

# Getting Started with VMware Fusion

VMware Fusion for Mac OS X

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<http://www.vmware.com/products/fusion/support.html>

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# Getting Started with VMware Fusion

## Introduction

VMware Fusion™ enables you to run your favorite Windows applications and PC-only devices on your Intel-based Mac. Designed from the ground up for the Mac user, VMware Fusion makes it easy to take advantage of the flexibility, security, and portability of virtual machines to run Windows and other x86 operating systems side by side with Mac OS X.

## What Is a Virtual Machine?

A virtual machine is a software equivalent of a physical computer that, like the physical machine, runs an operating system and applications. In the case of VMware Fusion, a virtual machine is equivalent to a personal computer (PC). A virtual machine is like having a computer running inside another computer, mimicking the actions of different hardware devices commonly found inside a computer, such as a processor, memory, and a hard drive. It is a software file stored on your Mac that contains Windows and all your applications associated with it.

The Mac that you run a virtual machine on is typically referred to as the *host*. In this context, the virtual machine is referred to as a *guest*.

## What You Can Do with VMware Fusion

With VMware Fusion, Intel-based Mac users have many capabilities.

- **Run your favorite Windows and Linux applications on any Intel-based Mac, without rebooting** – VMware Fusion runs on Mac OS X Snow Leopard and Leopard, and supports over 150 operating systems, including Microsoft Windows 7.
- **Get the most out of your Mac** – With support for 64-bit virtual machines and 8GB of RAM and eight virtual processors per virtual machine in version 3.1, VMware Fusion turns your Mac into a powerhouse.
- **Run a wide range of sophisticated 3D applications and games** – VMware Fusion lets you take advantage of the combination of your Mac's advanced graphics and Windows 7 new desktop with Aero animations. With DirectX 9.0c Shader Model 3 support and OpenGL 2.1 support for Windows, you can run your favorite Windows games and applications better than ever without having to reboot.
- **Create virtual machines easily** – The VMware Fusion New Virtual Machine Assistant guides you through the process of creating a virtual machine. Windows Easy Install and Linux Easy Install make it easier than ever to install your favorite operating system on your Mac.
- **Migrate your Windows PC to a virtual machine effortlessly** – VMware Fusion lets you use your Mac and take your old Windows PC with you. With the VMware Fusion integrated Migration Assistant, you can convert your physical PC into a virtual machine to run on your Mac in a few steps, and access all of your old PC applications and files.
- **Graduate from Boot Camp** – If you have been running Windows using Boot Camp on your Mac, but want to be able to run Mac OS X and Windows side by side, VMware Fusion can directly access your existing Boot Camp partition. You can even import it into a virtual machine, letting you reclaim your disk space.

- **Bring your other virtual machines to VMware Fusion** – If you have been using Parallels Desktop or Microsoft Virtual PC for Mac to run Windows on your Mac, VMware Fusion imports your existing virtual machines and provides stability, performance, and ease of use.
- **Keep Windows safer on your Mac** – With advanced safety features like multiple snapshots and AutoProtect, VMware Fusion enables you to keep your virtual machines safe from unexpected harm. VMware Fusion includes a 12-month complimentary subscription to McAfee VirusScan Plus that you can use to keep Windows spyware and viruses away.

## System Requirements for VMware Fusion

VMware Fusion has the following minimum system requirements:

- Any Mac with an Intel processor
- 1GB of RAM, 2GB recommended
- 700MB of free disk space for VMware Fusion, and at least 5GB of free disk space for each virtual machine
- Mac OS X version 10.5.8 Leopard or later, or 10.6.3 Snow Leopard or later
- Operating system installation CD/DVD or disk image for virtual machines. Windows operating systems available separately from Microsoft and your favorite retailers

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**NOTE** You must have enough memory to run Mac OS X, plus the memory required for each guest operating system and for applications on the Mac and in the virtual machine. See your guest operating system and application documentation for their memory requirements.

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## Install VMware Fusion

You can install VMware Fusion from a CD

### To install VMware Fusion

- 1 Select an installation method.
  - a If you are installing from a CD, insert it and skip to [Step 4](#).
  - b If you are installing from a download, first download VMware Fusion from the VMware Web site at <http://www.vmware.com/mac/>.

Click the **Download** link and follow the subsequent links for an electronic download distribution.

The VMware Fusion disk image has a full version and a light version. The full version has the VMware Tools suite of utilities for all supported operating systems, and the light version has VMware Tools for Windows and Mac OS X Server only, with additional VMware Tools downloadable on demand.

- 2 Click the download link, and save the application to your Mac.

The VMware Fusion disk image is saved to your default download directory. For the full version, the filename is VMware-Fusion-x.x.x-xxxxxx.dmg, where x.x.x is the application version and xxxxxx is the build number for the download release. The light version filename is VMware-Fusion-x.x.x-xxxxxx-light.dmg.

- 3 Double-click **VMware-Fusion-x.x.x-xxxxxx.dmg** or **VMware-Fusion-x.x.x-xxxxxx-light.dmg** to mount it.
- 4 Double-click the **Install VMware Fusion** icon to start the Installation Assistant, and follow its instructions.

