



Sharing Files and Printers

Mac/PC Compatibility:
QuickStart Guide for Business

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The Basics

Users often need to exchange files with colleagues who may be using other types of computers. And users within organizations typically access shared printers over their network. With a Mac it's easy for your employees to share files, and printers, with other Mac users—and Windows and Linux users, too.

User benefit: Efficiency and lack of frustration.

Business benefit: Collaboration, productivity, and flexibility. Your employees can easily exchange business documents and files. No matter the platform, you can integrate Mac computers into any environment without affecting company-wide workflow. Printer sharing over your network allows colleagues to share common resources such as a department's printer.

Standards and Buzzwords

Here are some common terms associated with sharing files or printers.

Bonjour. Apple-developed networking protocol that enables automatic discovery of computers, devices, and services on IP networks. This type of technology is known as “zero-configuration networking” because you don't have to enter network addresses manually before connections can be established. Bonjour is built into Mac OS X and is available for Windows.

File format. The way content of files is stored on a computer. Different applications (such as Microsoft Word and Excel) generally use different file formats, although they often can read files from other types of applications, too.

Filename extension. Three- or four-letter abbreviation that identifies the format a file uses. Mac OS X uses extensions, which you can choose to view or not. Older versions of the Macintosh operating system did not require filename extensions, though they could be added manually for compatibility with Windows applications.

Common filename extensions. Here are some of today's most popular file formats, their filename extensions, and popular Mac applications that support them.

Format	Extension	Compatible Mac applications (partial list)
Microsoft Word	.doc, .docx	Microsoft Word, Pages
Microsoft Excel	.xls, .xlsx	Microsoft Excel, Numbers
Microsoft PowerPoint	.ppt, .pptx	Microsoft PowerPoint, Keynote
QuickTime	.mov	QuickTime Player
Standard PDF	.pdf	Adobe Reader, Adobe Acrobat, Preview
FileMaker Pro	.fp5, .fp7, and others	FileMaker Pro
Rich Text Format	.rtf	Pages, Microsoft Word, TextEdit
Text	.txt	Pages, Microsoft Word, TextEdit
Photos and Graphics	.jpg, .gif, .tif, .tiff, .png, and so on	Adobe Photoshop, Preview, iPhoto
Audio Files	.mp3, .mp4, and others	iTunes, QuickTime Player
Web Files	.htm, .html	Safari, iWeb, Microsoft Word, Pages, AppleWorks, TextEdit

SMB (Server Message Block). Network protocol that Windows systems use to access shared data and devices.

How the Mac Does It

Sharing computer files entails not only getting the files from one computer to another but also reading them on the destination system. Mac systems easily handle both actions through support for industry-standard network protocols, peripherals, and removable media. Mac OS X works with software applications from Apple and other developers, like Microsoft, Intuit, and Adobe, to support many popular file formats, enabling you to easily exchange files with others.



Mac and Windows Compatibility

Apple supports many industry standards that make it easy to exchange files between Mac and Windows systems.

- Built-in network interface lets you connect your Mac to a TCP/IP network.
- Native support for the Windows SMB protocol allows your Mac to connect to a Windows file server. Alternatively, you can configure your Mac as a file server for Windows clients.
- USB, FireWire drive, or flash-memory devices holding Mac- or PC-generated files can connect directly to your Mac.
- If your Mac has an optical drive, Mac OS X will burn discs that can be used on Macs, Windows-based PCs, and other types of computers. The discs are created with an HFS Plus/ISO 9660 hybrid format with these file systems: HFS+, ISO-9660 with Rock Ridge, and Joliet with Rock Ridge.

Opening a transferred file is usually straightforward. In many cases, a program on the destination system already can read the original program's file format, for example Microsoft Office or iWork '08 from Apple.

Many software applications and suites (such as Microsoft Office, FileMaker Pro, and Adobe Creative Suite) are available for both Mac and PC systems, so once the file is transferred to the other computer you simply open it within the appropriate program. Your Mac is instantly able to work with .doc, .pdf, .jpg, and many other standard file types, even if they were created on a Windows system. For example, the Preview application in Mac OS X also supports many popular graphics formats.

In addition, many Mac applications can read files created by other programs. For example, QuickTime Player can read dozens of file formats generated by rich media applications. And the iWork productivity suite from Apple easily handles Microsoft Word, Excel, and PowerPoint files. Check the user manuals for information on each software product's capabilities.

If you don't have an identical or compatible application, you may need a separate software utility to convert the file into a format that one of your applications can read—which we will cover in the next section. Mac OS X also supports many protocols, file formats, and other Microsoft technologies that enable Mac computers to be used with Active Directory and Microsoft's VPN server.



Mail, Contacts, and Calendaring

Windows users often choose Microsoft Outlook Express for email, contact management, and calendaring. Mac OS X comes with ready-to-use applications for all three tasks—Mail, Address Book, and iCal. You can move your existing email to the Mail applications, and export contacts from other applications and import them into Address Book.

