

Kathleen Maguire
11/5/2007
Digital Restoration
Computer Timeline

Microsoft Systems 1995 – 2007.

Windows 95

Dates of use:

Released on August, 24th 1995. Microsoft ceased supporting the platform on December 31st 2001 in accordance with the Microsoft Lifecycle policy.

Importance of the Platform: Preceded by an intense marketing campaign, Windows 95 solidified Microsoft's dominance of the market and also forced a surge in PC purchases because the system requirements were greater than many older machines were capable of handling. The platform attempted to combine Windows and MS-DOS, and introduced a graphical interface that remains a cornerstone of Microsoft products.

Requirements:¹

Processor: Intel 80386DX.

Memory: 4MB RAM, 50MB Hard Drive space.

Drives: CD Rom , Floppy, USB support was introduced in Windows 95 4.00.95B in 1996.

Sound: Standard Sound Card.

Video: VGA or higher.

Controls: Microsoft compatible keyboard and mouse.

Operating System: M.S. DOS 5.0 or higher.²

System Advancements:

- Previously, the Windows system was a separate system that ran on top of a DOS base. Windows 95 featured the 32-bit operating system, which was a consolidated operating system designed to manage functions more efficiently and allow for multitasking. The main remnants of DOS were in boot-up and Safe modes, which allowed a user to address problems through previously known-DOS commands.³
- Windows 95 was the premiere of the desktop interface that has remained the base of each interface since. This interface introduced the "Start" feature as the catch-all source for program and file access. Also introduced was the taskbar, which centralized all open programs in a single place. Lastly, there was the option to create personalized shortcuts on the desktop, allowing for immediate access of oft used programs, files, and network places.⁴
- Supplementary to the improved desktop was improved file management,

¹ Note: All requirements refer to the bare minimums put forth by Microsoft. In nearly all cases, reviewers warn that these bare requirements are usually not enough to operate the platforms to capacity.

² "Windows 95." *Computer Hope*. <<http://www.computerhope.com/win95.htm>>. Accessed 10/20/2007.

³ Himowitz, Michael. "Windows 95: Do You Need the Most Overhyped Product of the Decade?" *Fortune*. 18 Sept 1995: 191.

⁴ Pegoraro, Rob. "Windows 95: Beyond the Mythinformation." *Washington Post*. 30 Aug 1995. R. 25.

including the introduction of the x/- window control, which allowed for easy expansion and minimizing of files.⁵

- Included better support for games and multimedia, including Plug and Play compatibility. Plug and play allowed a user to insert new software and hardware and have the system immediately respond to initiate installation or use. The Plug and Play feature, however, required that the users personal computer included a Plug and Play Basic Input/Output System (BIOS) chip.⁶
- Allowed users to enter longer file names. Previous systems had allowed for files names of only eight characters.

System Flaws:

- Explorer/ TCP/IP was not available with the initial basic model Windows 95. Explorer 1.0 could be added through an additional package, “Plus!” which reached only a small percentage of the audience. Explorer was added to the 4.00.95A version released in 1996.
- As stated above, the system required a great deal more memory and power to act at capacity than previous platforms. Microsoft attempted to downplay this greatly in their recommended minimums.
- When several programs were in use the system would easily become overloaded and was prone to both freezing and crashing. Error messages were also an integral part of the Win95 experience.

⁵ Flynn, Mary Kathleen. “Beyond the Hype.” U.S. News & World Report. 7 Aug 1995: 52.

⁶ Pegoraro, Rob. “Windows 95: Beyond the Mythinformation.” Washington Post. 30 Aug 1995: R. 25.

Windows 98

Dates of Use:

Released on June 25th 1998⁷ or June 30th, 1998⁸. Microsoft ceased supporting the platform on July 11, 2006 in accordance with the Microsoft Lifecycle Policy.⁹

Importance of Platform:

Windows 98 is considered a less significant development than its predecessor, Windows 95. However, the system did include several advancements, with the most significant being the systems year 2000 compliance and improved memory that resulted in a stronger performance.¹⁰

Requirements:

Processor: 486 DX/ 66MHz or higher.

Memory: 16MB of RAM.

Drives: CD Rom, DVD, Floppy, USB, Firewall.

Sound: Standard Sound Card.

