

Windows 101- What it is, What it does, How it Works, Why it Fails

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Windows 95, 98, Me, NT, and 2000 are considered operating systems for PC compatible computers. These versions of Windows replace DOS. The operating system is the instructions that tell the computer what to do and how to do it, based on what you, the user want to do. It includes various utility functions (Windows Explorer, Scan disk, DEFRAG, etc) that are needed and used to manipulate and maintain Windows, and simple programs such as Word Pad or Paint. An operating system is needed to tell the computer how to work and to interface with "application programs". Optional application programs that you may want to purchase and use include Office, Word, Excel, Quicken, or a graphic program to display and edit pictures. Windows comes with necessary utilities (Dial up Networking and TCP/IP) and a program (Internet Explorer) to get on the Internet with out any further purchase. Sometimes, an Internet service such as AOL or one of the free services requires additional software so advertising can be displayed. If you have a quality provider, that special software is not needed.

A computer gets its first set of instructions from an "integrated circuit" chip on the computer motherboard called the BIOS (Basic Input Output System). The BIOS causes the processor to test and turn on the various components and then looks for additional instructions. The processor contains its own internal instructions, but they are instructions on how to process external code and instructions. The processor needs those instructions from the BIOS to get started. The final instruction given by the BIOS is to look for more instructions from an "operating system", either on a floppy disk, hard drive, or CD. The process of loading these "operating system" instructions is called "booting". The operating system, drivers, and programs are loaded into system memory from the hard drive (storage) for processing. PC computers first used an operating system called DOS (disk operating system.). DOS was fairly simple and programs operated directly from DOS. Only one program could be used and loaded at a time with DOS. DOS was very stable and rarely crashed.

Windows first appeared to mimic the Apple system. The MAC used a graphical interface on a desktop that had icons that could be pointed to by a mouse and clicked on to select that item. Many computer users felt that the "point and click" was a better system than typing commands. Actually, DOS was easier if you understood it. It was definitely faster. Windows was considered to be an graphical environment on top of DOS. There were several other attempts at mimicking the graphical interface, including "GEM". The next generation of Windows included multi-tasking to allow Windows to do more than one thing at a time, in a different Window. It is this multi-tasking that made Windows so valuable. The ability to run sound and graphics or multiple programs became a way of life for computer users.

Windows 95, 98, & Me use 3 basic files from DOS to first load: (IO.SYS MSDOS.SYS COMMAND.COM). Two configuration files (CONFIG.SYS & AUTOEXEC.BAT) are then read, similar to DOS. After these files are loaded, the rest of Windows, sometimes called the graphical user interface or GUI, loads. Windows is made up of thousands of component files, taking up 80 to 300 megabytes of space.

IBM developed OS/2, (Operating System #2) an advanced operating system with a Windows look and features, but it was so radically different and it required programs to be written especially for it. Microsoft's answer to OS/2 was NT (New Technology). Since the world seems to evolve around Microsoft, OS/2 has kind of faded away. NT is NOT based on DOS, which seems to make it a bit more stable, although it is also known to crash too. NT (also Windows 2000) is not for the faint of heart. You may require a network specialist to set it up and keep it running. A home user should NOT install Windows 2000 or NT on their computer unless you have a special reason. NT/2000 requires special drivers for many hardware devices and it is complicated to set it up properly.

Windows requires "drivers" or software for every device added to a computer. The display, modem, sound, CD ROM, network card, and even the motherboard have their own drivers on disk and should never be out of sight for a computer owner. There are times, when a conflict arises, that a driver gets unloaded or corrupted, that it needs to be reloaded. If the computer hard drive dies or becomes totally scrambled, Windows and all the drivers also need to be reloaded, along with every program that was used.

Application Programs are installed into Windows. Aside from their own files in its own directory or folder, an application program places files into the Windows folder for Windows to use with it. Sometimes, a newer or older version of a file that is an intricate part of Windows is replaced by an application to add special features. If another program that uses this same file doesn't like it, it may cause that program to crash. If you remove a program that has added a file into Windows, it may remove something that another program uses, also causing a crash. I recommend never removing a program, even with an installer.

Upon booting, Windows boots to what is called the "Desktop". The "Desktop" shows "Icons" that are installed for various features and programs. The "Icon" is a shortcut and a graphical representation of a program or utility. The mouse has a "pointer" that appears on the "desktop" that moves with the motion of the mouse. The mouse is moved so the "pointer" goes to the "Icon" desired. Once the "pointer" is on top of the "icon", the left mouse button is either clicked or double clicked to activate it. This is called "point and click". Some times, installed programs do not have an "Icon" on the "desktop". In this case, you would move the mouse "pointer" to the lower left corner of the screen where "Start" appears, click on "start", move up to "Programs" and simply highlight the desired program or group, and a whole menu of installed programs appears. You point to the desired program and double click on it to activate it.

A failed or interrupted installation, power loss or flicker, or improper shutdown of programs corrupts windows. It can also become corrupted by poor software, utilities, or games. Failure to follow directions such as closing down open programs (even ones you didn't know that were running automatically) during software installation does wonders to wreck Windows. Un-installing programs, with or without a utility, can do major damage to Windows. Scratched installation CD's also cause Windows to become corrupted. **Backing up data is necessary.**

Upgrading to a newer version of Windows might be a serious mistake for some computer users. Unless you need a feature of the newer version, I recommend NOT upgrading. Upgrading may cause various devices to stop working until new device drivers are loaded for that device and for the newer version of Windows.