Another option for email services on a Mac is Entourage, the email program included in Microsoft Office for Mac. See www.apple.com/business/tip/entourage/index.html for tips on using Entourage.

If you have been using Outlook Express for contact management and calendaring, your contacts can be transferred to the Address Book application in Mac OS X, and Datebook entries can be moved to iCal. Address Book is built on the industry-standard vCard format for storing contact information, and iCal reads standard ICS files.

For information on transferring data from specific PC programs to your new Mac, see www.apple.com/getamac/movetomac.

To find out about Mac email, contact, and calendaring applications, visit:

Mail

www.apple.com/macosx/features/mail

Address Book

www.apple.com/macosx/features/addressbook

iCal

www.apple.com/macosx/features/ical

Office Productivity Files

File formats for both Mac and PC versions of Microsoft Office have been identical since Office 97 for Windows and Office 98 for Mac. Also, because Microsoft provides the same fonts with its Mac and Windows versions, your Mac documents should look identical to ones created on PCs.

Apple's iWork suite is also built to work with your Microsoft Office files. Documents created in Microsoft Word—on both PC and Mac systems—open in Pages. The same is true of Microsoft PowerPoint files in Keynote, and Excel documents in Numbers. And you can export documents from iWork to the equivalent Microsoft Office applications.

If you need to work with other office productivity files, MacLinkPlus Deluxe from DataViz can translate dozens of different DOS, Windows, and Mac OS X formats for word processing, graphic, database, and spreadsheet documents. Conversions Plus is DataViz's equivalent program for the Windows platform. You can find out about both of these programs at www.dataviz.com.

Photos



Preview is the PDF and image viewing application in Mac OS X. It can open files in all of the most popular graphics formats, including JPEG, GIF, TIFF, PNG, and many more. Preview lets you view and work with PDF files. Preview also contains basic editing capabilities for processing digital images.



Movies

To display movies, Mac OS X uses QuickTime Player. It can read MPEG-4 files with Advanced Audio Coding and AVI, MPEG-1, MPEG-2, .mov, and dozens of other audio and video formats. For more information on file formats handled by QuickTime, visit www.apple.com/quicktime/player/specs.html.

Windows Media Components for QuickTime, by Flip4Mac, allows you to play Windows Media files in QuickTime Player and view Windows Media content on web pages. Microsoft offers this software free at www.microsoft.com/windows/windowsmedia/player/wmcomponents.msp. More advanced Windows Media file capabilities (such as editing) are available with the full version of Flip4Mac; see www.flip4mac.com for details.

Other Types of Documents

Here's a partial list of popular Windows applications also available for the Mac:

- FileMaker Pro
- Adobe Photoshop, Photoshop Elements, and Creative Suite
- Quicken and QuickBooks
- QuarkXPress

How Do I Get Started?

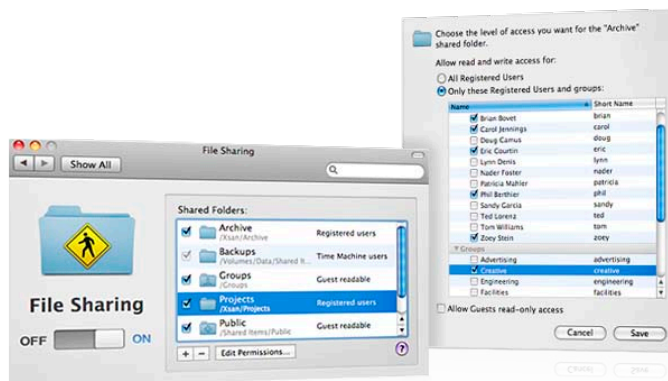
You have many options for transferring files between Windows and Mac systems. By networking computers—either wirelessly with an 802.11 device like AirPort Base Station or Time Capsule products from Apple, or via a wired Ethernet connection—users can transfer files readily between systems. Mac OS X supports protocols to network both Macs and PCs.

Apple File Sharing

The Mac makes it quick and easy to share a folder with people on your network, or over the Internet.

To enable File Sharing, open the System Preferences application and select Sharing. Then check the box next to File Sharing to turn the service on. Once you've done that, you'll be sharing your Public folder by default. You can put files there that can be viewed or copied, but not edited or deleted, by anyone logging on to your machine as a guest. Should you want to stop sharing this folder, select it from the "Shared Folders" column in the Sharing window and click the "minus" (–) button below that column.

To share a different folder, you can either drag it into that column from the Finder, or you can click the "plus" (+) button at the bottom of the column and navigate to the folder you want to share. Once it's added, the folder is shared. You may now set the permissions for that folder for any user or group you have set up on your machine, or for "Everyone," meaning people signing on as guests, without using a login name or password.