Video: VGA or higher.

Controls: Microsoft compatible keyboard and mouse.

Operating System: Windows 3.x, 3.1x or Windows 95 to upgrade.¹¹

System Advancements:

- Capable of converting a drive to FAT32 (32-bit consolidated system) without information loss. This allows the users personal computer to have a, “single-partition disk drive larger than 2GB.”¹²
- Attempted to streamline system management through the addition of a system maintenance wizard and system file and registry maintenance utility.¹³ Win98 was also compatible with ACPI – Advanced Configuration and Power Interface, which was the, “new industry standard for power management.”¹⁴

⁷ Polsson, Ken. “June 28, 1998.” Chronology of Personal Computers. <<http://www.islandnet.com/~kpolsson/comphist/comp1998.htm>>. Accessed 10/15/2007.

⁸ “Windows 98.” Computer Hope.com. <<http://www.computerhope.com/win98.htm>>. Accessed 10/20/2007.

⁹ Microsoft Help and Home Windows 98. <<http://support.microsoft.com/ph/1139>>. Accessed 10/17/2007. Footnote also refers to 98SE and ME end support date.

¹⁰ Windows 98. <http://searchwinit.techtarget.com/sDefinition/0,,sid1_gci213371,00.html>. Accessed 10/17/2007.

¹¹ <http://www.computerhope.com/win98.htm>

¹² Windows 98. <http://searchwinit.techtarget.com/sDefinition/0,,sid1_gci213371,00.html>. Accessed 10/17/2007.

¹³ Angus, Jeff, Logan Harbaugh, and Sean Gallagher. “Win98: A Small Step Forward.” Information Week. 29 June 1998: 79.

¹⁴ Windows 98. <http://searchwinit.techtarget.com/sDefinition/0,,sid1_gci213371,00.html>. Accessed 10/17/2007.

- Explorer 4.0 was integrated into the system.¹⁵
- Included utilities, particularly in the realm of networking, that were previously offered only in business editions. This included Netmeeting, which allows users to set-up networks to, “share computers for collaborative purposes.” It allowed multiple users to traverse a single computer and to share mouse and keyboard functions. Netmeeting also included the ability to chat within the network.
- Offered improved ability to control and personalize dial-up networking settings.¹⁶

System Flaws:

- Major improvements found in the Win98 system appeared to be more relevant to business, as opposed to consumer, users.
- The changes found in the system were thought to be minor, particularly in comparison to the Win95 system, which was a total redesign.
- Although it fixed many bugs found in the Win95 system, it was still relatively unstable and prone to freezing and crashing.
- Legal woes that were already in action during the release of Windows 95 continued and worsened preceding the release of Win98. Although the courts allowed the system to go into distribution, Microsoft was battling alleged antitrust violations that were particularly concerned with the integration of Explorer into the Win98 system.¹⁷

¹⁵ <<http://www.islandnet.com/~kpolsson/comphist/comp1998.htm>> (2nd 2)

¹⁶ Angus, Jeff, Logan Harbaugh, and Sean Gallagher. “Win98: A Small Step Forward.” Information Week. 29 June 1998: 79.

¹⁷ Glascock, Stuart. “Windows 98 Second Edition offers Net Enhancements.” Computer Reseller Network. 21 June 1999: 77.

Windows 98 SE (2nd Edition)

Dates of Use:

Released June 30th 1999. Microsoft ceased supporting the platform on July 11, 2006 in accordance with their Microsoft Lifecycle Policy.

Importance of Platform:

Windows 98 SE retained the basics of the Windows 98 system but attempted to address the more troublesome bugs while also improving the systems internet and networking functions.