- 5 Enter your serial number.

If you do not have a serial number, click **Get Serial Number** to go to the VMware Web site, where you can purchase a VMware Fusion serial number.

You can continue without entering a serial number, but you cannot power on a virtual machine until you enter a valid serial number. Enter your serial number by selecting **VMware Fusion > Buy Now or Enter License**.

- 6 Choose whether to participate in the VMware User Experience Improvement Program. Click **Continue** to make your choice in the Would you like to participate in our User Experience Improvement Program? dialog.

- a (Optional) Click **Learn More** to read a description of the VMware User Experience Improvement Program.

- b Click **Yes** to participate, or **No** if you do not want to participate.

After you install VMware Fusion, you can change the participation setting at any time by selecting **VMware Fusion > Preferences**.

- 7 Click **Install**.

## Upgrade VMware Fusion

If you are upgrading VMware Fusion, you do not need to uninstall the version installed on your computer. Installation and upgrade does not modify existing virtual machines.

When you upgrade an existing VMware Fusion installation, make sure that all your virtual machines are properly shut down and that VMware Fusion is not running.

### To upgrade VMware Fusion

To upgrade the application follow the same steps from [“Install VMware Fusion”](#) on page 8.

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**NOTE** Upgrading to VMware Fusion requires a valid 25-character VMware Fusion 3 serial number. If you do not have one, during installation click **Get Serial Number** on the Serial Number panel, which opens a Web portal where you can purchase an upgrade key.

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After upgrading the VMware Fusion, you must upgrade VMware Tools on your virtual machine.

### To upgrade VMware Tools

The first time you power on your Windows virtual machine, it offers to install VMware Tools. Approve that, and when the Tools installation is done, restart the virtual machine when prompted.

## Start VMware Fusion

When you start VMware Fusion, the Virtual Machine Library window appears, open to the Home panel. From this panel you can start any of the actions described in [“Getting Up and Running.”](#)

### To start VMware Fusion

In the Applications folder, double-click **VMware Fusion**.

For instructions on configuring, running, and closing VMware Fusion, see the VMware Fusion Help.

## Getting Up and Running

You can use one of the following options to get up and running quickly with VMware Fusion:

- Create a Windows virtual machine.
- Use an existing Boot Camp installation.
- Migrate your existing Windows PC.
- Import a Parallels Desktop or Microsoft Virtual PC virtual machine.

## Create a Windows Virtual Machine with Windows Easy Install

When you create a Windows virtual machine, you can use the VMware Fusion Windows Easy Install feature to automatically install Windows and VMware Tools in your virtual machine. VMware Fusion creates your virtual machine, selects the default Windows installation options, and installs VMware Tools, which loads the drivers required to optimize your virtual machine's performance. You can also have Windows Easy Install make your Mac home folder and other folders available to this virtual machine, so that you can share files between the virtual machine and your Mac. Alternatively, you can isolate your virtual machine from your Mac and other virtual machines.

Windows Easy Install is available for the following Windows operating systems:

- Windows 7, Windows Vista, Windows XP, Windows 2000
- Windows Server 2008, Windows Server 2003, Windows 2000 Server

If you are not using one of these Windows operating systems in your virtual machine, or you want to install the operating system manually, see the VMware Fusion Help for details on creating virtual machines.

### To create a Windows virtual machine using Windows Easy Install

- 1 Insert your Windows CD/DVD into your optical drive.

You need a valid Windows product key. Windows CDs that were included with a previous physical computer might be locked to that machine and not work. Check with the PC manufacturer for more information.

- 2 Select **File > New**.

The New Virtual Machine Assistant starts.

- 3 In the Introduction panel, ensure that **Install this operating system** is selected, and click **Continue**.
- 4 In the Windows Easy Install panel, enter your **Display Name** or **Account Name**, **Password** (optional), and **Windows Product Key**.

The entry in the **Display Name** field (Windows XP and earlier) appears in information boxes as the name your Windows software is registered to. It is not the Windows user name. The entry in the **Password** field is the password for the windows administrator account only. VMware does not provide the **Windows Product Key**. It is in the packaging for the Windows operating system CD/DVD.

- 5 In the Integration panel, indicate how the new virtual machine should handle basic file sharing.
  - **More Seamless.** VMware Fusion shares your Mac's documents and applications with Windows. Files on your Mac that Windows supports open in Windows.
  - **More Isolated.** VMware Fusion does not share your Mac's documents and applications with Windows.
- 6 In the Finish panel, click **Finish**.

VMware Fusion installs Windows. This process can take up to 45 minutes. After installing Windows, VMware Fusion installs VMware Tools and powers on the virtual machine.

## Create a Virtual Machine from the Boot Camp Partition

Boot Camp is an application from Apple that enables an Intel-based Mac to run Windows operating systems. Boot Camp creates separate Mac and Windows partitions on your hard disk to create a dual-boot environment, so that you can use either Mac OS X or Windows at boot time, but not both. With VMware Fusion, you can use your Windows Boot Camp partition as a virtual machine. This feature gives you the following abilities:

- Use your Boot Camp virtual machine and your Mac at the same time without rebooting to switch between them.
- Share files easily between your Boot Camp virtual machine and your Mac, through shared folders, and by dragging and dropping files or cutting and pasting text.

