3      0.00      0.00      1.00      0.00      0.00     99.00

18:29:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:41        all      0.21      0.00      0.21      0.00      0.00     99.57
18:29:41          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:41          1      0.94      0.00      0.00      0.00      0.00     99.06
18:29:41          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:41          3      0.00      0.00      0.98      0.00      0.00     99.02

18:29:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:42        all      0.00      0.00      0.00      0.00      0.00    100.00
18:29:42          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:42          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:42          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:42          3      0.00      0.00      1.00      0.00      0.00     99.00

18:29:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:43        all      0.00      0.00      0.53      0.00      0.00     99.47
18:29:43          0      0.00      0.00      0.99      0.00      0.00     99.01
18:29:43          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:43          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:43          3      0.00      0.00      0.00      0.98      0.00     99.02

18:29:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:44        all      0.00      0.00      0.00      0.00      0.00    100.00
18:29:44          0      1.00      0.00      0.00      0.00      0.00     99.00
18:29:44          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:44          2      0.00      0.00      0.00      0.00      0.00    100.00
```

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18:29:44          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:45        all      0.26      0.00      0.00      0.00      0.00     99.74
18:29:45          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:45          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:45          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:45          3      0.97      0.00      0.97      0.00      0.00     98.06

18:29:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:46        all      0.21      0.00      0.00      0.21      0.00     99.58
18:29:46          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:46          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:46          2      0.63      0.00      0.00      0.00      0.00     99.37
18:29:46          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:47        all      0.00      0.00      0.31      0.00      0.00     99.69
18:29:47          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:47          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:47          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:47          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:48        all      0.23      0.00      0.00      0.00      0.00     99.77
18:29:48          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:48          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:48          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:48          3      0.98      0.00      0.98      0.00      0.00     98.04

18:29:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:49        all      0.00      0.00      0.26      0.00      0.00     99.74
18:29:49          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:49          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:49          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:49          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:50        all      0.00      0.00      0.00      0.00      0.00    100.00
18:29:50          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:50          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:50          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:50          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:51        all      0.00      0.00      0.22      0.00      0.00     99.78
18:29:51          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:51          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:51          2      0.00      0.00      0.78      0.00      0.00     99.22
18:29:51          3      0.00      0.00      0.99      0.00      0.00     99.01

18:29:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:52        all      0.00      0.00      0.29      0.00      0.00     99.71
18:29:52          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:52          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:52          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:52          3      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:29:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:53        all      0.27      0.00      0.00      0.00      0.00     99.73
18:29:53          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:53          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:53          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:53          3      0.00      0.00      0.99      0.00      0.00     99.01

18:29:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:54        all      0.00      0.00      0.24      0.00      0.00     99.76
18:29:54          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:54          1      1.03      0.00      0.00      0.00      0.00     98.97
18:29:54          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:54          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:55        all      0.27      0.00      0.00      0.00      0.00     99.73
18:29:55          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:55          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:55          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:55          3      0.99      0.00      0.00      0.00      0.00     99.01

18:29:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:56        all      0.00      0.00      0.21      0.00      0.00     99.79
18:29:56          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:56          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:56          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:56          3      0.00      0.00      0.99      0.99      0.00     98.02

18:29:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:57        all      0.00      0.00      0.00      0.31      0.00     99.69
18:29:57          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:57          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:57          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:57          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:58        all      0.23      0.00      0.00      0.00      0.00     99.77
18:29:58          0      1.00      0.00      0.00      0.00      0.00     99.00
18:29:58          1      0.00      0.00      0.00      0.00      0.00    100.00
18:29:58          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:58          3      0.00      0.00      0.98      0.98      0.00     98.04

18:29:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:29:59        all      0.27      0.00      0.00      0.27      0.00     99.47
18:29:59          0      0.00      0.00      0.00      0.00      0.00    100.00
18:29:59          1      0.96      0.00      0.00      0.00      0.00     99.04
18:29:59          2      0.00      0.00      0.00      0.00      0.00    100.00
18:29:59          3      0.00      0.00      0.00      0.00      0.00    100.00

18:29:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:00        all      0.23      0.00      0.00      0.00      0.00     99.77
18:30:00          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:00          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:00          2      0.78      0.00      0.00      0.00      0.00     99.22
18:30:00          3      0.99      0.00      0.00      0.00      0.00     99.01

18:30:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:01        all      0.22      0.00      0.22      0.00      0.00     99.56
```

```
18:30:01          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:01          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:01          2      0.00      0.00      0.78      0.00      0.00     99.22
18:30:01          3      0.00      0.00      0.00      1.00      0.00     99.00

18:30:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:02        all      0.00      0.00      0.29      0.00      0.00     99.71
18:30:02          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:02          1      0.00      0.00      1.02      0.00      0.00     98.98
18:30:02          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:02          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:03        all      0.27      0.00      0.00      0.00      0.00     99.73
18:30:03          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:03          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:03          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:03          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:04        all      0.00      0.00      0.00      0.23      0.00     99.77
18:30:04          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:04          1      1.02      0.00      0.00      0.00      0.00     98.98
18:30:04          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:04          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:05        all      0.00      0.00      0.26      0.00      0.00     99.74
18:30:05          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:05          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:05          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:05          3      0.00      0.00      0.98      0.98      0.00     98.04

18:30:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:06        all      0.21      0.00      0.00      0.00      0.00     99.79
18:30:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:06          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:06          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:06          3      0.99      0.00      0.00      0.00      0.00     99.01

18:30:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:07        all      0.30      0.00      0.00      0.30      0.00     99.39
18:30:07          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:07          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:07          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:07          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:08        all      0.00      0.00      0.24      0.00      0.00     99.76
18:30:08          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:08          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:08          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:08          3      0.00      0.00      0.99      0.00      0.00     99.01

18:30:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:09        all      0.26      0.00      0.00      0.00      0.00     99.74
18:30:09          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:09          1      0.00      0.00      0.00      0.00      0.00    100.00
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18:30:09          2      1.32      0.00      0.00      0.00      0.00     98.68
18:30:09          3      0.99      0.00      0.00      0.00      0.00     99.01

18:30:09       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:10       all      0.24      0.00      0.00      0.00      0.00     99.76
18:30:10         0      1.00      0.00      0.00      0.00      0.00     99.00
18:30:10         1      1.01      0.00      0.00      0.00      0.00     98.99
18:30:10         2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:10         3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:10       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:11       all      0.00      0.00      0.22      0.00      0.00     99.78
18:30:11         0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:11         1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:11         2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:11         3      0.00      0.00      1.00      0.00      0.00     99.00

18:30:11       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:12       all      0.29      0.00      0.29      0.00      0.00     99.43
18:30:12         0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:12         1      1.01      0.00      0.00      0.00      0.00     98.99
18:30:12         2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:12         3      0.00      0.00      0.00      1.00      0.00     99.00

18:30:12       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:13       all      0.00      0.00      0.00      0.26      0.00     99.74
18:30:13         0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:13         1      0.00      0.00      0.97      0.00      0.00     99.03
18:30:13         2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:13         3      0.00      0.00      0.99      0.00      0.00     99.01

18:30:13       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:14       all      0.00      0.00      0.24      0.00      0.00     99.76
18:30:14         0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:14         1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:14         2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:14         3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:14       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:15       all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:15         0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:15         1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:15         2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:15         3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:15       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:16       all      0.21      0.00      0.42      0.00      0.00     99.36