Requirements:

Processor: 486 DX/ 66MHz or higher

Memory: 24MB of RAM

Drives: 205MB- 315MB, CD Rom, DVD, USB, Firewall, Floppy

Sound: Standard Sound Card

Video: VGA or higher

Controls: Microsoft compatible keyboard and mouse

Operating System: Windows 3.x, 3.1x or Windows 95 to upgrade

System Advancements:

- Featured Internet Explorer 5.0, a significantly faster browser than its predecessor. Explorer 5.0 featured "Auto complete," the now standard feature that automatically fills-in drop boxes on forms and stores a drop down list of previously used websites. The new browser also included direct support for email accounts on hotmail, a company owned by Microsoft.¹⁸
- Improved networking capacity that allowed multiple PC's to share a single internet connection.¹⁹
- Marketed with the Window 98 Service Pack 1, which included bugs fixes, program updates, and year 2000 updates.²⁰
- Included a "Device Bay, asynchronous transfer mode (ATM) networking, Wake of LAN and Windows Driver Model modems."²¹

System Flaws:

- Although an improvement when compared to Win98, it was questionable whether the systems updates were significant enough to drive a consumer to purchase Win98 SE.

¹⁸ Brioda, Rick. "Microsoft Windows 98 Second Edition." Home Office Computing. Sept 1999: 89.

¹⁹ Brioda, Rick. "Microsoft Windows 98 Second Edition." Home Office Computing. Sept 1999: 89.

²⁰ Glascock, Stuart. "Windows 98 Second Edition offers Net Enhancements." Computer Reseller Network. 21 June 1999: 77.

²¹ Glascock, Stuart. "Windows 98 Second Edition offers Net Enhancements." Computer Reseller Network. 21 June 1999: 77.

Windows Millennium:

Dates of Use:

Released on September 14, 2000. Microsoft ceased supporting the platform July 11, 2006 in accordance with their Microsoft Life Cycle Policy.

Importance of Platform:

Considering the limited time span Windows ME served as the 'new' Microsoft platform (XP was released just over a year later), it is a somewhat insignificant addition to Microsoft's platform history. The major addition to the system was a "hibernate" feature, which prevented the computer from crashing while in sleep mode.

Requirements:

Processor: Intel Pentium 150 MHz or equivalent, 300MHz or faster if using Windows Media Player

Memory: 32MB, 64MB RAM if using Windows Media Player

Drives: 279-410 MB Disk space, CD-ROM/ DVD, USB

Sound: Sound card recommended

Video: VGA or higher

Controls: Microsoft mouse/ keyboard compatible

Operating System: Windows 98 for upgrade²²

System Advancements:

- Featured System File Protection (SFP), which prevents users from overwriting system files when installing new software.
- Help and Support Center included System Restore, which allows the user to reset the computer back to a specific time frame before an system error occurred.
- Includes Windows Movie Editor.
- Includes Explorer 5.5
- Includes Windows Media Player 7.²³
- A My Picture feature allowed users to automatically preview, rotate and print images that were imported into the system.²⁴

System Flaws:

- Still included an underlying DOS based system that was not capable of handling the more advanced aspects of the platform.²⁵
- Upgrades were too limited to justify the cost.
- System was unstable and often froze and crashed while in use.

²² "Windows Millenium." Computer Hope. <<http://www.computerhope.com/winme.htm>>. Accessed 10/20/2007.

²³ Baig, Edward. "Time to join the ME generation? Methinks one may want to ponder the alternatives." USA Today. 13 Sept 2000: D3.

²⁴ Mossberg, Walter. "Microsoft Introduces A Very Unambitious 'Windows ME' Upgrade." The Wall Street Journal. 7 Sept 2000: B1

²⁵ Norr, Henry. "The Desktop Evolution: Windows ME add PC Care, Online Integration, Digital Media." San Francisco Chronicle. 14 Sept 2000: B1.

Windows XP

Dates of Use:

Released on December 31, 2001. Microsoft will stop supporting the platform on April 14, 2009 in accordance with their Microsoft Life-Cycle Policy.²⁶

Importance of Platform: With Windows XP Microsoft attempted to converge the best features of their home and business editions into a unified operating system applicable to both markets. The system was large in scale and size, requiring more than 2 gigabytes of hard-drive space and thus resulted in a swell in computer sales.

