

[Home](#) > [Mobile operating systems and devices](#)**Tech Accelerator****What is unified endpoint management (UEM)? A complete guide****DEFINITION**

mobile operating system

By [Michael Goad](#), CDW | [Colin Steele](#)

What is a mobile operating system?

A mobile operating system (OS) is software that allows smartphones, tablets and other devices to run applications and programs.

A mobile OS provides an interface between the device's hardware components and its software functions. It typically starts when a device powers on, presenting a screen with icons or tiles that show information and provide application access. Mobile operating systems also manage cellular and wireless network connectivity and phone access.

Millions of people use mobile operating systems worldwide, powering a wide range of devices, from smartphones to tablets and wearable technology. These systems offer users a wide selection of features, including calling and messaging, internet and cellular

data connectivity, multitasking capabilities, interactive user interfaces and access to a wide range of third-party applications and services to enhance the user experience even further.

Types of mobile operating systems

There are several mobile operating systems on the market today, but two of the most widely adopted are the iPhone's OS, [Apple iOS](#), and Google's open source OS, [Google Android](#). These two mobile OSes take different approaches to the mobile operating



Apple distributes the only devices that natively support iOS, and it takes a "walled garden" approach, in which Apple regulates all mobile apps and services that can run on iOS devices. Apple developed iOS to run on its own XNU kernel. Apple has also released several device-specific mobile operating systems, such as watchOS for the Apple Watch and iPadOS for iPad [tablets](#).

THIS ARTICLE IS PART OF



What is unified endpoint management (UEM)? A complete guide

Which also includes:

— [7 key benefits of mobile device management for businesses](#)

— [Compare capabilities of Office 365 MDM vs. Intune](#)

— [How to successfully implement MDM for BYOD](#)

Google takes an [open source](#) approach with Android, which allows mobile device OEMs (original equipment manufacturers) to customize the Android source code to fit their devices. Android runs on the Linux kernel. Additionally, due to being open source and globally popular, Android has become a staple in development for various equipment such as kiosks, machinery, TV operating systems and more.

Other mobile operating systems are available, but their adoption rates are well below those of iOS and Android and are mostly found outside of the U.S. These include operating systems like KaiOS, Sailfish OS and Huawei's HarmonyOS.

Several mobile operating systems are no longer commonly supported. BlackBerry 10, Nokia's Symbian, LG webOS -- formerly Palm webOS and HP webOS -- and Microsoft's Windows Phone OS are all no longer supported.

Features of mobile operating systems

Mobile operating systems deliver various features to users. The distinguishing feature that mobile operating systems offer is the ability to connect to the internet via the smartphone's built-in modem and a wireless service provider such as Verizon or AT&T. This is a major difference between mobile operating systems and most desktop OSes, which rely on a Wi-Fi network or [Ethernet](#) connection to access the internet, giving end users the ability to work remotely.

Mobile OSes offer a native web browser application, which allows users to search the internet and visit webpages. Mobile operating systems also provide application stores, which enable users to download and interface with mobile applications. Several mobile operating systems also have native GPS ([global positioning system](#)) applications that allow users to search for locations, follow step-by-step directions and, in some cases, share locations with different devices. The GPS feature relies on the mobile device's hardware and can't run without that support.

Other common mobile operating system features include native email applications that can link work and personal email accounts, a calendar application to keep track of tasks, meetings and events and a contacts library to organize and search for contact information.

Mobile operating systems also include important enterprise management controls. With devices now housing both user and corporate data, it is important that these mobile OSes are secure, and data can be remotely managed and accessed if needed. Apple and Google have developed standard APIs allowing MDM vendors to create platforms for securing devices that have features such as the following:

- Pin code generation and encryption.
- Provisioning Wi-Fi and certificates.
- Enabling and disabling features and capabilities.
- [Remote wipe](#) and factory reset if a device is lost or stolen.
- Safeguards to ensure end-user privacy and security for [BYOD](#) programs.

Other common features include customizable home screens and app stores, access to cloud storage solutions, advanced enterprise and corporate management security options, support for multiple accounts, multimedia capabilities such as music and video players, messaging and collaboration features, and more. Each system has unique features to help users find what best suits their needs.

History and timeline of mobile operating systems

The history of mobile operating systems dates to the early and mid-1990s as manufacturers evolved beyond embedded systems to new operating systems for their PDAs, such as PenPoint OS by GO Corp. and Newton OS by Apple.