18:30:16         0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:16         1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:16         2      0.00      0.00      0.68      0.00      0.00     99.32
18:30:16         3      0.00      0.00      0.00      0.99      0.00     99.01

18:30:16       CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:17       all      0.00      0.00      0.31      0.00      0.00     99.69
18:30:17         0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:17         1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:17         2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:17         3      0.00      0.00      1.00      0.00      0.00     99.00
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18:30:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:18        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:18          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:18          1      0.00      0.00      1.01      0.00      0.00     98.99
18:30:18          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:18          3      0.00      0.00      0.99      0.00      0.00     99.01

18:30:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:19        all      0.26      0.00      0.00      0.00      0.00     99.74
18:30:19          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:19          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:19          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:19          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:20        all      0.00      0.00      0.24      0.00      0.00     99.76
18:30:20          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:20          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:20          2      0.80      0.00      0.00      0.00      0.00     99.20
18:30:20          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:21        all      0.22      0.00      0.22      0.22      0.00     99.34
18:30:21          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:21          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:21          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:21          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:22        all      0.57      0.00      0.00      0.00      0.00     99.43
18:30:22          0      1.33      0.00      0.00      0.00      0.00     98.67
18:30:22          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:22          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:22          3      0.99      0.00      0.00      0.00      0.00     99.01

18:30:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:23        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:23          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:23          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:23          3      0.00      0.00      1.00      0.00      0.00     99.00

18:30:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:24        all      0.00      0.00      0.23      0.00      0.00     99.77
18:30:24          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:24          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:25        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:25          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:25          3      0.99      0.00      0.00      0.00      0.00     99.01

18:30:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
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18:30:26        all      0.00      0.00      0.21      0.00      0.00     99.79
18:30:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:26          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:26          2      0.00      0.00      0.65      0.00      0.00     99.35
18:30:26          3      0.00      0.00      1.00      0.00      0.00     99.00

18:30:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:27        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:27          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:27          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:27          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:28        all      0.00      0.00      0.23      0.00      0.00     99.77
18:30:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:28          1      0.00      0.00      0.99      0.00      0.00     99.01
18:30:28          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:28          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:29        all      0.00      0.00      0.27      0.00      0.00     99.73
18:30:29          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:29          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:29          3      0.00      0.00      0.99      0.00      0.00     99.01

18:30:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:30        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:30          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:30          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:30          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:30          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:31        all      0.22      0.00      0.22      0.00      0.00     99.56
18:30:31          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:31          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:31          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:31          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:32        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:32          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:32          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:32          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:32          3      0.00      0.00      1.00      0.00      0.00     99.00

18:30:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:33        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:33          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:33          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:33          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:33          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:34        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:34          0      0.00      0.00      0.00      0.00      0.00    100.00
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18:30:34          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:34          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:34          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:35        all      0.27      0.00      0.00      0.00      0.00     99.73
18:30:35          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:35          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:35          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:35          3      0.99      0.00      0.00      0.00      0.00     99.01

18:30:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:36        all      0.00      0.00      0.21      0.00      0.00     99.79
18:30:36          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:36          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:36          2      0.66      0.00      0.00      0.00      0.00     99.34
18:30:36          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:37        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:37          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:37          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:37          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:37          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:38        all      0.00      0.00      0.23      0.00      0.00     99.77
18:30:38          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:38          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:38          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:38          3      0.00      0.00      0.99      0.00      0.00     99.01

18:30:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:39        all      0.27      0.00      0.27      0.00      0.00     99.46
18:30:39          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:39          1      0.00      0.00      1.00      0.00      0.00     99.00
18:30:39          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:39          3      1.00      0.00      0.00      0.00      0.00     99.00

18:30:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:40        all      0.23      0.00      0.23      0.00      0.00     99.54
18:30:40          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:40          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:40          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:40          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:41        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:41          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:41          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:41          2      0.81      0.00      0.00      0.00      0.00     99.19
18:30:41          3      0.00      0.00      0.99      0.00      0.00     99.01

18:30:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:42        all      0.28      0.00      0.28      0.00      0.00     99.44
18:30:42          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:42          1      0.99      0.00      0.99      0.00      0.00     98.02
18:30:42          2      0.00      0.00      0.00      0.00      0.00    100.00
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18:30:42          3      1.00      0.00      0.00      0.00      0.00     99.00

18:30:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:43        all      0.27      0.00      0.00      0.00      0.00     99.73
18:30:43          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:43          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:43          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:43          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:44        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:44          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:44          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:44          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:44          3      0.99      0.00      0.00      0.00      0.00     99.01

18:30:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:45        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:45          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:45          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:45          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:45          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:46        all      0.00      0.00      0.21      0.00      0.00     99.79
18:30:46          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:46          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:46          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:46          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:47        all      0.30      0.00      0.00      0.00      0.00     99.70
18:30:47          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:47          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:47          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:47          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:48        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:48          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:48          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:48          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:48          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:49        all      0.27      0.00      0.00      0.00      0.00     99.73
18:30:49          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:49          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:49          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:49          3      0.99      0.00      0.00      0.00      0.00     99.01

18:30:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:50        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:50          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:50          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:50          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:50          3      0.00      0.00      0.99      0.00      0.00     99.01
```

```
18:30:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:51        all      0.00      0.00      0.22      0.00      0.00     99.78
18:30:51          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:51          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:51          2      0.00      0.00      0.82      0.00      0.00     99.18
18:30:51          3      0.00      0.00      0.00      0.00      0.00    100.00

18:30:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:30:52        all      0.00      0.00      0.00      0.00      0.00    100.00
18:30:52          0      0.00      0.00      0.00      0.00      0.00    100.00
18:30:52          1      0.00      0.00      0.00      0.00      0.00    100.00
18:30:52          2      0.00      0.00      0.00      0.00      0.00    100.00
18:30:52          3      0.99      0.00      0.00      0.00      0.00     99.01
```