Requirements:

Processor: Intel Pentium 233 MHz or equivalent

Memory: 64MB, recommend 128MB

Drives: 1.5 GB Disk space, CD-ROM/ DVD, USB

Sound: Sound card recommended

Video: SVGA, capture feature requires processor that is 400MHz or faster

Controls: Microsoft mouse/ keyboard compatible

Operating System: Windows 98, 98 SE, or ME for upgrade.²⁷

System Advancements:

- WinXP offered more stability with a reduction of error messages and system crashes.
- Compatible with 12,000 hardware and software add ons compared to Windows 2000 more limited compatibility with only 6,000.²⁸
- Continued development towards the implementation of as user friendly and aesthetically pleasing a design as possible. This included consolidation of taskbar items and a two column start-up menu allowing for easier navigation. The system was also designed to maintain a clean desktop, with few items appearing on the desktop upon installation and a feature that offered to clean the desktop periodically.
- Internet Explorer 6.0, which includes automatic firewall software that prevent viruses from coming in (but do not prevent the user from sending viruses) and an aesthetic redesign.
- The first edition of Windows that was copy protected, thus allowing users to install the system on only one computer and forcing users to purchase the system for each of their computers.
- Microsoft applied several techniques for user monitoring including activation, which sends your information back to the company and a "Passport" for the Windows messenger system that requires sign-up with email and address.²⁹

²⁶ "Microsoft Windows." Wikipedia. < <http://en.wikipedia.org/wiki/Windows>>. Accessed 10/29/2007.

²⁷ "Windows XP." Computer Hope. < <http://www.computerhope.com/winxp.htm>>. Accessed 10/20/2007.

²⁹ Pogue, David. "Windows XP: Microsoft's New Look for Fall in Size XXL." New York Times. 6 Sept 2001; G1

System Flaws:

- Due to the level of power and memory required by the system, most users were forced to purchase new computers.
- Forced users to log into individualized desktops, which was not practical for all settings.

Windows Vista

Dates of Use:

Available to the public on January 30th 2007 following a limited release November 29th 2006.

Importance of Platform: Released after the longest delay between updates in Windows history, Vista was declared by Microsoft to be, "a breakthrough computing experience." The system improve security, networking, file access and the multimedia experience, while also offering a redesign of the system interface.³⁰

Requirements:

Processor: 800 MHz Intel compatible.

Memory: 512 MB RAM, 20 GB disc space.

Drives: CD, DVD, USB, ReadyBoost and Ready Drive which use flash memory to cache commonly used programs and data.

Sound: Standard sound card.

Video: Direct 9.0 compatible video card

Controls: Microsoft mouse/ keyboard compatible

Operating System: Windows 2000 or XP to upgrade.³¹

System Advancements:

- Vista features a new graphical user interface called, "AERO" (Authentic, Energetic, Reflective, Open). The interface includes thumbnails, live icons, a sidebar and animations. AERO also included a new system for viewing windows: Windows Flip and Windows Flip 3D. These allowed for an aesthetically pleasing and highly functional means of viewing and controlling multiple windows while in use. Vista included a second basic interface for consumers whose personal computer could not support AERO's graphics.³²
- System navigation is vastly improved through a number of measures. There is a mobility system that controls how files are organized and centralizes files. When looking for files, instant search is an improved 'find' feature that searched the system in a more in-depth manner.

³⁰ Clyman, John. "The Insiders Guide to Windows Vista; We cut through the hype to give you the real deal on Vista." PC Magazine. 16 Jan 2007: 1.

³¹ "Windows Vista." Computer Hope. <<http://www.computerhope.com/software/vista.htm>>. Accessed 10/20/2007.

³² Windows AERO.

<<http://www.microsoft.com/windows/products/windowsvista/features/experiences/aero.msp>>. Accessed 10/22/2007.

- Includes support for several advanced multi-media programs including: DirectX 10, Window Media Player 10, speech recognition, and Blu-Ray and HD DVD.³³
- Central to the system are it's superior security. Security measures include parental controls and web warnings that confirm if users really want to access websites and notify the user if the site is trying to access their computer.³⁴
- Several system back-up measures are in place in the Vista system. Incrementally scheduled back-ups and recovery extensively protect files and programs and shadow copying automatically back-ups files and folders on a daily basis. Furthermore, program updates, which previously involved a web-based application, have been centralized into the system.³⁵

System Flaws:

- As Apple continues to expand market shares, reviews found that several elements of Vista were thinly veiled copies of Mac's OS. This problem was particularly prominent in the new interface.³⁶
- Upon it's release, Vista still included several bugs, prompting John Clyman of PC magazine to speculate that the product was rushed to the market.³⁷
- Several of the earlier touted innovative features of the system were dropped prior to its release, thus making the system less revolutionary that initially anticipated.

