

Bonus Chapter 2: Running Windows with Boot Camp

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Do you sometimes miss that (cough) *other* operating system? Would you like to run Windows programs on your MacBook? Do you miss the familiar confines of the Microsoft world?

No need to be furtive about your Windows yearnings. Although I'm an enthusiastic Mac laptop owner, I also own two smooth-running PCs, and they cohabitate quite well in my office. In fact, I use Windows 7 every day for a number of tasks. So, dear reader, what if I told you that both Mac OS X Mountain Lion and Windows 7 can live together in peace and harmony, *all on the same drive inside your MacBook?*

In this chapter, I discuss the wonder that is Boot Camp — the free utility included with Mountain Lion that allows you to install and run Windows on your laptop's drive. I explain why Boot Camp is (in my opinion) superior in performance to Windows emulator software and also how to switch between OSes with a simple reboot.

Hold on to your hat, MacBook owners: You're about to take a wild trip that proves you can indeed have the best of both worlds.

Figuring Out How Boot Camp Works

First, a bit of technobabble, but I promise it'll be over soon, and I'll try to keep things from getting too boring. In years past, you may have heard that a Mac computer couldn't run Windows out of the box (without expensive

hardware or software), and that Mac software was off-limits to PCs . . . and you'd have heard correct, at least for all but the recent history of the Macintosh computer. The incompatibility was a result of Apple using a series of Motorola and IBM processors (CPUs) that didn't speak the same language as the Intel CPUs used in PCs. Consider a person speaking Korean trying to read a book in Arabic, and you get the general idea.

Then Apple began using Intel processors in Macs, and the ground rules changed. Apple hardware was suddenly compatible with Windows. All that was needed was a bridge to help keep both OSes separate on the same hard drive — and Apple developed Boot Camp. Of course, that bridge works only in one direction because you still can't run Macintosh software on a PC. (Go figure.)

Boot Camp accomplishes this magic by creating a separate Windows partition on your MacBook's drive. The partition holds all your Windows data, including the OS, your program files, and the documents you create while running Windows. Consider this partition as completely separate from your OS X data even though both partitions exist on the same physical hard drive.

Think of it this way. Rebooting your MacBook using Boot Camp is like changing the station on an FM radio. The hardware is the same, but you switch to a different DJ (Windows instead of OS X), and you're listening to different music (two-steppin' with Windows instead of rockin' with OS X). How's *that* for a comparison, Dr. Science?

Naturally, you need free space on your MacBook's drive to install Boot Camp. Apple recommends having 10GB of free space, but I'd bump that up to 40GB. A new Boot Camp installation in Mountain Lion requires Windows 7 (at the time of this writing, Windows 8 is not supported).



When your MacBook is running Windows, it's just as susceptible to virus and spyware attack as any other Windows PC. Make sure to invest in quality antivirus and antispyware protection for your Windows side!

Comparing Boot Camp with Windows Emulators

“But Mark, what about Windows emulators?” you ask. Ah, that's a good point: A number of excellent Mac applications let you run Windows in what's called a *virtual machine*. Although your MacBook is still running OS X, these emulators create an environment where Windows can share system resources such as hard drives, RAM, and even peripherals.

These Windows emulators have four big advantages over Boot Camp:

- ✔ **Versatility:** Unlike Boot Camp, where you're restricted to creating only one Windows partition, an emulator such as Parallels Desktop allows you to create as many virtual machines as you have hard drive space. Plus, you can run multiple versions of Windows, or even other operating systems such as UNIX, Linux, and DOS.
- ✔ **Portability:** An emulator allows you to store your Windows installation on a separate hard drive — even a large-capacity USB flash drive! With Boot Camp, the Windows partition you create must reside on your Mountain Lion boot drive.
- ✔ **Shared data:** If you have Windows and OS X applications that you must run concurrently (such as FileMaker Pro on the Mac side and Microsoft Access on the Windows side) and they use the same data with both Mountain Lion and Windows, an emulator is your only option.
- ✔ **No need to reboot:** With Boot Camp, you must reboot to run your MacBook under Windows. Software Windows emulators don't need a reboot.