Table 99: Iostat monitoring for the 50 threads second trial CDN

```
     CDN
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.59    0.05    0.43     1.52    16.14    37.14     0.00    4.16   0.42   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.00    0.00    0.20     0.00     1.60     8.00     0.00    4.00   4.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.60     0.00    12.80    21.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.05    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.00     0.00    12.80    12.80     0.00    0.80   0.80   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.05    0.10    0.00   99.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.60    0.00    1.00     0.00    20.80    20.80     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.05    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    2.60     0.00    32.00    12.31     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.10    0.05    0.00   99.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.05    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.80     0.00    14.40    18.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.05    0.00   99.65

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.05    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.00     0.00    11.20    11.20     0.00    0.00   0.00   0.00
```

```
avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.10    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    1.20     0.00    19.20    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.15    0.00    0.00   99.75

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    1.40     0.00    16.00    11.43     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.05    0.00    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.80     0.00    14.40    18.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.10    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.20    0.00    0.60     0.00     6.40    10.67     0.00    0.00   0.00   0.00
```

Table 100: Jmeter 50 threads test third trial CDN

sampler_label	aggregate_report_count	average	aggregate_report_min	aggregate_report_max
pg19033-images.html	50	64	43	236
19033-h-0.htm	50	272	103	728
1.css	50	764	367	3324
i001_th.jpg	50	1019	366	5324
pgepub.css	50	1316	370	11345
0.css	50	747	378	2369
i002_th.jpg	50	781	371	4314
title.jpg	50	937	375	5328
plate02_th.jpg	50	1031	440	5466
i008_th.jpg	50	1041	372	7434
plate01_th.jpg	50	754	398	4517
i009_th.jpg	50	1164	379	7440
cover_th.jpg	50	704	387	4442
i005_th.jpg	50	848	380	7388
i003_th.jpg	50	1377	375	35506
i015_th.jpg	50	645	379	4367
i011_th.jpg	50	679	381	2538
i017_th.jpg	50	701	382	2441
plate04_th.jpg	50	853	412	4574
i022_th.jpg	50	689	375	3314
i007_th.jpg	50	698	378	3481
i020_th.jpg	50	651	377	2501
i004_th.jpg	50	695	372	7378
plate03_th.jpg	50	775	429	4516
i018_th.jpg	50	703	376	4551
i019_th.jpg	50	660	381	4431
i016_th.jpg	50	590	377	2584
i010_th.jpg	50	543	371	2474
i012_th.jpg	50	613	384	2396
i014_th.jpg	50	684	377	3470
i021_th.jpg	50	476	377	1388
i013_th.jpg	50	577	375	4410
i006_th.jpg	50	685	379	2610
TOTAL	1650	750	43	35506

