Running Microsoft Windows® on a Mac

Introduction
Us Mac users know well that not many software applications we’re required to use in our day to day jobs are multi-platform. In fact, most commercial audio software is Windows-only. But that doesn’t mean we must give up our virus and malware free, reliable, svelte Apple hardware for a clunky PC. Unlike Windows PCs, Macs have the ability to run Mac OS X and other OSs in one of two methods. For either method, the prerequisites are any Intel-based Mac running OS 10.5 Leopard or later, plus a full copy of Windows XP SP2 or later. You’ll need to buy a full standalone copy of Windows. The Windows restore disk that came with another computer will not work.

Dual Boot (Apple Boot Camp)
The first option for running other OSs on your Mac is Apple’s Boot Camp. Boot Camp is Apple’s software tool for converting your Mac into a dual-boot computer. It’s part of OS 10.5 or later, and you may need your Mac OS X installer DVD to use it. If you want to use this method, launch the Boot Camp Assistant found in your Applications/Utilities folder.

Note:
OS X Mountain Lion and OS X Lion only support new installations of Windows. Mac OS X v10.6 or later is required for Windows 7 installations.

Boot Camp is the fastest and most PC-like way of running Windows on your Mac because you are rebooting to run Windows natively, essentially turning your Mac into a Windows PC. This method is great for those wanting maximum performance for 3D modeling/compositing applications or serious gaming. Unfortunately, there are several inconveniences and drawbacks that make this method less useful for day to day work or using Mac and Windows applications at the same time. For one, you can only read Mac files from Windows, not write them. Therefore you need a bigger hard drive partition dedicated to Windows so you’ll have enough room for all your programs and documents. Second, you’re just as vulnerable to viruses and malware as normal PCs, so you may need to invest in some protection software – an added expense and headache. Third, you’ll have to reboot to use the Mac OS and all of your favorite applications, etc. creating unnecessary hassle.

Virtualization (Parallels, VMware Fusion, VirtualBox)
In this Tech Tip, we’re going to focus on the virtualization method. Virtualization software lets you run one operating system inside another, so, for example, you can run a “virtual” Windows machine in a window or on top of your OS X desktop. The benefits of this method are almost endless. You can back up virtual machines like files so that if anything goes awry like a botched driver upgrade or you get a virus, you can just trash the virtual machine and restore the from a back up to be up in running in minutes. You can share files between the virtualized OS and Mac OS X. You can run Mac and Windows Applications simultaneously, side-by-side. You can treat the virtualized OS as another application, quickly quitting or launching as needed, you don’t have to wait for a PC to start up or shut down.

There are three popular software packages now for virtualization on the Mac: Parallels, VMware Fusion, and VirtualBox. Parallels and VMware Fusion are commercial packages available for about $80. Virtual Box is open-source and free, however it does lack some of the refinement and features of the commercial packages. For the best overall user experience and performance, this Tech Tip will detail the installation of Windows using Parallels. The process is very similar on all three packages, so the information presented should be relevant no matter which package you select.

Getting Started
1. The first step is to obtain and install your copy of Parallels. Once installed, launch Parallels Desktop.app in your Applications folder and it should present you the “New Virtual Machine Assistant”. If it does not, select “New...” from the File menu. Select your CD/DVD drive as the “install From” source and make sure your Windows installation disc is in the drive. Then click “Continue”.

2. Click “Next” to create a new virtual machine. You’ll be prompted to give your virtual machine a name, choose a location, and set the amount of memory. It’s recommended to give your virtual machine a username and password as well.

3. Once you’ve set your virtual machine’s preferences, click “Next” to install Windows. You’ll be prompted to choose a Windows installation disc. If you don’t have one, you can choose “Customize Installation” and select a different drive or network location.

4. Click “Install” to begin the installation. The installation process will take several minutes, but you can leave your Mac running for the installation to complete.

5. Once the installation is complete, you’ll be prompted to configure your virtual machine. You can choose to configure your virtual machine now or later.