Choose one of these options for permission:

- Read & Write gives full control over the files in that folder to the user with those privileges.
- Read Only allows viewing or copying of the file, but not editing or deleting.
- Write Only (Drop Box) allows people to put files in the folder, but not to see inside the folder.
- No Access is just what it sounds like. People can neither see the contents of the folder nor interact with them in any way.

You can set separate permission levels for each user or group you have set up on your Mac, and for the “Everyone” group (guests). To add more users or groups, just click the “plus” (+) button under the “Users” column, and a window will pop up containing a list of all users and groups you have set up on your machine, plus a “New Person” button to create a new user. To remove a user or group from the list, select it and click the “minus” (–) button under the “Users” column.

Windows (SMB) File Sharing

To share your files and folders with people using Windows PCs, you need to take only two additional steps.

First, you need to make sure that you’re part of the same Windows Workgroup as the Windows users whom you want to access your files. You can do this by opening System Preferences, selecting Network, then selecting the Airport or Ethernet connection you’re using to connect to your network from the column on the left. Then click the “advanced” button to the lower right. In the window this brings up, select “WINS” and select the appropriate Workgroup from the “Workgroup” menu. If you’re prompted for a password, you will need to get this from your Network Administrator.

Next, go to Sharing in System Preferences, select “File Sharing” from the column on the left, then click the “Options” button at the lower right. Then check the box marked “Share files and folders using SMB.” You also can select which users on your computer you want to be able to use SMB to connect and share your files. Click “Done” and Windows users on your network can then access your files.

Removable Media



CDs and DVDs. As optical media burners become more prevalent in personal computers, and as the price of blank discs continues to fall, these media are becoming the convenient choice for exchanging files between computers.



External hard drive. Because both Mac and PC systems support USB peripherals (and some PCs also have FireWire connections), external hard drives are an excellent way to transfer large amounts of information between the two types of computers.



iPod. Did you know that an Apple iPod stores data files as well as music? It’s a handy way to transfer files between a PC and a Mac.

Find out how at www.apple.com/getamac/movetomac/ipod.html.



iDisk. If you have a MobileMe account (me.com), you get your own iDisk for storing files. Both Mac and PC users can access an iDisk, so you can use it to transfer files between systems.

For users switching from a PC to a Mac, Move2Mac from Detto Technologies not only moves files from a PC to a Mac but also transfers other items such as email account settings and address book, Internet Explorer bookmarks, desktop backgrounds, dial-up Internet settings, and more. For more information, see www.detto.com.



Browsing and Accessing Network Volumes

Accessing shared files and volumes over a network, or over the Internet, is simple on a Mac. The first place to look is right in the Finder. The Sidebar in your Finder window shows you a list of machines on your local network—Macs and Windows PCs—that are sharing files. If you don't see the machine you're looking for in your Sidebar, but you know it's on your local network, select the "All..." item under "Shared." Then you should see a complete list of the machines on your local network with shared files available.

Once you select the machine you're looking for, your Mac will try to log into it. If you have a saved login name and password, it will use them. Otherwise it will connect as a guest user. To log in with a particular login name and password, click the "Connect As" button. Then, when prompted, enter your login name and password on that machine to get a list of the shared volumes available to you. From there, just go on in and get your files!

If the machine you want is not on your local network, it's still very simple to connect. From the Finder select Go > Connect to Server (or Command-K using your keyboard), type in either the numerical IP address or the URL for the machine you're connecting to, then click "Connect." From there, it's just like the above—enter your login name and password when prompted, and you'll be presented with a list of the available shared volumes on that machine.



Sharing Printers

To let other computers on your local network use the same printers you use, you need to activate Printer Sharing. You can share any printers in your Printer List (in Printer Setup Utility), whether they are connected directly to your computer or you access them over a network.

Sharing a Printer

1. Open System Preferences from the Dock or the Applications window.
2. Click the Print & Fax icon.
3. In the Print & Fax pane, select the printer from the column on the left. Then click the checkbox next to "Share this printer." You can repeat this process with every printer you want to share. Other computers can access shared printers throughout your local network, whether the computers are using wired or wireless connections.

Windows users may also connect to these printers using Bonjour. The installers for iTunes and Safari for Windows include Bonjour, which makes zero configuration networking for Windows as easy as in Mac OS X.

For more information about Bonjour, visit:

www.apple.com/macosx/technology/bonjour.html

You also can share a printer throughout your network by connecting it to an AirPort Extreme, AirPort Express, or Time Capsule device. Simply plug the printer into the USB port on the device, add it to the printer list on your Mac or PC, and it's ready for other people to use.

For More Information

To learn more about sharing files, visit www.apple.com/getamac/movetomac

To learn more about AirPort, visit www.apple.com/wifi

To learn more about Time Capsule, visit www.apple.com/timecapsule

To learn more about Macs in business, visit www.apple.com/business