Table 101: Systat monitoring for the 50 threads third trial CDN

```
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

18:33:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:33:53        all      0.00      0.00      0.28      0.00      0.00     99.72
18:33:53          0      0.00      0.00      0.00      0.00      0.00    100.00
18:33:53          1      0.00      0.00      0.00      0.00      0.00    100.00
18:33:53          2      0.00      0.00      0.00      0.00      0.00    100.00
18:33:53          3      0.00      0.00      0.99      0.00      0.00     99.01

18:33:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:33:54        all      0.00      0.00      0.00      0.00      0.00    100.00
18:33:54          0      0.00      0.00      0.00      0.00      0.00    100.00
18:33:54          1      0.00      0.00      0.00      0.00      0.00    100.00
18:33:54          2      0.00      0.00      0.00      0.00      0.00    100.00
18:33:54          3      0.00      0.00      0.00      0.00      0.00    100.00

18:33:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:33:55        all      0.00      0.00      0.25      0.00      0.00     99.75
18:33:55          0      0.00      0.00      0.00      0.00      0.00    100.00
18:33:55          1      0.00      0.00      0.00      0.00      0.00    100.00
18:33:55          2      0.00      0.00      0.00      0.00      0.00    100.00
18:33:55          3      0.00      0.00      0.00      0.00      0.00    100.00

18:33:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:33:56        all      0.00      0.00      0.00      0.00      0.00    100.00
18:33:56          0      0.00      0.00      0.00      0.00      0.00    100.00
18:33:56          1      0.00      0.00      0.00      0.00      0.00    100.00
18:33:56          2      0.00      0.00      0.00      0.00      0.00    100.00
18:33:56          3      0.00      0.00      1.00      0.00      0.00     99.00

18:33:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:33:57        all      0.00      0.00      0.25      0.00      0.00     99.75
18:33:57          0      0.00      0.00      0.00      0.00      0.00    100.00
18:33:57          1      0.00      0.00      0.00      0.00      0.00    100.00
18:33:57          2      0.00      0.00      1.00      0.00      0.00     99.00
18:33:57          3      0.00      0.00      0.00      0.00      0.00    100.00

18:33:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:33:58        all      0.25      0.00      0.00      0.00      0.00     99.75
18:33:58          0      0.00      0.00      0.00      0.00      0.00    100.00
18:33:58          1      0.00      0.00      0.00      0.00      0.00    100.00
18:33:58          2      0.00      0.00      0.00      0.00      0.00    100.00
18:33:58          3      0.99      0.00      0.00      0.00      0.00     99.01

18:33:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:33:59        all      0.00      0.00      0.25      0.00      0.00     99.75
18:33:59          0      0.00      0.00      0.00      0.00      0.00    100.00
18:33:59          1      0.00      0.00      0.00      0.00      0.00    100.00
18:33:59          2      0.00      0.00      0.00      0.00      0.00    100.00
18:33:59          3      0.00      0.00      1.00      0.00      0.00     99.00

18:33:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:00        all      0.00      0.00      0.00      0.00      0.00    100.00
18:34:00          0      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:34:00          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:00          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:00          3      0.00      0.00      0.00      0.00      0.00    100.00

18:34:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:01        all      0.00      0.00      0.00      0.00      0.00    100.00
18:34:01          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:01          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:01          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:01          3      0.00      0.00      0.00      0.00      0.00    100.00

18:34:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:02        all      0.00      0.00      0.22      0.00      0.00     99.78
18:34:02          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:02          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:02          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:02          3      0.00      0.00      0.00      0.00      0.00    100.00

18:34:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:03        all      0.00      0.00      0.00      0.26      0.00     99.74
18:34:03          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:03          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:03          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:03          3      0.00      0.00      0.99      0.00      0.00     99.01

18:34:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:04        all      0.00      0.00      0.24      0.00      0.00     99.76
18:34:04          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:04          1      0.00      0.00      0.94      0.00      0.00     99.06
18:34:04          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:04          3      0.00      0.00      0.00      0.00      0.00    100.00

18:34:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:05        all      0.26      0.00      0.00      0.26      0.00     99.48
18:34:05          0      1.04      0.00      0.00      0.00      0.00     98.96
18:34:05          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:05          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:05          3      0.00      0.00      0.98      0.98      0.00     98.04

18:34:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:06        all      0.00      0.00      0.25      0.00      0.00     99.75
18:34:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:06          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:06          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:06          3      0.00      0.00      0.00      0.00      0.00    100.00

18:34:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:07        all      0.24      0.00      0.24      0.00      0.00     99.51
18:34:07          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:07          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:07          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:07          3      0.99      0.00      0.99      0.00      0.00     98.02

18:34:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:08        all      0.25      0.00      0.50      0.00      0.00     99.25
18:34:08          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:08          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:08          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:34:08          3      0.00      0.00      1.96      0.00      0.00     98.04

18:34:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:09        all      0.00      0.00      0.00      0.00      0.00    100.00
18:34:09          0      1.03      0.00      0.00      0.00      0.00     98.97
18:34:09          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:09          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:09          3      0.00      0.00      0.00      1.00      0.00     99.00

18:34:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:10        all      0.00      0.00      0.24      0.24      0.00     99.52
18:34:10          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:10          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:10          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:10          3      0.00      0.00      0.98      0.00      0.00     99.02

18:34:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:11        all      0.25      0.00      0.51      0.00      0.00     99.24
18:34:11          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:11          1      0.98      0.00      0.00      0.00      0.00     99.02
18:34:11          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:11          3      0.97      0.00      0.97      0.97      0.00     97.09

18:34:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:12        all      0.50      0.00      0.00      0.25      0.00     99.25
18:34:12          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:12          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:12          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:12          3      0.99      0.00      0.00      0.00      0.00     99.01

18:34:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:13        all      0.00      0.00      0.24      0.00      0.00     99.76
18:34:13          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:13          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:13          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:13          3      0.00      0.00      0.98      0.00      0.00     99.02

18:34:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:14        all      0.49      0.00      0.25      0.00      0.00     99.26
18:34:14          0      0.00      0.00      1.00      0.00      0.00     99.00
18:34:14          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:14          2      0.00      0.00      0.98      0.00      0.00     99.02
18:34:14          3      0.98      0.00      0.00      0.00      0.00     99.02

18:34:14        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:15        all      0.00      0.00      0.25      0.00      0.00     99.75
18:34:15          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:15          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:15          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:15          3      0.99      0.00      0.99      0.00      0.00     98.02

18:34:15        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:16        all      0.25      0.00      0.00      0.00      0.00     99.75
18:34:16          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:16          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:16          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:16          3      0.00      0.00      0.99      0.00      0.00     99.01
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18:34:16        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:17        all      0.00      0.00      0.49      0.00      0.00     99.51
18:34:17          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:17          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:17          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:17          3      0.98      0.00      0.98      0.00      0.00     98.04

18:34:17        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:18        all      0.25      0.00      0.00      0.00      0.00     99.75
18:34:18          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:18          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:18          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:18          3      0.00      0.00      0.99      0.00      0.00     99.01

18:34:18        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:19        all      0.50      0.00      0.25      0.25      0.00     99.01
18:34:19          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:19          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:19          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:19          3      0.99      0.00      0.00      0.99      0.00     98.02

18:34:19        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:20        all      0.24      0.00      0.24      0.00      0.00     99.52
18:34:20          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:20          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:20          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:20          3      0.97      0.00      1.94      0.97      0.00     96.12

