**MacOS X 10.8**

**History**

Mountain Lion is also the final version of OS X to be developed under the supervision of then-OS X head Scott Forstall.

The operating system gained the new malware-blocking system Gatekeeper and integration with Apple's online Game Center and iCloud services, while the Safari web browser was updated to version 6. As on iOS, Notes and Reminders became full applications, separate from Mail and Calendar, while the iChat application was replaced with a version of iOS's Messages. Mountain Lion also added a version of iOS's Notification Center, which groups updates from different applications in one place. Integrated links allowing the user to rapidly transfer content to Twitter were present in the operating system from launch. Facebook integration was also planned but unfinished at launch date. It was released as a downloadable update later.

OS X Mountain Lion received positive reviews, with critics praising Notification Center, Messages, and speed improvements over Mac OS X Lion, while criticizing iCloud for unreliability and Game Center for lack of games. Mountain Lion sold three million units in the first four days, and has sold 28 million units as of June 10, 2013, making it Apple's most popular OS X release.

**Function and features**

*Notification Center*

Notification Center was added in the operating system. It provides an overview of alerts from applications and displays notifications until the user completes an associated action, rather than requiring instant resolution. Users may choose what applications appear in Notification Center, and how they are handled. There are three types of notifications: banners, alerts, and badges. Banners are displayed for a short period of time in the upper right corner of the Mac's screen, and then slide off to the right. The icon of the application is displayed on the left side of the banner, while the message from the application will be displayed on the right side. Alerts are the same as banners, but will not disappear from the screen until the user takes action. Badges are red notification icons that are displayed on the application's icon.

Notification Center can be accessed by clicking the icon in the right corner of the menu bar. When open, the user can click a button to tweet, post status updates to Facebook, or view all notifications in the sidebar pane. Swiping up will reveal the option to disable Notification Center for one day.

*Notes*

Notes, another transfer from iOS, is added. It is separate from Mail in its own application, with support for desktop notes added (syncs along with its iOS counterpart). Created notes are synced through all the user's Apple devices through the iCloud service. Notes can be arranged in folders, and pinned to the user's desktop. When the application is closed, the pinned note still remains.

Notes can be created in three different default fonts - Noteworthy, Marker Felt, and Helvetica.

*Messages*

Messages, an instant messaging software application, is added in Mountain Lion. It was announced on February 16, 2012, as part of the OS X Mountain Lion developer preview. Starting with this release, Messages replaced iChat as the default OS X instant-messaging client. A free beta version of Messages was available to download for Mac OS X Lion from the Apple website until June 2012.

It also supports both Extensible Messaging and Presence Protocol (XMPP) (shown in the application under its former name, Jabber) and the AOL Instant Messenger (AIM) OSCAR protocol. In addition, it also offers a direct connection to Yahoo! Messenger and Google Talk.

*Game Center*

The Game Center application from iOS was added in OS X Mountain Lion. It is an online multiplayer social-gaming network, and allows users to invite friends to play a game, start a multiplayer game through matchmaking, track their achievements, and compare their high scores on a leader board. Points are awarded to players as a part of Game Center's achievement tracking system. Players can earn points by meeting specific in-game challenges.

A player must establish an Apple ID to associate with a Game Center nickname.

*Application updates*

OS X Mountain Lion added updates for many applications on the operating system. The Chess app supports Game Center. Dashboard widgets can be managed in a UI similar to Launchpad. Mail adds new VIP feature to save frequent contacts. The Preview app gets an improved user interface. It is able to fill out forms in PDF documents that don't contain actual PDF form fields. Reminders is a new to-do list application, separate from Calendar in its own application that syncs along with its iOS counterpart.