6. Configure your virtual machine as desired and click “Finish”.

7. Once configured, you can start your virtual machine by selecting it in the Parallels Desktop.app window and clicking the “Start” button.

8. Once your virtual machine is running, you can use it like any other application on your Mac. You can create a new Virtualization (Parallels, VMware Fusion, VirtualBox)

By using the virtualization method, you can have the best of both worlds. You can run your favorite Windows applications on your Mac while still having access to your Mac’s high performance and reliable hardware.
2. In step 2, uncheck the “Express installation” option. Then click “Continue”.

3. In step 3, you may choose how you want the virtual machine to behave. To ease the learning curve for working with virtual machines, you may want to use the “Like a PC” option. This will make the virtual machine behave more like a normal application. If you decide you want more transparent operation later, you can switch to the “Like a Mac” mode later on. Click “Continue”.

4. In step 4, give your virtual machine a name and choose a location to save it. The default settings should work for most. Finally, make sure you check the “Customize settings before installation” option. Click “Create”.

5. After your virtual machine has been created, the settings for it should pop up. In the General settings, you want to set the Memory to at least 512 to 768 MB, but 1 GB or even 2 GB would be best, especially if you’re using Windows 7. It is not advisable to set the virtual machine memory to more than half of your Mac’s memory, however. For this reason, it is best that your Mac have at least 2 GB or memory, preferably 4 GB or higher.

6. Now click on “Options”, then select “Optimization”. Configure the optimization options as shown.

7. Next, select “Sharing” and configure the sharing options as shown.
8. Now click on “Hardware”, then select “Video”. Configure the video options as shown.

9. Next, select “Hard Disk 1” and click the “Edit...” button.

10. Since you can store and access all your documents in your Mac file system, you only need a drive big enough for the Windows OS and programs. This drive can always be resized later as well. By default, Parallels creates an unnecessarily large virtual drive. In this dialog, we can resize that to 20.0 GB or so. Click “Apply” after entering your new size. Click “Close” when finished.

11. Next, select “Network 1” and select “Default Adapter” under “Bridged Network:” from the Type pull down menu. This will ease networking headaches in the virtual machine by causing it to connect directly to the network obtaining its own IP information instead of sharing your Mac’s IP information. Essentially, it acts as just another network computer. The virtual machine will use the default (highest priority) network adapter as set in your Mac OS System Preferences under Network. If you want the virtual machine to use a specific network interface, you may select it here instead. Click “OK” when finished.

12. That completes the configuration of your virtual machine. We’re ready to fire it up and begin the installation of Windows now, so as the graphic says, “Click to start”.
13. After your virtual machine boots up, the Windows installation wizard should appear. Just follow its guided steps.

14. Once underway, installation takes just as long as it does on a real PC, so go fetch a sandwich or grab a coffee – unless you enjoy watching progress bars.

15. Eventually, it will be time to enter some Windows setup parameters like your user name, machine name, etc. Complete the steps as prompted and your Windows installation will finish up and your virtual machine will reboot.

16. After the Windows installation finishes and your virtual machine reboots, you may get this dialog. Click “Continue” as installing these Tools is what provides the magic of Parallels virtualization.

17. After a few moments, the dialog shown should pop up in Windows. Select “Install Parallels Tools” and then follow the prompts in the installer. After the installation of the Parallels Tools has completed, your virtual machine will reboot one more time.

18. You are now running Windows on your Mac! Next, you can install any software you need to get your job done. Software may be downloaded and installed from the internet, local network or directly from CD/DVD just as on a real PC. You’ll be pleased to know that even USB devices such as USB-to-RS232 converters work in your virtual machine just as on a real PC. They even use the same drivers (unfortunately). When you insert a USB device on your Mac, Parallels will ask you if you wish to attach it to the Mac or virtual machine. Enjoy your newfound multi-platform abilities.

For more information, visit www.symetrix.co, or email us at support@symetrix.co.