18:34:20        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:21        all      0.73      0.00      0.24      0.24      0.00     98.78
18:34:21          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:21          1      0.98      0.00      0.00      0.00      0.00     99.02
18:34:21          2      0.98      0.00      0.00      0.00      0.00     99.02
18:34:21          3      1.96      0.00      0.98      0.00      0.00     97.06

18:34:21        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:22        all      0.00      0.00      0.48      0.00      0.00     99.52
18:34:22          0      0.95      0.00      0.00      0.00      0.00     99.05
18:34:22          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:22          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:22          3      0.00      0.00      0.00      1.00      0.00     99.00

18:34:22        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:23        all      0.99      0.00      0.25      0.50      0.00     98.26
18:34:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:23          1      0.98      0.00      0.00      0.00      0.00     99.02
18:34:23          2      0.99      0.00      0.00      0.00      0.00     99.01
18:34:23          3      0.00      0.00      1.00      1.00      0.00     98.00

18:34:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:24        all      0.25      0.00      0.25      0.00      0.00     99.50
18:34:24          0      0.97      0.00      0.00      0.00      0.00     99.03
18:34:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:24          3      0.99      0.00      0.00      0.00      0.00     99.01

18:34:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:25        all      0.00      0.00      0.25      0.00      0.00     99.75
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18:34:25          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:25          3      0.00      0.00      0.99      0.99      0.00     98.02

18:34:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:26        all      0.25      0.00      0.00      0.25      0.00     99.49
18:34:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:26          1      0.98      0.00      0.00      0.00      0.00     99.02
18:34:26          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:26          3      0.00      0.00      0.00      0.00      0.00    100.00

18:34:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:27        all      0.47      0.00      0.47      0.24      0.00     98.82
18:34:27          0      0.00      0.00      0.93      0.00      0.00     99.07
18:34:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:27          2      0.91      0.00      0.91      0.00      0.00     98.18
18:34:27          3      0.99      0.00      0.00      1.98      0.00     97.03

18:34:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:28        all      0.75      0.00      1.00      0.50      0.00     97.75
18:34:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:28          1      1.00      0.00      1.00      0.00      0.00     98.00
18:34:28          2      1.02      0.00      0.00      0.00      0.00     98.98
18:34:28          3      0.97      0.00      3.88      1.94      0.00     93.20

18:34:28        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:29        all      0.96      0.00      0.24      0.48      0.00     98.32
18:34:29          0      0.94      0.00      0.00      0.00      0.00     99.06
18:34:29          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:29          2      1.87      0.00      0.93      0.00      0.00     97.20
18:34:29          3      1.98      0.00      0.00      0.99      0.00     97.03

18:34:29        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:30        all      0.73      0.00      0.73      0.49      0.00     98.05
18:34:30          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:30          1      0.97      0.00      0.97      0.00      0.00     98.06
18:34:30          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:30          3      1.96      0.00      1.96      1.96      0.00     94.12

18:34:30        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:31        all      0.49      0.00      0.73      0.49      0.00     98.30
18:34:31          0      0.00      0.00      0.98      0.00      0.00     99.02
18:34:31          1      0.00      0.00      0.00      0.94      0.00     99.06
18:34:31          2      1.94      0.00      0.00      0.00      0.00     98.06
18:34:31          3      0.00      0.00      1.96      1.96      0.00     96.08

18:34:31        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:32        all      0.73      0.00      0.24      0.49      0.00     98.54
18:34:32          0      0.97      0.00      0.00      0.00      0.00     99.03
18:34:32          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:32          2      0.98      0.00      0.00      0.00      0.00     99.02
18:34:32          3      0.97      0.00      0.00      1.94      0.00     97.09

18:34:32        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:33        all      1.25      0.00      0.75      0.00      0.00     98.00
18:34:33          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:33          1      0.99      0.00      0.99      0.00      0.00     98.02
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18:34:33          2      2.00      0.00      0.00      0.00      0.00     98.00
18:34:33          3      0.98      0.00      2.94      0.00      0.00     96.08

18:34:33        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:34        all      0.00      0.00      0.47      0.47      0.00     99.05
18:34:34          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:34          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:34          2      0.00      0.00      0.93      0.00      0.00     99.07
18:34:34          3      0.00      0.00      0.00      1.94      0.00     98.06

18:34:34        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:35        all      0.75      0.00      0.00      0.00      0.00     99.25
18:34:35          0      1.01      0.00      0.00      0.00      0.00     98.99
18:34:35          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:35          2      1.01      0.00      0.00      0.00      0.00     98.99
18:34:35          3      1.96      0.00      0.00      0.00      0.00     98.04

18:34:35        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:36        all      0.71      0.00      0.95      0.71      0.00     97.63
18:34:36          0      0.94      0.00      0.00      0.00      0.00     99.06
18:34:36          1      0.94      0.00      0.94      0.00      0.00     98.11
18:34:36          2      0.00      0.00      0.92      0.00      0.00     99.08
18:34:36          3      0.97      0.00      2.91      2.91      0.00     93.20

18:34:36        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:37        all      0.48      0.00      1.21      0.48      0.00     97.82
18:34:37          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:37          1      0.00      0.00      0.95      0.00      0.00     99.05
18:34:37          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:37          3      0.98      0.00      2.94      1.96      0.00     94.12

18:34:37        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:38        all      0.97      0.00      1.21      0.73      0.00     97.09
18:34:38          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:38          1      0.95      0.00      0.95      0.00      0.00     98.10
18:34:38          2      1.90      0.00      0.95      0.00      0.00     97.14
18:34:38          3      1.94      0.00      4.85      2.91      0.00     90.29

18:34:38        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:39        all      1.22      0.00      0.73      0.49      0.00     97.56
18:34:39          0      2.00      0.00      1.00      0.00      0.00     97.00
18:34:39          1      0.99      0.00      0.00      0.00      0.00     99.01
18:34:39          2      0.95      0.00      0.95      0.00      0.00     98.10
18:34:39          3      0.98      0.00      1.96      0.98      0.00     96.08

18:34:39        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:40        all      1.20      0.00      1.20      0.48      0.00     97.11
18:34:40          0      0.94      0.00      0.00      0.00      0.00     99.06
18:34:40          1      1.90      0.00      0.00      0.00      0.00     98.10
18:34:40          2      0.97      0.00      0.97      0.00      0.00     98.06
18:34:40          3      0.00      0.00      2.94      2.94      0.00     94.12

18:34:40        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:41        all      1.48      0.00      1.23      0.25      0.00     97.04
18:34:41          0      0.99      0.00      0.99      0.00      0.00     98.02
18:34:41          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:41          2      1.01      0.00      0.00      0.00      0.00     98.99
18:34:41          3      2.94      0.00      2.94      0.98      0.00     93.14
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18:34:41        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:42        all      1.20      0.00      0.72      0.24      0.00     97.85
18:34:42          0      0.96      0.00      0.00      0.00      0.00     99.04
18:34:42          1      1.92      0.00      0.96      0.00      0.00     97.12
18:34:42          2      0.93      0.00      0.93      0.00      0.00     98.15
18:34:42          3      2.88      0.00      1.92      0.96      0.00     94.23

18:34:42        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:43        all      1.00      0.00      1.00      0.00      0.00     98.00
18:34:43          0      1.01      0.00      0.00      0.00      0.00     98.99
18:34:43          1      0.00      0.00      1.01      0.00      0.00     98.99
18:34:43          2      0.99      0.00      0.00      0.00      0.00     99.01
18:34:43          3      0.98      0.00      3.92      0.00      0.00     95.10

18:34:43        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:44        all      0.72      0.00      0.72      0.24      0.00     98.31
18:34:44          0      0.00      0.00      0.96      0.00      0.00     99.04
18:34:44          1      0.95      0.00      0.00      0.00      0.00     99.05
18:34:44          2      0.97      0.00      0.00      0.00      0.00     99.03
18:34:44          3      0.98      0.00      0.98      0.98      0.00     97.06

18:34:44        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:45        all      0.73      0.00      0.24      0.00      0.00     99.03
18:34:45          0      1.96      0.00      0.00      0.00      0.00     98.04
18:34:45          1      0.95      0.00      0.00      0.00      0.00     99.05
18:34:45          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:45          3      0.99      0.00      0.99      0.00      0.00     98.02

18:34:45        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:46        all      1.21      0.00      0.97      0.24      0.00     97.57
18:34:46          0      0.00      0.00      0.97      0.00      0.00     99.03
18:34:46          1      0.98      0.00      0.98      0.00      0.00     98.04
18:34:46          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:46          3      2.88      0.00      1.92      0.96      0.00     94.23

18:34:46        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:47        all      2.02      0.00      0.50      0.25      0.00     97.23
18:34:47          0      3.96      0.00      0.00      0.00      0.00     96.04
18:34:47          1      1.00      0.00      0.00      0.00      0.00     99.00
18:34:47          2      1.06      0.00      0.00      0.00      0.00     98.94