“Okay then, Mark, why are you such a fan of Boot Camp?” I'm glad you asked! Here are two major reasons to choose Boot Camp over a Windows emulator:

- ✔ **Performance:** One word, dear reader: *speed*. No software Windows emulator will ever run as fast or perform as trouble-free as Boot Camp. A MacBook running Boot Camp is *actually running as a true Windows PC*, able to access all the system resources Windows demands without an emulator slowing things down. This improved performance makes sense when you think about it. After all, because you're running Parallels Desktop on top of Mountain Lion, your Mac laptop has to devote a significant amount of computing time to just keeping OS X running. In fact, some Windows applications simply won't run well at all under emulation, such as today's memory- and processor-hungry 3-D games.
- ✔ **Peripheral control:** If you're running a software Windows emulator and you plug a USB flash drive into your MacBook, which OS gets to use it? How about your digital camera or that external Blu-ray recorder? Although Parallels Desktop has all sorts of automatic and manual controls you can set to determine which operating system gets to use what, a MacBook running Boot Camp owns everything you plug into it free and clear, with no troublesome conflicts between operating systems arguing over peripherals.

Oh, and don't let me forget what many Mac owners consider the most important advantage for Boot Camp: It's free. You need a licensed copy of the version of Windows you want to run, but there's nothing else to buy.



Remember what I said about Boot Camp modifying your drive? **Do not install Boot Camp without backing up your existing data on your MacBook's drive!** I've never had a problem with Boot Camp, but there's always a first time. In case of catastrophe, you can always use your Time Machine backup to restore your MacBook's operating system and all your data — yes, that's yet *another* good reason for you to pick up an external drive and use Time Machine on your MacBook!

Configuring Boot Camp

Installing Boot Camp is surprisingly easy and takes far less time than it takes to install Windows afterward. Follow these steps:

1. Launch the Boot Camp Assistant.

You can find the Assistant in your Utilities folder, inside your Applications folder. I use Launchpad to reach it quickly: Click the Launchpad icon in the Dock, click the Utilities folder icon, and then click the Boot Camp Assistant icon. (From the keyboard, press ⌘+Shift+U.)



Click the Print Installation & Setup Guide button on the Introduction screen. Keep this additional documentation handy just in case you have questions about running Windows that aren't covered within this chapter.

2. Click Continue at the Introduction screen.

You see the Boot Camp Assistant Support Software screen shown in Figure BC2-1.

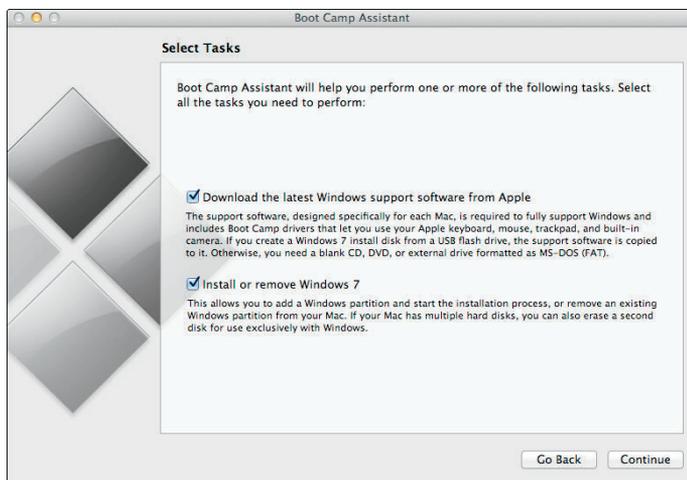


Figure BC2-1:
Yes, you want the Windows support software. Trust me.

3. Make sure the Download the Latest Windows Support Software from Apple check box is selected, and then click Continue.

Boot Camp Assistant can copy these drivers to a blank CD or DVD or an external US flash drive. I think a disc (which you can hang on to in case you need it later) is the easiest choice, but the MacBook Air and Retina models no longer have an optical drive, so the USB flash drive may be a better pick. You load this disc after your Windows installation is complete, and it provides all the drivers that Windows needs for your MacBook's hardware.

4. Choose the size of your Windows partition, and then click Create.

Again, you can devote more drive space to your Windows partition than the amount recommended by the Assistant, but don't forget this important fact: What you reserve for use in Windows cannot be used by OS X Mountain Lion! Therefore, I always suggest a conservative amount. (In other words, don't devote 200GB of your 256GB solid-state drive to your Windows partition because you'll cramp your style in OS X.)

5. Reboot if required.

You may be prompted to launch the Assistant again.

6. Click Start the Windows Installer, and then click Continue.

From this point on, you're running the Windows installation program, just as you would if you were using a PC. (Well, actually you *are* using a PC now.) Follow the on-screen prompts, which differ for each version of Windows.



