Windows 10

Updated by Alex Ionescu

The Microsoft Windows 10 operating system is a preemptive multitasking client operating system for microprocessors implementing the Intel IA-32, AMD64, ARM, and ARM64 instruction set architectures (ISAs). Microsoft's corresponding server operating system, Windows Server 2016, is based on the same code as Windows 10 but supports only the 64-bit AMD64 ISAs. Windows 10 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 10, 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 et al. (2017)] give a deep overview of Windows 10 and considerable technical detail about system internals and components.

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. [Silberschatz et al. (2010)] supply a good discussion of B+ trees.

The source code for the WRK version of the Windows Server 2003 kernel, together with a collection of slides and other CRK curriculum materials, is available from www.microsoft.com/WindowsAcademic for use by universities.

Bibliography

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

[Russinovich et al. (2017)] M. Russinovich, D. A. Solomon, and A. Ionescu, *Windows Internals–Part 1*, Seventh Edition, Microsoft Press (2017).

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