³³ Clyman, John. "The Insiders Guide to Windows Vista; We cut through the hype to give you the real deal on Vista." PC Magazine. 16 Jan 2007: 1.

³⁴ Fost, Dan. "Review/Vista Launches/ Should you buy it now? Here's what the new Microsoft operating system has and why you may want to wait." San Francisco Chronicle. 29 Jan 2007.: C. 1

³⁵ Clyman, John. "The Insiders Guide to Windows Vista; We cut through the hype to give you the real deal on Vista." PC Magazine. 16 Jan 2007: 1.

³⁶ Fost, Dan. "Review/Vista Launches/ Should you buy it now? Here's what the new Microsoft operating system has and why you may want to wait." San Francisco Chronicle. 29 Jan 2007.: C. 1

³⁷ Clyman, John. "The Insiders Guide to Windows Vista; We cut through the hype to give you the real deal on Vista." PC Magazine. 16 Jan 2007: 1.

Windows NT 4.0

Dates of Use:

Released June 30th 1996. Microsoft ceased supporting the platform on January 1, 2005 in accordance with their Microsoft Lifecycle Policy.³⁸

Importance of Platform:

Although it offered truncated support of drives and gaming devices, Windows NT 4.0 was the business market targeted contemporary of Win95 designed to run on servers, high end PC's and workstations.³⁹ A pure 32-bit operating system free of DOS and thereby comparable to UNIX, Windows NT 4.0 was a more stable platform than Win95 and specifically designed to meet the needs of a corporate environment.

Requirements:

Processor: 486 33 MHz, Intel Pentium processor recommended.

Memory: 16MB RAM, 110 MB Hard Drive space.

Drives: Floppy, CD ROM

Sound: Optional

Video: VGA or higher-resolution

Controls: Keyboard and mouse.

Operating System: N.T. 3.0 required for upgrade.⁴⁰

System Advancements:

- The pure 32-bit operating system was more stable than the hybrid system of Win95 as well as the previous version of WinNT.
- NT 4.0 integrated the Win95 interface into the system. Previous NT's featured interfaces distinct from their contemporaries amongst the consumer systems. These previous interfaces were harder to manipulate.⁴¹
- Security on NT 4.0 was stronger than in consumer systems or previous business level systems. This built-in security included password protection and extensive access control that included a system access control list (SACL) which would audit the system to, "detect and track security related events."⁴²
- The system focused on improving it's networking capacity, with a specific focus on intranets.

³⁸ Retiring Windows N.T. 4.0. Microsoft Tech Net.

<<http://www.microsoft.com/technet/archive/winntas/default.aspx?mfr=true>>. Accessed 10/30/2007.

³⁹ Corcoran, Elizabeth. "Pressing a Familiar Key; Windows NT 4.0 Looms Large in Microsoft's Planning." The Washington Post. 1 Aug 1996: D 14.

⁴⁰ Windows NT. Computer Hope. <<http://www.computerhope.com/winnt.htm>>. Accessed 10/30/2007.

⁴¹ Silverman, Dwight. "New NT offers alternative to Windows 95." Houston Chronicle. 19 May 1996. 5.

⁴² Kessler, Gary. "Security in Windows NT." Gary Kessler.net
<<http://www.garykessler.net/library/ntsecurity.html>>. Accessed 10/29/2007.

System Flaws:

- The systems complete lack of DOS caused older applications to respond poorly with them either not running at all or running at very slow speeds. NT also could not support several Win95 applications including Word Perfect 7.0.⁴³
- WinNT 4.0 did not support Plug and Play software, which created hassle in the installation of new hardware programs.⁴⁴
- NT 4.0 could be difficult to install within a network and was also not compatible with important business devices such as drives, printers and modems.⁴⁵

⁴³ Silverman, Dwight. "New NT offers alternative to Windows 95." Houston Chronicle. 19 May 1996. 5.

⁴⁴ Silverman, Dwight. "New NT offers alternative to Windows 95." Houston Chronicle. 19 May 1996. 5.

⁴⁵ Silverman, Dwight. "New NT offers alternative to Windows 95." Houston Chronicle. 19 May 1996. 5.