When prompted by the Windows Installer to choose the partition to format, choose the partition named BOOTCAMP. Formatting any other partition will likely result in the loss of all your OS X files and data. (Again, this is why you should always back up your existing system before putting Boot Camp to work.)

After Windows has been installed, load the disc you burned with the drivers and support software. Windows should automatically run the Boot Camp driver installation program for you. After the drivers are in place, you're ready to do the Microsoft dance.



Are you moving your stuff from Windows (running on your old PC) to . . . well, Windows (running on your MacBook)? If so, the files and folders on your existing PC can be copied directly to Windows running on your Mac by using the Windows Easy Transfer utility.

Switching to Windows

Here are three methods for switching back and forth between your OS X partition and your Windows partition:

- ✔ **From OS X Mountain Lion:** To restart your MacBook in Windows, click System Preferences in the Dock and then click the Startup Disk icon to display the settings you see in Figure BC2-2. Click the Windows partition you created in the list to select it. (The folder icon will bear the Windows logo and will be labeled `Windows` as well.) Click Restart and then click Restart again when asked for confirmation. Your MacBook reboots and loads Windows, and continues to run Windows when started or rebooted until you follow one of the next two methods of returning to OS X.
- ✔ **From Windows:** Right-click the Boot Camp icon in the notification area at the right side of your Windows taskbar — it looks like a slanted square — and choose Restart in Mac OS X from the menu that appears. Again, you'll be asked to confirm your choice. After you click OK, your MacBook reboots and returns to Mountain Lion.
- ✔ **During the boot process:** Need a temporary fix from your other OS? You can reboot from either Mountain Lion or Windows and hold down the Option key when you see the Apple logo. Your Mac displays a nifty row of icons, each representing a bootable OS that your Mac can use. To boot OS X, click the Mountain Lion partition icon. To choose Windows, click the Windows partition icon. Note that when you turn on or reboot your MacBook, it returns to the OS you last selected in the System Preferences Startup Disk pane.

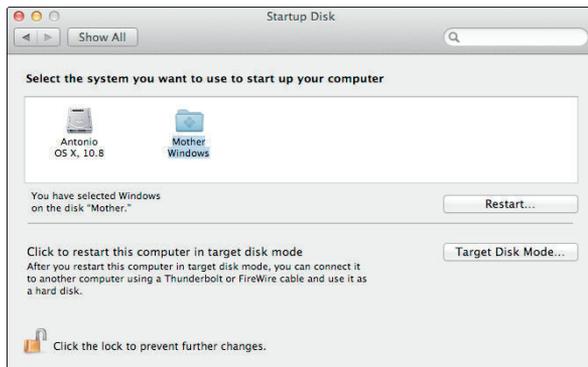


Figure BC2-2:
Preparing
to jump ship
to Windows.

Using the Boot Camp Control Panel

Besides the capability to restart your MacBook in OS X Mountain Lion, the Windows Boot Camp notification icon is also your gateway to a number of other features. Right-click the icon and choose Boot Camp Control Panel from the shortcut menu to display the settings; these will vary depending on the version of Windows you're using and the type of Mac laptop you're running. On the Control Panel, you will find these tabs:

- ✓ **Startup Disk tab:** Choose to reboot in OS X Mountain Lion by clicking the OS X folder and then clicking Restart. (The Startup Disk tab is essentially a Windows version

of Mountain Lion's Startup Disk pane in System Preferences.)

- ✓ **Brightness tab:** Dim or brighten your display by using the Brightness slider.
- ✓ **Remote tab:** Enable or disable remote control by an Apple Remote.
- ✓ **Power tab:** Specify whether your MacBook should restart automatically after a power failure.

If you make any changes in the Boot Camp Control Panel, click OK to save your changes and return to Windows.

Checking for Apple Updates

Apple sometimes releases updates for Boot Camp software and drivers. If you're online, you can easily check for updates to Windows using the Apple Software Update program.

To run Update, click the Start button and click Apple Software Update. The program automatically connects to Apple's servers and displays any updates (including those for the Windows versions of programs such as Safari and iTunes). Select the check box for each update you want to apply and then click the Install button to start the ball rolling.



Although this is a shameless plug, it fits very well at the end of a chapter dedicated to Windows: If you'd like a handy companion guide to Windows 7, Microsoft Office 2010, and the world of PCs, I can highly recommend the book *PCs All-in-One For Dummies*, 5th Edition, also written by yours truly. (As I said at the beginning of this chapter, I draw no favorites between PCs and Macs.)