18:34:47          3      2.94      0.00      0.98      0.98      0.00     95.10

18:34:47        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:48        all      1.19      0.00      1.19      0.00      0.00     97.62
18:34:48          0      0.98      0.00      0.98      0.00      0.00     98.04
18:34:48          1      1.90      0.00      1.90      0.00      0.00     96.19
18:34:48          2      0.91      0.00      0.00      0.00      0.00     99.09
18:34:48          3      0.96      0.00      2.88      0.00      0.00     96.15

18:34:48        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:49        all      0.97      0.00      1.21      0.00      0.00     97.82
18:34:49          0      0.98      0.00      0.98      0.00      0.00     98.04
18:34:49          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:49          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:49          3      1.96      0.00      2.94      0.00      0.00     95.10

18:34:49        CPU     %user     %nice   %system   %iowait    %steal     %idle
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18:34:50        all      1.24      0.00      1.24      0.50      0.00     97.03
18:34:50          0      2.02      0.00      0.00      0.00      0.00     97.98
18:34:50          1      0.00      0.00      1.96      0.00      0.00     98.04
18:34:50          2      0.99      0.00      0.00      0.00      0.00     99.01
18:34:50          3      2.02      0.00      2.02      1.01      0.00     94.95

18:34:50        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:51        all      0.48      0.00      0.72      0.00      0.00     98.80
18:34:51          0      1.87      0.00      0.93      0.00      0.00     97.20
18:34:51          1      0.96      0.00      0.00      0.00      0.00     99.04
18:34:51          2      0.00      0.00      0.93      0.00      0.00     99.07
18:34:51          3      0.00      0.00      1.94      0.97      0.00     97.09

18:34:51        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:52        all      0.25      0.00      0.98      0.25      0.00     98.53
18:34:52          0      0.99      0.00      0.00      0.00      0.00     99.01
18:34:52          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:52          2      0.00      0.00      0.97      0.00      0.00     99.03
18:34:52          3      0.00      0.00      2.94      0.98      0.00     96.08

18:34:52        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:53        all      0.49      0.00      1.23      0.25      0.00     98.04
18:34:53          0      1.00      0.00      1.00      0.00      0.00     98.00
18:34:53          1      0.98      0.00      0.98      0.00      0.00     98.04
18:34:53          2      0.00      0.00      0.98      0.00      0.00     99.02
18:34:53          3      0.00      0.00      0.99      0.99      0.00     98.02

18:34:53        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:54        all      0.78      0.00      0.26      0.26      0.00     98.70
18:34:54          0      2.11      0.00      1.05      0.00      0.00     96.84
18:34:54          1      0.97      0.00      0.97      0.00      0.00     98.06
18:34:54          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:54          3      0.00      0.00      2.00      0.00      0.00     98.00

18:34:54        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:55        all      0.95      0.00      0.71      0.00      0.00     98.34
18:34:55          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:55          1      0.98      0.00      0.00      0.00      0.00     99.02
18:34:55          2      1.85      0.00      0.00      0.00      0.00     98.15
18:34:55          3      0.99      0.00      0.99      0.99      0.00     97.03

18:34:55        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:56        all      0.74      0.00      0.49      0.25      0.00     98.53
18:34:56          0      0.00      0.00      0.98      0.00      0.00     99.02
18:34:56          1      0.97      0.00      0.00      0.00      0.00     99.03
18:34:56          2      0.98      0.00      0.98      0.00      0.00     98.04
18:34:56          3      0.97      0.00      0.97      0.97      0.00     97.09

18:34:56        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:57        all      0.48      0.00      1.21      0.24      0.00     98.07
18:34:57          0      0.98      0.00      0.00      0.00      0.00     99.02
18:34:57          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:57          2      0.93      0.00      1.87      0.00      0.00     97.20
18:34:57          3      0.00      0.00      1.98      0.00      0.00     98.02

18:34:57        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:58        all      0.25      0.00      0.25      0.25      0.00     99.26
18:34:58          0      0.00      0.00      0.98      0.00      0.00     99.02
```

```
18:34:58          1      0.00      0.00      0.00      0.00      0.00    100.00
18:34:58          2      0.98      0.00      0.00      0.00      0.00     99.02
18:34:58          3      0.00      0.00      0.99      0.99      0.00     98.02

18:34:58        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:34:59        all      0.25      0.00      1.01      0.25      0.00     98.48
18:34:59          0      0.00      0.00      0.00      0.00      0.00    100.00
18:34:59          1      0.98      0.00      0.98      0.00      0.00     98.04
18:34:59          2      0.00      0.00      0.00      0.00      0.00    100.00
18:34:59          3      0.00      0.00      2.94      0.98      0.00     96.08

18:34:59        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:00        all      0.00      0.00      0.00      0.00      0.00    100.00
18:35:00          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:00          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:00          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:00          3      0.97      0.00      0.00      0.97      0.00     98.06

18:35:00        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:01        all      0.25      0.00      0.25      0.00      0.00     99.49
18:35:01          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:01          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:01          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:01          3      0.00      0.00      0.00      0.00      0.00    100.00

18:35:01        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:02        all      0.72      0.00      0.00      0.00      0.00     99.28
18:35:02          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:02          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:02          2      0.91      0.00      0.00      0.00      0.00     99.09
18:35:02          3      0.98      0.00      0.98      0.00      0.00     98.04

18:35:02        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:03        all      0.25      0.00      0.25      0.00      0.00     99.51
18:35:03          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:03          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:03          2      0.96      0.00      0.00      0.00      0.00     99.04
18:35:03          3      0.00      0.00      0.99      0.00      0.00     99.01

18:35:03        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:04        all      0.25      0.00      0.00      0.25      0.00     99.49
18:35:04          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:04          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:04          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:04          3      0.97      0.00      0.00      0.97      0.00     98.06

18:35:04        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:05        all      0.51      0.00      0.25      0.25      0.00     98.98
18:35:05          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:05          1      0.99      0.00      0.00      0.00      0.00     99.01
18:35:05          2      1.05      0.00      0.00      0.00      0.00     98.95
18:35:05          3      0.98      0.00      0.00      0.00      0.00     99.02

18:35:05        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:06        all      0.24      0.00      0.00      0.00      0.00     99.76
18:35:06          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:06          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:06          2      0.00      0.00      0.00      0.00      0.00    100.00
```

```
18:35:06          3      0.00      0.00      0.00      0.00      0.00    100.00

18:35:06        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:07        all      0.00      0.00      0.00      0.00      0.00    100.00
18:35:07          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:07          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:07          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:07          3      0.98      0.00      0.00      0.00      0.00     99.02

18:35:07        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:08        all      0.25      0.00      0.00      0.00      0.00     99.75
18:35:08          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:08          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:08          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:08          3      0.00      0.00      0.00      0.99      0.00     99.01

18:35:08        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:09        all      0.00      0.00      0.00      0.00      0.00    100.00
18:35:09          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:09          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:09          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:09          3      0.98      0.00      0.00      0.00      0.00     99.02

18:35:09        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:10        all      0.25      0.00      0.00      0.00      0.00     99.75
18:35:10          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:10          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:10          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:10          3      0.00      0.00      0.00      0.00      0.00    100.00

18:35:10        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:11        all      0.00      0.00      0.00      0.00      0.00    100.00
18:35:11          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:11          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:11          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:11          3      0.00      0.00      0.00      0.00      0.00    100.00

18:35:11        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:12        all      0.00      0.00      0.00      0.00      0.00    100.00
18:35:12          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:12          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:12          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:12          3      0.98      0.00      0.00      0.00      0.00     99.02

18:35:12        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:13        all      0.25      0.00      0.00      0.00      0.00     99.75
18:35:13          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:13          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:13          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:13          3      0.00      0.00      0.00      0.00      0.00    100.00

18:35:13        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:14        all      0.00      0.00      0.00      0.00      0.00    100.00
18:35:14          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:14          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:14          2      0.00      0.00      0.96      0.00      0.00     99.04
18:35:14          3      0.98      0.00      0.00      0.00      0.00     99.02
```