Windows Mobile was a mobile operating system developed by Microsoft, first released in 2000 as Pocket PC, also labeled as Windows Mobile Classic and Windows Mobile Professional. It allowed users to access many of the same features of their desktop computers, such as Office Outlook and Internet Explorer. The platform received updates until 2010, when Windows Phone 7 replaced it. Microsoft designed Windows Phone 7's UI from scratch to make it more touch-friendly. The platform eventually evolved into what's now known as Windows 10 Mobile, with its last release in 2017.

BlackBerry OS 1.0 was released in 2002 and was followed by numerous iterations as the company worked to improve and expand the platform. In 2008, BlackBerry launched version 4.6, which featured a new browser and support for Wi-Fi-enabled devices. Version 5.0 introduced an improved interface that made navigation easier and other features like voice dialing and HTML email

support. Version 6 offered flash player compatibility and integration with third-party social networks like Twitter and Facebook. The current version of the BlackBerry OS is 10, released in 2013, and [no longer supported as of Jan. 4, 2022](#).

In 2007, Apple launched its first mobile operating system with the release of its first iPhone device. At release, however, Apple marketing stated the iPhone ran a mobile version of OS X. The iPhone marked a significant user experience and functionality shift from earlier platforms. With an easy-to-use interface, intuitive design and a full-screen device with a software-based keyboard, it quickly became one of the market's most popular mobile options.

In 2008, Apple released iPhone OS 2, which included the App Store for iPhone users, allowing third-party developers to create apps for iPhones and other iOS devices. This gave users access to a vast library of apps and games, further enhancing their user experience. In 2010, Apple launched iOS 4, the first version called iOS. In 2015 Apple would also introduce a new OS, [watchOS](#), as part of its comprehensive OS platforms.

It remains one of the leading mobile operating systems on the market, with hundreds of millions of daily users. With frequent updates and improvements made to the platform each year, enhancing security, privacy and management controls, iOS will likely remain at the forefront of mobile technology for some time.

In 2008, Google released Android as a competitor to iOS and other platforms. In the early days of Android, devices were mostly made by HTC and Motorola, with other companies joining later. Android has since become one of the most popular mobile operating systems available, with a fully customizable OS allowing end users and corporations to build custom experiences.

The first version of Android came out in 2008 as Android 1.0. This version had a basic user interface and didn't include many common features today, such as Google Play Store. Over the next few years, the platform continued to evolve, with Android 2 (Cupcake) released in 2009, followed by 3 (Honeycomb) in 2011, and 4 (Ice Cream Sandwich) in 2012. Android 5.0 (Lollipop) was released in 2014 and introduced a new design language called Material Design and WearOS. Android 14 includes an enhanced user experience, stronger end-user privacy settings and enterprise management controls.

What is an Operating System (OS)?



This was last updated in March 2023

Related Terms

Apple Watch

Apple Watch is a wearable smartwatch that allows users to accomplish a variety of tasks, including making phone calls, sending ...

[See complete definition](#) 

Apple watchOS (Apple Watch operating system)

Apple watchOS is the operating system (OS) designed specifically for the Apple Watch wearable device, with features that take ...

[See complete definition](#) 

mouse

A mouse is a small device that a computer user pushes across a desk surface in order to point to a place on a display screen and ...

[See complete definition](#) 

➤ Dig Deeper on Mobile operating systems and devices

Android OS

By: Erica Mixon

Does Apple offer work profiles for iPhones?

By: Dan Jones

How long should you support Android

Google chases Apple with tablet version of

phones in the enterprise?

By: Reda Chouffani

Android

By: Maxim Tamarov

Latest TechTarget resources

NETWORKING



UNIFIED COMMUNICATIONS

SECURITY

Networking



9 ways to make network modernization work

More cloud computing, container networking and network capacity are some of the ways businesses could modernize their networks. ...



SONiC NOS faces challenges fitting in with mainstream

Gartner estimates that fewer than 200 enterprises have SONiC in production, out of a potential data center market of 100,000. One...



[About Us](#)

[Editorial Ethics Policy](#)

[Meet The Editors](#)

[Contact Us](#)

[Advertisers](#)

[Partner with Us](#)

[Media Kit](#)

[Corporate Site](#)



[Contributors](#)

[Reprints](#)

[Answers](#)

[Definitions](#)

[E-Products](#)

[Events](#)

[Features](#)



[Guides](#)

[Opinions](#)

[Photo Stories](#)

[Quizzes](#)

[Tips](#)

[Tutorials](#)

[Videos](#)

All Rights Reserved, [Copyright 2003 - 2023](#), TechTarget

[Privacy Policy](#)

[Do Not Sell or Share My Personal Information](#)