SYSTEM SPECIFICATIONS

A system specification describes the operational and performance requirements of a system, such as a computer. It is considered a high-level document that dictates global functions.

System specifications help to define the operational and performance guidelines for a system. It may outline how the system is expected to perform, and what that may include. Key specifications may include interface definitions, document design rules and functional areas.

When purchasing software or a computer, system specifications may be outlined during the evaluation process and agreed upon during the payment process. The specifications may determine security access. Many organizations will offer templates and resources to help facilitate the adherence of system specifications. In some cases, system specifications can be quite specific and difficult to follow without these guidelines.

FACTORS THAT AFFECT COMPUTER PERFORMANCE:

- The speed of a computer's processor chip (technically known as its "**clock speed**") is measured in gigahertz (GHz), with the fastest modern processors currently running at up to 4.7GHz. However, for most computing tasks -- including web browsing, sending e-

mails, word processing and spreadsheet work -- any processor running at 1GHz or more remains perfectly sufficient. Where higher processor speeds become more important is for applications such as video editing, 3D graphics work and playing computer games. For any of these applications, within reason the faster the processor the better. Alongside clock speed, the **architecture** of a processor is the most important factor to determine its performance, and refers to its basic design and complexity. Some processors are simply more sophisticated than others, with Intel producing "basic" processors called Celerons and Pentiums, as well as more powerful processors under its "Core" processor family. The later include the Core 2, Core i3, Core i5 and Core i7, with the last of these being the most powerful.

- Processor speed and architecture Cache is a form of very fast memory integrated into the processor chip, and used to store up instructions (work for the processor) so that it has to slow down as little as possible between tasks.
- Processor speed and architecture Front side bus (FSB) speed is a measure of how fast a microprocessor communicates with the computer's main circuit board (or "motherboard") into which it is physically connected.
- Random Access Memory (RAM) The part of the computer in which information is stored temporarily when a program is being used.

- Random Access Memory (RAM) RAM is measured in megabytes (MB) and gigabytes (GB), as detailed on the storage page.
- Graphics system determines how well it can work with visual output. Graphics systems can either be integrated into a computer's motherboard, or plugged into the motherboard as a separate "video card".
- Hard Drive Speed and Capacity A part of the computer that is used for storing computer data and that contains one or more hard disks
- Hard Drive Speed and Capacity Graphics system Processor speed and architecture Random Access Memory (RAM)

SERVER

A server commonly refers to a computer program that receives and responds to requests made over a network. It receives the request for a web document from the client and sends the requested information to the client computer on the Internet. A device can be both a client and a server at the same time, as an individual system has the ability to provide resources and use them from another system in one go. There are different types of servers, including mail servers, virtual servers, and web servers.

Minicomputers and mainframe computers were some of the first servers. As compared to mainframe computers, minicomputers were much smaller; therefore, they were known as the name of Minicomputers. For instance, a web server may run Microsoft IIS or Apache HTTP Server, which offers users access to the information from web pages or websites over the internet. A mail server is able to run a program like iMail or Exim that provides services of SMTP (Simple Mail Transfer Protocol) for sending and receiving email.

How does a server work?

Every time you use the internet you are accessing a server. When you enter a URL into a browser your computer communicates with the server hosting that website and pulls the data onto your machine.

This is a simplistic view of how the process works

- You enter a URL and your web browser requests a web page

- The web browser requests a full URL for the site it wants to display
- This information is sent to the server
- The web server finds and builds all the data needed to display the site (this is why some sites load quicker than others)
- Your web browser receives the data and displays the website to you

TYPE OF SERVERS

- Web Server

A web server offers web pages or other content to the web browser by loading the information from a disc and transfer files by using a network to the user's web browser. It is used by a computer or collection of computers to provide content to several users over the internet. This exchange was done with the help of HTTP communicating between the browser and the server.

- Application server

It is an environment where applications are able to run, no matter which types of applications and what operation they perform. It is also known as a type of middleware and can be able to develop and run web-based applications. Generally, it is used to connect database servers and end-user. There are several types of application servers, as well as .NET Framework, Java, and PHP application servers.

It has many advantages, they are;

- It allows applications for a more centralized approach to updates and upgrades, which provides data and code integrity.
- It offers security with the help of the authenticating process and centralizing the management of data access.
- For heavy usage applications, it improves performance by limiting network traffic.

- **Blade server**

It is a hardware component, also known as an expansion module, or a high-density server that can be installed into a chassis. It provides advanced functionality, such as allows an expansion card in a computer at a much bigger scale. For example, if more fiber lines are required, additional fiber blades can be added, as a switch or router with the blade server provides complete customization.

Dell PowerEdge 1855

Servers can be reduced to a single thin server by removing hard drives, ongoing miniaturization of computing parts, and eliminating internal cooling, which is known as the blade server. Additionally, it can be stored in racks in server rooms as the blade servers are smaller in size and can be replaced more easily. It can save space and make easy a network of hundreds of servers.

- **Cloud server**

It is a virtual server instead of a physical server that runs in a cloud computing environment. It can be accessed by using remote as it is hosted, built, and delivered via cloud computing platform over the internet. It has similar functionality and capabilities to a traditional physical server but accessed through remotely from a cloud service provider. Today's there are different types of server providers, as well as IBM Cloud, Google's Cloud Platform, and Microsoft Azure.

- **Database server**

It is a computer system that allows other systems to access and retrieve data from a database. These servers respond to several requests to the clients and run database applications. Databases can require extraordinary amounts of disk space and can be accessed by multiple clients at any given time. It is also used by many companies for storage purposes. It allows users to access the data with the help of running a query by using a query language specific to the database. For example, SQL is a structured query language, which allows executing a query to access the data. The most common types of database server software include DB2, Oracle, Microsoft SQL, and Informix

- **File server**

It is a computer on a network that is used to store and distribute files. It allows multiple users or clients to share files, which is stored on a server. Furthermore, it can improve performance by maximizing readability and writing speeds.

Server specifications provide detailed information for the server, including dimensions, electrical, power, temperature, environment, and service clearances.