18:35:14	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:15	all	0.25	0.00	0.00	0.00	0.00	99.75
18:35:15	0	0.00	0.00	0.00	0.00	0.00	100.00
18:35:15	1	0.00	0.00	0.00	0.00	0.00	100.00
18:35:15	2	0.00	0.00	0.00	0.00	0.00	100.00
18:35:15	3	0.00	0.00	0.00	0.00	0.00	100.00
18:35:15	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:16	all	0.00	0.00	0.25	0.00	0.00	99.75
18:35:16	0	0.00	0.00	0.00	0.00	0.00	100.00
18:35:16	1	0.00	0.00	0.00	0.00	0.00	100.00
18:35:16	2	0.00	0.00	0.00	0.00	0.00	100.00
18:35:16	3	0.00	0.00	0.00	0.00	0.00	100.00
18:35:16	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:17	all	0.00	0.00	0.24	0.00	0.00	99.76
18:35:17	0	0.00	0.00	0.00	0.00	0.00	100.00
18:35:17	1	0.00	0.00	0.00	0.00	0.00	100.00
18:35:17	2	0.96	0.00	0.00	0.00	0.00	99.04
18:35:17	3	0.00	0.00	0.99	0.00	0.00	99.01
18:35:17	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:18	all	0.25	0.00	0.25	0.00	0.00	99.51
18:35:18	0	0.00	0.00	0.00	0.00	0.00	100.00
18:35:18	1	0.00	0.00	0.00	0.00	0.00	100.00
18:35:18	2	0.00	0.00	0.00	0.00	0.00	100.00
18:35:18	3	0.00	0.00	0.99	0.00	0.00	99.01
18:35:18	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:19	all	0.25	0.00	0.25	0.00	0.00	99.50
18:35:19	0	0.00	0.00	0.00	0.00	0.00	100.00
18:35:19	1	0.00	0.00	0.00	0.00	0.00	100.00
18:35:19	2	1.00	0.00	0.00	0.00	0.00	99.00
18:35:19	3	0.00	0.00	0.00	0.00	0.00	100.00
18:35:19	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:20	all	0.00	0.00	0.25	0.00	0.00	99.75
18:35:20	0	0.00	0.00	0.00	0.00	0.00	100.00
18:35:20	1	0.00	0.00	0.00	0.00	0.00	100.00
18:35:20	2	0.00	0.00	0.98	0.00	0.00	99.02
18:35:20	3	0.98	0.00	0.98	0.00	0.00	98.04
18:35:20	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:21	all	0.25	0.00	0.00	0.00	0.00	99.75
18:35:21	0	0.00	0.00	0.00	0.00	0.00	100.00
18:35:21	1	0.00	0.00	0.00	0.00	0.00	100.00
18:35:21	2	0.00	0.00	0.00	0.00	0.00	100.00
18:35:21	3	0.00	0.00	1.00	0.00	0.00	99.00
18:35:21	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:22	all	0.00	0.00	0.26	0.00	0.00	99.74
18:35:22	0	0.00	0.00	0.00	0.00	0.00	100.00
18:35:22	1	0.00	0.00	0.00	0.00	0.00	100.00
18:35:22	2	0.00	0.00	0.00	0.00	0.00	100.00
18:35:22	3	0.00	0.00	0.00	0.00	0.00	100.00
18:35:22	CPU	%user	%nice	%system	%iowait	%steal	%idle
18:35:23	all	0.00	0.00	0.00	0.00	0.00	100.00

