Carl's Computer Column

The Operating System

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When a computer first starts, it waits for something to do. It loads simple instructions (a program) from a storage media (floppy disk, ROM, hard disk, CD, etc.) and begins to execute those instructions. Those instructions generally do nothing more than load more complex instructions, the operating system.

The operating system, or OS (e.g. Unix, Windows 98, DOS, CP/M, Solaris, Mac OS X, and Palm OS) controls the computer, being responsible for all I/O (Input and Output), memory (RAM) and time management (which software controls the computer at what time), and certain security issues; in effect, it's the software that controls and facilitates all the operations that occur on the computer.

Over the years, operating systems have become more complicated and provided more functionality. Early systems (even on multi-million dollar main frames) were much simpler than current operating systems. With the PC, people started to demand better operating systems; early PC systems were still line-oriented (commands typed on a "command line," one line at a time), but at least they used English words rather than the cryptic commands of their predecessors.

As PCs became more powerful, they could support operating systems that could do more. Xerox brought out the first graphical OS in 1981 for its Star computer, which was the basis for Apple's Lisa computer in 1983, and its Macintosh in 1984. Microsoft (MS) was still using a line-oriented interface until 1985, releasing Windows 1.0. MS released Windows 3.0 and Windows 3.1 (1990 – 1992), the first of the Windows graphical interfaces that could be called modern. Although still requiring the command-line-oriented MS-DOS OS, they ushered in the modern, more user-friendly Windows systems.

MS released Windows for Workgroups in 1992, and Windows NT in 1994 – a complete rewrite, not requiring the line-oriented MS-DOS to run behind it.

In 1995, Microsoft released Windows 95, which sported a new graphical interface, and could run simpler programs more powerfully by using pre-emptive multitasking (how it shared CPU time between different programs). Windows 98, an evolutionary step, followed in 1998. In 2000, MS released Windows Me, and a significant improvement to its NT line called Windows 2000. Win2000 tightly integrated networking into the OS, increased security dramatically, and provided a more stable OS... one failed application wouldn't require the computer to be rebooted (restarted) following the software error. Win2000 was also the first MS OS that could be automatically updated across the Internet.

In 2001, MS introduced Windows XP in two flavors: Home and Professional. Unfortunately, it took about a year of enhancements and fixes before becoming stable as Win2000. But with XP, MS was finally able to completely get rid of the Windows 95/98/Me line, making it possible to run older programs under the NT-based OS. Microsoft also introduced a new graphical look (that many prefer to turn off!). The other "improvement" included with XP was that each copy of the OS must be registered with MS to remain functional.

So, which OS would I recommend for use on a current PC? That depends. If you're happy with the OS you are using, don't change for the sake of changing. Further, newer systems (Win2000 and WinXP) require a minimum of 128 megs of RAM (256 or 512 megs strongly preferred), and expect a reasonably-fast computer. So, unless you have the necessary memory, do not upgrade. On the other hand, if you are purchasing a new computer, I would suggest Windows XP Professional. For the extra cost of XP Pro over XP Home, you will be getting an operating system that has not been crippled with respect to networking and a host of other features.