

Windows 7



The Microsoft Windows 7 operating system is a 32-/64-bit preemptive multitasking client operating system for microprocessors implementing the Intel IA-32 and AMD64 instruction set architectures (ISAs). Microsoft's corresponding server operating system, Windows Server 2008 R2, is based on the same code as Windows 7 but supports only the 64-bit AMD64 and IA64 (Itanium) ISAs. Windows 7 is the latest in a series of Microsoft operating systems based on its NT code, which replaced the earlier systems based on Windows 95/98. In this chapter, we discuss the key goals of Windows 7, the layered architecture of the system that has made it so easy to use, the file system, the networking features, and the programming interface.

Bibliographical Notes

[Russinovich and Solomon (2009)] give an overview of Windows 7 and considerable technical detail about system internals and components.

[Brown (2000)] present details of the security architecture of Windows.

The Microsoft Developer Network Library (<http://msdn.microsoft.com>) supplies a wealth of information on Windows and other Microsoft products, including documentation of all the published APIs.

[Iseminger (2000)] provides a good reference on the Windows Active Directory. Detailed discussions of writing programs that use the Win32 API appear in [Richter (1997)]. [Silberschatz et al. (2010)] contains a good discussion of B+ trees.

The source code for a 2005 WRK version of the Windows kernel, together with a collection of slides and other CRK curriculum materials, is available from www.microsoft.com/WindowsAcademic for use by universities.

Bibliography

[Brown (2000)] K. Brown, *Programming Windows Security*, Addison-Wesley (2000).

[**Iseminger (2000)**] D. Iseminger, *Active Directory Services for Microsoft Windows 2000. Technical Reference*, Microsoft Press (2000).

[**Richter (1997)**] J. Richter, *Advanced Windows*, Microsoft Press (1997).

[**Russinovich and Solomon (2009)**] M. E. Russinovich and D. A. Solomon, *Windows Internals: Including Windows Server 2008 and Windows Vista, Fifth Edition, Fifth Edition*, Microsoft Press (2009).

[**Silberschatz et al. (2010)**] A. Silberschatz, H. F. Korth, and S. Sudarshan, *Database System Concepts, Sixth Edition*, McGraw-Hill (2010).