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18:35:23          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:23          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:23          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:23          3      0.99      0.00      0.99      0.00      0.00     98.02

18:35:23        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:24        all      0.24      0.00      0.24      0.00      0.00     99.52
18:35:24          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:24          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:24          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:24          3      0.00      0.00      0.00      0.00      0.00    100.00

18:35:24        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:25        all      0.00      0.00      0.25      0.00      0.00     99.75
18:35:25          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:25          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:25          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:25          3      0.00      0.00      0.99      0.00      0.00     99.01

18:35:25        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:26        all      0.00      0.00      0.25      0.00      0.00     99.75
18:35:26          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:26          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:26          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:26          3      0.00      0.00      1.00      0.00      0.00     99.00

18:35:26        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:27        all      0.00      0.00      0.00      0.00      0.00    100.00
18:35:27          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:27          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:27          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:27          3      1.00      0.00      0.00      0.00      0.00     99.00

18:35:27        CPU     %user     %nice   %system   %iowait    %steal     %idle
18:35:28        all      0.25      0.00      0.25      0.00      0.00     99.50
18:35:28          0      0.00      0.00      0.00      0.00      0.00    100.00
18:35:28          1      0.00      0.00      0.00      0.00      0.00    100.00
18:35:28          2      0.00      0.00      0.00      0.00      0.00    100.00
18:35:28          3      0.00      0.00      0.99      0.00      0.00     99.01
```

Table 102: Iostat monitoring for the 50 threads third trial CDN

```
     CDN
Linux 2.6.31.5-0.1-default (sip2)         06/23/11         _i686_        (4 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.04    0.00    0.04    0.01    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.03     1.59    0.05    0.43     1.52    16.14    37.10     0.00    4.15   0.41   0.02

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.05    0.00    0.15    0.00    0.00   99.80

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.00    0.00    1.20     0.00    25.60    21.33     0.00    0.67   0.67   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.10    0.05    0.00   99.85

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    2.60     0.00    25.60     9.85     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.14    0.00    0.19    0.05    0.00   99.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.60     0.00     8.00    13.33     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.25    0.10    0.00   99.46

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.40     0.00     6.40    16.00     0.00    2.00   2.00   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.20    0.00    0.00   99.60

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.40    0.00    1.20     0.00    28.80    24.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.44    0.00    0.25    0.20    0.00   99.12

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.60    0.00    0.40     0.00     8.00    20.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.39    0.00    0.39    0.24    0.00   98.97

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.40     0.00     9.60    24.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.78    0.00    0.64    0.39    0.00   98.19

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.80    0.00    0.80     0.00    12.80    16.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.68    0.00    0.77    0.48    0.00   98.07

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    1.60     0.00    16.00    10.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.17    0.00    0.98    0.24    0.00   97.61

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           1.21    0.00    0.68    0.15    0.00   97.96

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00    15.60    0.00    2.40     0.00   144.00    60.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.64    0.00    1.08    0.20    0.00   98.08

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.00    0.00    0.80     0.00    14.40    18.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.60    0.00    0.65    0.20    0.00   98.56

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.40    0.00    1.40     0.00    22.40    16.00     0.00    1.71   1.71   0.24
```

```
avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.35    0.00    0.20    0.10    0.00   99.35

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     2.00    0.00    0.80     0.00    22.40    28.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.20    0.00    0.05    0.05    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    0.80     0.00     9.60    12.00     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.00    0.00    0.00   99.90

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     0.40    0.00    2.60     0.00    24.00     9.23     0.00    0.62   0.31   0.08

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.10    0.00    0.20    0.00    0.00   99.71

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     9.80    0.00    1.80     0.00    92.80    51.56     0.00    0.00   0.00   0.00

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.15    0.00    0.15    0.00    0.00   99.70

Device:         rrqm/s   wrqm/s     r/s     w/s   rsec/s   wsec/s avgrq-sz avgqu-sz   await  svctm  %util
sda               0.00     1.20    0.00    0.80     0.00    16.00    20.00     0.00    0.00   0.00   0.00
```

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