Windows 2000

Dates of Use:

Released on February 17, 2000. Windows will support the platform until July 13, 2010.⁴⁶

Importance of Platform:

Following a long break in updates, Windows 2000 made several much needed improvements to Windows N.T. 4.0. The system was the most-complex Microsoft had ever released and offered a level of stability not available in any of its contemporaries amongst consumer level systems.

Requirements:

Processor: Intel Pentium 133 MHz or equivalent

Memory: 32MB RAM, 650 MB Disk space,

Drives: CD-ROM/ DVD, USB, Firewire

Sound: Sound card

Video: VGA or higher

Controls: Microsoft mouse/ keyboard compatible

Operating System: Windows 95, 98 NT 3.5 or 4.0 for upgrade⁴⁷

System Advancements:

- With Windows 2000, Microsoft made a bid to increase their visibility in the internet server market. At that time the market was dominated by Unix, a longstanding and reliable product. Win2000 attempted to undercut their cost and offer comparable features.⁴⁸
- The system carefully monitored the installation of new programs and replaced any mistakenly deleted programs through a cache of backup files.⁴⁹
- Featured a level of stability that was not yet available within the consumer market. The system rarely crashed and was capable of waking from sleep mode to function properly.
- Included support for technology that had long been supported on the consumer level including Plug and Play and USB.
- Boated improved flexibility on laptop computers. This included allowing for a disc drive to be switched with a CD drive without turning off the computer.
- Reorganized the desktop, creating a cleaner and more logical workspace. Tasks such as system tools and settings were moved to the control panel and the number of desktop icons was streamlined.
- Superior security ran through the system. It included “Virtual Private Networking,” which allowed a private link between a laptop and server to be

⁴⁶ “Microsoft Windows.” Wikipedia. < <http://en.wikipedia.org/wiki/Windows>>. Accessed 10/29/2007.

⁴⁷ “Window 2000.” Computer Hope. < <http://www.computerhope.com/win2000.htm>>. Accessed 10/20/2007.

⁴⁸ Kang, Cecilia and Tom Quinlan. “Windows 2000 is the New Weapon in War for Internet Servers.” Chicago Tribune. 21 Feb 2000: 4.

⁴⁹ Pegoraro, Rob. “Logging On; Windows 2000: It’s Not For You.” The Washington Post. 18 Feb 2000; E1.

created across the internet. It also included a files system, “NTFS,” that allowed files, folders and entire hard-drives to be encrypted and locked.⁵⁰

System Flaws:

- Entirely incompatible with several gaming devices including 3-D cards and gamesticks, and would also break software associated with America Online and Earthlink.⁵¹
- Although originally intended to be distributed both in business and consumer form, Microsoft ultimately realized this would not be possible and switched their consumer concentration to Windows ME. This was problematic because the name, Windows 2000, was similar to the titling of their consumer products. Reviews, marketers and Bill Gates himself all had to take great strides to educate the public regarding the intended system user.
- System installation was difficult and potentially damaging to personal computers.
- Required an exorbitant amount of memory. Although Microsoft places the system requirements as those listed above, others argued Win2000 required a base of 64 MB of memory and 1 GB of disk space, with double those requirements to avoid sluggish speeds and system crashes.⁵²

Beginning with Windows XP, Microsoft began offering business editions of their consumer systems. Both WinXP and Vista have professional options that mirror the differentiated functionality previously offered in the separate NT line. The NT line also included server system that Microsoft continues to design, which have not been included in this timeline. The next professional system in expected to be Windows 7, which currently has an anticipated release date in 2010.⁵³

⁵⁰ Unless footnoted otherwise, all information in this section from: Silverman, Dwight. “Strictly Business: Few Consumers will need to buy Windows 2000, but it will be a welcome help in many workplace.” Houston Chronicle. 18 Feb 2000: 1.

⁵¹ Pegoraro, Rob. “Logging On: Windows 2000: It’s Not For You.” The Washington Post. 18 Feb. 2000: E 1.

⁵² Jerome, Marty. “Windows 2000 For the Birds.” Boston Globe. 20 Feb 2000: L15.

⁵³ “Windows NT.” Wikipedia. <http://en.wikipedia.org/wiki/Windows_NT>. Accessed 11/3/2007.