



# Linux VS Windows Operating System

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# Linux vs windows operating system

## **INTRODUCTION :**

An operating system (OS) is system software that manages computer hardware, software resources and provides common services for computer programs. Computer operating system developed by Microsoft Corporation to run personal computers (PCs) that is windows operating system. And besides, Linux is a Unix-like, open source and community-developed operating system for computers, servers, mainframes, mobile devices and embedded devices. Linux has access to source code and alters the code as per user need whereas Windows does not have access to source code. Linux will run faster than windows latest editions even with a modern desktop environment and features of the operating system whereas windows are slow on older hardware. In this following report will be about linux and windows operating system and there differences.

## **WINDOWS OPERATING SYSTEM :**

Windows first public released in 1993 by Microsoft. Windows is an operating system software and Graphical User Interface (GUI) produced by Microsoft. Microsoft released their first windows operating system in 1985 as an add-on to MS-DOS in response to the growing popularity of the graphical user interfaces. Windows dominated the Personal computers around the world when it came out in the market which overtook MacOS which was launched in 1984. By October 2009 windows had roughly 91% of the market share of the client operating systems for the use on the internet. The latest release client version of windows is windows 7, the latest release server version is Server 2008 R2 and the latest release of mobile operating system is windows phone 7.

When an application runs on Windows it goes through a System Interface which in turn calls System Services in the kernel (device drivers, memory, file system I/O, screen display (GDI), etc. Hardware - The kernel calls upon the raw hardware to perform the requested services. Each version of Windows includes a graphical user interface, with a desktop that allows users to view files and folders in windows. For the past two decades, Windows has been the most widely used operating system for personal computers PCs.

## **LINUX OPERATING SYSTEM :**

Linux first public released in 1992 by Linux Torvalds et al. Linux refers to the family of Unix-like PC Operating system using Linux kernel. Linux can be installed in number of different computers and video game consoles, to mainframes and supercomputers. Linux is the top server operating system, accounting for more than 50% of installations and runs on the fastest top 10 supercomputers in the world. Using Linux in desktops has increased in recent years. The name Linux comes from Linux kernel, created in 1991 by Linux Trovalds.

Linux is an operating system that runs on the Linux kernel which was created by Linus Torvalds back in the early 1990s in Finland. ... Like UNIX, Linux is a free operating system which can by run on your PC hardware and it provides you with more control over your operating system. Linux is the leading operating system on servers and other big iron systems such as mainframe computers, and the only OS used on TOP500 supercomputers (since November 2017, having gradually eliminated all competitors). It is used by around 2.3 percent of desktop computers.

## **DIFFERENCES BETWEEN WINDOWS AND LINUX OPERATING SYSTEM:**

There are many differences between windows and linux operating system. On those differences some are describe in below.

### **FUNCTIONS :**

The Function of Operating Systems all operating systems, including Windows, serve as a base for computer programs to work off of. The OS controls the system's hardware, making it so internal components and peripherals work across all programs. Linux is the best-known and most-used open source operating system. As an operating system, Linux is software that sits underneath all of the other software on a computer, receiving requests from those programs and relaying these requests to the computer's hardware. Windows offers much easier user interface called graphic interface unlike Linux, where it only has one GUI for users to choose from. These facts in some cases could make the using of the OS much easier as the user can choose what they are comfortable with. One of the advantages of Linux is that it comes from multiple choices of GUI's so that it can help provide an easy starting ground for either windows or Mac users. Both windows and Linux allow hardware to successfully communicate with the software in similar way. But however the Linux has some compatibility problems which can cause trouble when trying to install hardware drivers. Whereas the being one of the top OS in the world are finding that hardware drivers is a push over.

### **SECURITY :**

Sometimes windows face attack by serious viruses and there are no particular solution so PC can be crashed. And windows has made vast improvements to their security but still continues to be venerable to the viruses.

Linux always has been safe and secure but it can also attacked but when anyone compare Linux to windows that time Linux is much safer.

## **PERFORMANCE :**

The performance reduces massively in windows simply because windows takes to much power unlike Linux which doesn't use much power to work, which means that there is much more power available to be used for the user of Linux which makes the performance faster.

## **SOFTWARE AND HARDWARE :**

Because there are more people using windows around the world there are more software, utilities and games available in windows. And windows has much more support from the hardware manufactures for windows hardware devices because of the large amount of windows users.

Linux does have number of software, utilities and games available but it can't compare to the large amount of software windows has. And linux and hardware manufactures have made great improvements for Linux and will support most hardware devices, whoever there are many different companies that still do not offer drivers for their hardware.

## **COST AND AVAILABILITY :**

Anyone have to pay for all the Windows operating systems unlike the Linux operating systems which are free and full access. You can also download the Linux software for free unlike the windows operating system where you have to pay.

Windows operating systems can be bought around the price of \$50 to \$150 per each licence copy. Windows also has software, utilities and games for free but majority of the programs will cost around \$20 to \$200. Home Basic (Retail)

\$99.95, Home Premium (Retail) \$119.95, Business (Retail) \$299.95, Ultimate (Retail) \$300.95.

Linux operating system can be free or lower cost licence copy. Many of the software, utilities and games are freeware or open source. Most of them are free and some of them cost really less then compared to windows.

### **LATEST RELEASE DATE AND VERSION :**

The latest version of windows is WINDOWS 10 that's latest release date was November 12, 2019. And Microsoft releases new major updates every six months.

The latest version of linux is Tux the penguin, mascot of Linux, linux kernel 3.0.0 booting 5.3.1 that's release date was September 21, 2019.

### **SUPPORT :**

Windows has large amount of help to their users with books, documentation guides help centre etc.

Same with linux also has large amounts of help online or books around the world to help any user.

### **COMFORT :**

Some people are comfort with windows and some are comfort with linux.

Microsoft have made lots of changes and have made it much more easier to use the operating system, but it still might not be the easiest software to use but is definitely easier than Linux. New users are enjoy with windows.

Linux has massively improved in their usability but windows are much easier for new computer users.

## **CONCLUSION :**

After researching about these two operating systems along with the points that I have made and believe that Linux is the better operating system than windows operating system with better benefit. However as far as the hardware is concerned windows doesn't have the skill to work on the Power PC processors unlike Linux. Windows are costly so anyone can not afford it but besides linux is free so everyone afford it. Linux would be one of the growing operating systems in the world which would be the main rivals of windows in the future.