*Other updates*

AirPlay Mirroring is added, which allows wireless mirroring of a Mac's screen to an Apple TV. System-wide integration of AirPlay audio transmission is added. There are many new features for Chinese users, including support for Baidu as an option for Safari search engine, QQ, 163.com and 126.com services for Mail, Contacts and Calendar, Youku, Tudou and Sina Weibo are integrated into share sheets. Dictation, new in Mountain Lion, is a system-wide voice input mechanism that requires a broadband Internet connection. Facebook gained full integration following an update in late 2012. Some of the features include single-sign on and integration in Notification Center, Contacts and Share Sheets. Gatekeeper, also new to Mountain Lion, is an anti-malware feature based on digital signatures and the Mac App Store.

**System requirements**

The official system requirements of OS X 10.8 are 2 GB RAM, 8 GB available storage, OS X 10.6.8 (Snow Leopard) or later, on any of the following Macs:

* iMac (Mid 2007 or newer)
* MacBook (Aluminum, Late 2008), (Polycarbonate, Early 2009 or newer)
* MacBook Pro (Mid/Late 2007 or newer)
* MacBook Air (Late 2008 or newer)
* Mac Mini (Early 2009 or newer)
* Mac Pro (Early 2008 or newer)
* Xserve (Early 2009)

As in 10.7, the earliest models supporting AirDrop are the late-2008 MacBook Pro, late-2010 MacBook Air, late-2008 MacBook, mid-2010 Mac Mini, and early-2009 Mac Pro with an AirPort Extreme card. Any Mac released in or after 2011, except the MacBook, supports AirPlay Mirroring. Power Nap is supported on the mid-2011 or newer MacBook Air and the MacBook Pro with Retina display.

The technical basis for these requirements is incompatibility with 32-bit EFI and 32-bit kernel extensions (most importantly, drivers for GPUs shipped in some older Macs). In order to prevent potentially incompatible systems from installing 10.8, the installer contains a whitelist of supported motherboard IDs. Users have bypassed these limitations so that 10.8 may run with varying functionality on some officially unsupported computers.

**Advantages**

1. Simple but powerful user interface: Both macOS and Windows have easy-to-use graphical user interface or GUI. But OS X offers a more straightforward approach to computing. Those who are accustomed with the GUI of iOS found in iPhone and iPad will find macOS somewhat familiar.

2. Fewer viruses and other security issues: One of the advantages of macOS is that it is considerably safer than Windows. Of course, some Apple loyalists would argue that Macs are completely invincible from viruses or malware. This is no longer true.

3. Seamless integration between OS and hardware: Apple is both a software developer and a device manufacturer. This means that they have optimised the macOS to work seamlessly with all of the hardware components of a Mac device. It also ensures that all hardware components work hand-in-hand.

4. Comes preloaded with productivity apps: Standard Windows OS usually does not come with Microsoft Office Suite. Both are sold separately most of the time. In addition, new Windows-based laptop and desktop computers come with random software or apps that merely bloat the entire system and external storage.

5. Effective and unparalleled multitasking feature: Multitasking is another notable advantage of macOS. Mac computers have hardware specifications designed for multitasking. And because macOS integrates seamlessly with Mac hardware components, the overall operation is smooth and responsive.

6. Integration with other Apple products: One of the strengths of Apple is that most of the products under the brand are completely integrated. The iPhone or iPad works best with a Mac computer. This advantage of macOS is exclusive for Apple users—or those individuals with several Apple devices.

**Disadvantages**

1. Mac computers are considerably expensive: The fact remains that Apple sells expensive computers whether it is the new MacBook Pro with Retina or a Mac Mini. This is more noticeable when comparing the price point of Mac computers with their Windows counterpart.

2. Inflexible when it comes to hardware upgrades: A standard Mac computer cannot be upgraded easily because most of its hardware components are integrated both at a design and engineering levels. This is a macOS disadvantage that is unacceptable for hobbyists.

3. Lack of game titles and advanced gaming experience: There are more game titles available for Windows than in macOS. This is another noteworthy disadvantage of macOS. Some titles from independent producers that have gained large following are unavailable for Mac computers.

4. App ecosystem is still lacklustre: Windows has more software or applications. Developers, especially small and independent software companies, often consider building software for Windows first because of greater reach.