

Understanding different Hosting Solutions

Hosting 101

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Executive summary

Almost every business has a website, and every website needs a hosting server to be published on. For business men and non-technical employees, it is almost always hard to understand the different options for hosting their websites, it is not easy to select the right type of hosting server for your website, and this is why I decided to write this document to explain in easy and friendly way what are the different types of servers and basic guidelines to select a good host. I cannot claim this document will provide you with everything you need but it will be more than enough to get started with the basics in this document.

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Introduction: How website works

As mentioned earlier, almost every organization owns a website and corporate emails. Most probably you own a website or wish to build a new website and you need to understand your different options. Before you do anything, you need to understand how websites works with web servers and email servers.

A website is simply made up of software and data that run on a computer (a web-server), such computer (Web server) should be available 24/7 on the internet so that normal visitors can access and view your website hosted on the server.

The term “hosting” comes from the idea that these computers (that function as web servers) are “hosted” in a web server. Usually the same web server hosts the domain emails which you use via webmail or via mail clients such as “Microsoft Outlook” or “Incredimail”. Large corporations and organizations who runs large websites accessible by thousands of users per day and owns hundreds of emails might decide to split their hosting services into two or more servers (some servers for website hosting and some servers for email hosting), in some huge services such as “Facebook”, the website is hosted over hundreds of different servers that serves the same website, such concept is called “Load Balancing”, less than 5% of business worldwide needs more than one server to host their emails and websites.

What about the website itself?

We mentioned earlier that the website is simply made up of software and data that run on a computer (a web-server), such computer (Web server), so any website can be considered a program, in fact websites are called “Web applications”. Application is a set of code written to serve or perform a certain functions. Any code is written using a programming language, right? So the decision of selecting the correct web server type depends mainly on the programming language used to program the website.

Also it is worth mentioning that most of the websites uses a storage system to store the website data, for example an online store website needs a data storage system to save the information of items displayed on the website, customer’s information, orders, etc. such storage systems are called “Database”, databases are usually hosted on the same location of the website itself except for the very large websites as mentioned earlier that may need a dedicated server for their large databases (Data warehouses). So now you understand that usually a web server hosts website, database and also email services for the website.



Types of servers

Web servers are not like normal computers, servers must provide powerful hardware to allow serving the website to several users in the same time, while maintaining email services for hundreds of different email users sending and receiving emails in the same time. Moreover the server must be available online 24/7 and must be backed up against failures, viruses and other security risks.

In order to achieve such performance and reliability, web servers run special operating systems that are designed to deliver the maximum performance, multi-user services, maximum security and minimum downtime.

There are several types of operating systems for servers, but there are 2 main families of server's operating systems that are usually available for websites worldwide: Windows based hosting and Linux/Unix Based system. In order to select which one is better for your website, you need to understand the merits of each one and more important, which server family is suitable for the programming language / Database used in your website.

Microsoft Windows Server Family

Windows Server OS was built by Microsoft (formally known as Windows NT) since 1993, now the modern hosting windows server family includes different versions of the OS such as : windows 2003 Server, windows 2008 Server, windows 2012 server.

Windows Server family OS runs all websites developed using any .net programming language (including but not limited to: Visual basic .net, C# .net, Java .net , etc.)

Windows server families also are the only platform used to run databases of types “Microsoft SQL server Databases”, simply Microsoft SQL Server database system can only run on Windows hosting servers.

On the other hand Windows server families can also run websites written in other languages such as PHP, Python, and Perl with fair performance.

Windows server families acts as mail servers as well but this is not exactly the area of strength in windows hosting till now, perhaps mail services on windows servers will improve starting from windows server 2012 and later versions.



Linux / Unix Based hosting

UNIX (officially trademarked as UNIX, sometimes also written as Unix in small caps) is a multitasking, multi-user computer operating system originally developed in 1969 by a group of AT&T employees. Since then hundreds of improvements and upgrades were delivered within the unified Unix Framework.

Linux is another version of UNIX, but to make it simple as intended here in this document, almost all applications that can run on Linux can run on UNIX and vice versa.

Linux/Unix Server family OS runs all websites developed by using any programming language that is C++ based such as PHP, Java, Perl, Python , etc.) Unfortunately .net languages cannot run on UNIX/Linux OS till now (March 2013).

Linux/Unix Based hosting provides supreme performance while running several database systems including “MYSQL – MYSQL Lite – Oracle DBMS and other systems” but not Microsoft SQL Server Databases.

Linux/UNIX based operating systems acts as great mail servers as well; in fact they provide the best reliable and secured mail services worldwide.

Moreover UNIX and Linux based OS have too many different versions, since the whole operating system is totally open source, multiple organizations worldwide had a lot of time to take a source code, modify it and release different models for specific usage and different scenarios, but almost 99% of the applications than can run on standard UNIX/Linus based system can run without problems on the other varieties of the operating System.

Linux/UNIX VS Windows Server Family

By now you should have a basic understanding about the 2 main players in the hosting servers, it is worth mentioning that almost all server hardware can install both server operating systems , but Linux/UNIX Servers usually perform better on low end hardware systems, simply because it is efficient on the other hand Windows Hosting running ASP. Net applications perform better on large scale applications that serve large number of visitors/users on the same time.

Now is the time for the comparison Data Sheet in the next page to take your final decision. The better OS for each feature wherever applicable in the below table is marked in **Red**.



Linux/UNIX VS Microsoft Server Datasheet

Feature	Windows Server Family OS	Linux/Unix Based OS Families
Websites and programming languages Support		
Static standard HTML Websites	Yes	Yes
Supports websites and application developed using PHP , Python, Perl and other C++ based languages	Yes with average performance and some limitations	Yes with Best performance possible specially for PHP who is built on top of UNIX/Linux in the first place
Runs Websites and applications developed using ASP. Net	Yes with Best performance possible, IIS which is part of windows server OS is the best platform for running websites developed using all .net programming languages.	Not supported
Supported Database Systems		
MYSQL Databases different versions.	Yes with average performance and some limitations	Yes with best possible performance
Oracle Database Systems	Yes with average performance and some limitations	Yes with best possible performance
Microsoft SQL Server Databases different versions	Yes with Best Performance.	Not supported



Feature	Windows Server Family OS	Linux/Unix Based OS Families
Operating system cost of Ownership		
Operating System License	License is not free; cost varies based on the version used.	Free, as Linux/Unix is an open source project.
Database System Cost of Ownership		
Microsoft SQL Server Databases	Only the SQL Server Express version is free, All other versions are license Cost based on version selected.	Not Supported
Oracle Database Systems	Supported in both options, Only Oracle Express edition is free, All other versions are license Cost based on version selected.	
MYSQL Database systems	Almost All versions are free and supported by Both options.	
Email Services		
Email Box servers	Supported.	Supported, but for a long time Linux/Unix based systems provides far more stable Email servers than windows servers.
Webmail Access	Supported	Supported
Mobile Email Access	Supported	Supported
POP3 Protocols	Supported	Supported
IMAP Email Protocols	Supported	Supported



Summary

Simply there is no one solution fit all, some websites can run on windows and some on Linux while others can run on both. In order to select the suitable hosting plan for your website, you need to consider what programming languages used to write the website, which database size needed and how many email boxes you intend to run and the average users who will access the application/Site in the same time

Once you have such data, try to apply it on the above article and datasheet to know which one is better for you. Softex Software house provides a wide range of hosting options in both families, feel free to check www.softexsw.com for hosting options or contact Sales and support department if you have any additional questions or concerns.

Wish you all happy hosting 😊

Softex Software House Team

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