

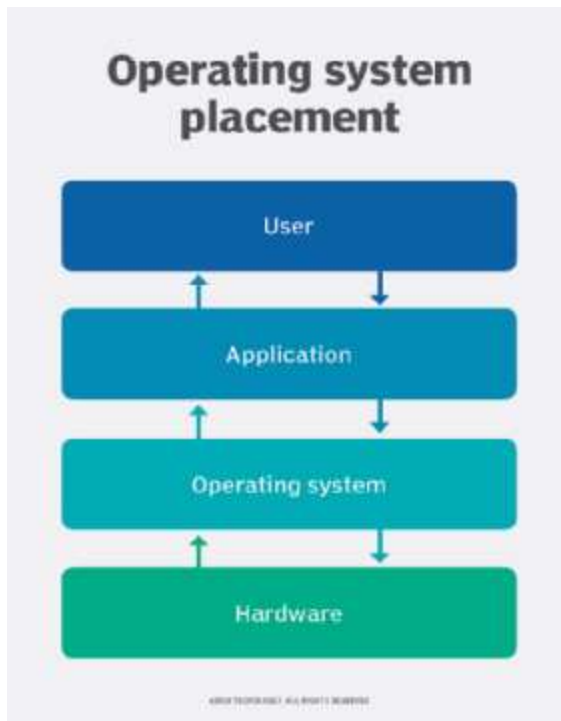
operating system (OS)

An operating system (OS) is the program that, after being initially loaded into the computer by a [boot](#) program, manages all of the other [application](#) programs in a computer. The application programs make use of the operating system by making requests for services through a defined application program interface ([API](#)). In addition, users can interact directly with the operating system through a user interface such as a command line or a graphical user interface ([GUI](#)).

An operating system can perform the following services for applications:

- In a [multitasking](#) operating system, where multiple programs can be running at the same time, the OS determines which applications should run in what order and how much time should be allowed for each application before giving another application a turn.
- It manages the sharing of internal memory among multiple applications.
- It handles input and output to and from attached hardware devices, such as hard disks, printers and dial-up ports.
- It sends messages to each application or interactive user (or to a system operator) about the status of operation and any errors that may have occurred.
- It can offload the management of [batch](#) jobs (for example, printing) so that the initiating application is freed from this work.
- On computers that can provide [parallel processing](#), an operating system can manage how to divide the program so that it runs on more than one processor at a time.

All major computer platforms (hardware and software) require and sometimes include an operating system, and operating systems must be developed with different features to meet the specific needs of various [form factors](#).



Types of operating systems

A [mobile OS](#) allows [smartphones](#), [tablet PCs](#) and other mobile devices to run applications and programs. Mobile operating systems include Apple [iOS](#), Google [Android](#), BlackBerry OS and [Windows 10 Mobile](#).

An [embedded operating system](#) is specialized for use in the computers built into larger systems, such as cars, traffic lights, [digital televisions](#), ATMs, airplane controls, point of sale ([POS](#)) terminals, [digital cameras](#), [GPS navigation systems](#), elevators, digital media receivers and [smart meters](#).

A network operating system ([NOS](#)) is a computer operating system system that is designed primarily to support [workstation](#), [personal computer](#), and, in some instances, older [terminals](#) that are connected on a local area network ([LAN](#)).

A real-time operating system ([RTOS](#)) is an operating system that guarantees a certain capability within a specified time constraint. For example, an operating

system might be designed to ensure that a certain object was available for a robot on an assembly line.

What mix of Linux, Windows or other operating systems do you have in the data center?

Examples of operating systems

Common desktop operating systems include:

- [Windows](#) is Microsoft's flagship [operating system](#), the [de facto standard](#) for home and business computers. Introduced in 1985, the GUI-based OS has been released in many versions since then. The user-friendly [Windows 95](#) was largely responsible for the rapid development of personal computing.
- [Mac OS](#) is the operating system for Apple's [Macintosh](#) line of personal computers and workstations.
- [Unix](#) is a multi-user operating system designed for flexibility and adaptability. Originally developed in the 1970s, Unix was one of the first operating systems to be written in [C language](#).
- [Linux](#) is a Unix-like operating system that was designed to provide personal computer users a free or very low-cost alternative. Linux has a reputation as a very efficient and fast-performing system.