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**NOTE** If VMware Tools is not installed, and you reactivate Windows in your Boot Camp virtual machine, and subsequently boot your Boot Camp partition natively, you are prompted to reactivate Windows. Reactivating Windows in your native Boot Camp partition results in your Boot Camp virtual machine requiring reactivation the next time you power it on, and so on. Installing VMware Tools solves this problem. If you have VMware Tools installed, you must reactivate Windows only when you first power on your Boot Camp virtual machine.

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### To create a virtual machine from the Boot Camp partition

- 1 From the Virtual Machine Library window, select **Boot Camp partition**, which is automatically detected, and click the run arrow.
- 2 Enter your Mac password to access the Boot Camp partition.

You must have administrator privileges to use the Boot Camp as a virtual machine. VMware Fusion creates a virtual machine from your Boot Camp partition and starts Windows.

- 3 After Windows boots from your Boot Camp virtual machine, VMware Fusion starts the installation of VMware Tools to enable full virtual machine functionality and optimize performance for your Boot Camp partition when used as a virtual machine. Follow the onscreen instructions and restart your virtual machine when prompted.
- 4 When the VMware Tools installation is complete, reboot your computer.

The first time you power on your Boot Camp virtual machine after installing VMware Tools, you must reactivate Windows.

## Migrating an Existing PC to a Virtual Machine

VMware Fusion makes it easy for Windows users to make the switch to a Mac. To migrate from a physical PC to VMware Fusion, use the Migration Assistant, available from the Virtual Machine Library or select **File > Migrate Your PC**. After you install the VMware Fusion PC Migration Agent on your PC, the Migration Assistant can make a network connection and convert the Windows PC to a VMware Fusion virtual machine.

For details about how to migrate your physical PC to a virtual machine, see the VMware Fusion Help.

## Import an Existing Parallels Desktop or Microsoft Virtual PC 7.0 Virtual Machine

VMware Fusion makes it easy to import your existing virtual machine to VMware Fusion.

### To import an existing virtual machine to your Mac

- 1 Start VMware Fusion and select **File > Import**.
- 2 Select your virtual machine and click **Import**.

For more information about importing an existing virtual machine, see the VMware Fusion Help.

## Using Mac Keyboards in a Virtual Machine

PC and Mac keyboards have different layout, so you must press certain key combinations to enable certain PC commands on a Mac keyboard. See [Table 1](#). For keys with no keyboard equivalent, VMware Fusion provides the **Send Key** item in the **Virtual Machine** menu. To learn more about keyboard and mouse options in VMware Fusion, see the VMware Fusion Help.

**Table 1.** PC and Mac Keyboards

PC Keyboard	Apple External Keyboard	MacBook and MacBook Pro Built-In Keyboard
Print Screen	F14	Select <b>Virtual Machine</b> > <b>Send Key</b>
Scroll Lock	F15	Select <b>Virtual Machine</b> > <b>Send Key</b>
Pause/Break	F16	Select <b>Virtual Machine</b> > <b>Send Key</b>
Backspace	delete	delete
delete  (Forward Delete)	delete 	fn+delete
Insert	help (early models)	Select <b>Virtual Machine</b> > <b>Send Key</b> > <b>help</b>
Num Lock	clear	fn+num lock F6
Command (Windows logo key—between Ctrl and Alt keys)		
Alt	alt option	alt option

**NOTE** On the MacBook and MacBook Pro built-in keyboards, the function keys are not accessible unless you press Fn plus the appropriate Function key.

## Sending the Ctrl-Alt-Delete Command to a Virtual Machine

You can use a VMware Fusion command to send the Ctrl-Alt-Delete keystroke combination to a Windows virtual machine. You can send the command in any of the following ways.

- Select **Virtual Machine > Send Ctrl-Alt-Del**.
- If you are using an external PC keyboard, press Ctrl+Alt+Del.
- On a full-sized Mac keyboard, press Fwd Del+Ctrl+Option. The Forward Delete key (⌫) is below the Help key.
- On a Mac laptop keyboard, press Fn+Ctrl+Option+Delete.

## Quit Your Virtual Machine

You can quit using a virtual machine by either suspending it or shutting it down. Using the **Suspend** command instead of **Shut Down** lets you get back up and running faster.

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**NOTE** Boot Camp virtual machines do not support the suspend and snapshot features because you can reboot into Windows using Boot Camp, which would invalidate suspend and snapshots.

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### To quit a virtual machine

Select a method to quit the virtual machine.

- Select **Virtual Machine > Suspend** to save the current state of your virtual machine, including all running applications, so you can return to this state without restarting the operating system in your virtual machine.
- Select **Virtual Machine > Shut Down** to completely shut down the operating system and the virtual machine.

## VMware Fusion Resources

To learn about available VMware support offerings, registering a product, or creating a technical support request, see the VMware support portal at <http://www.vmware.com/go/fusionsupport>.

You can also find information about using VMware Fusion at the following self-help sources:

- VMware Fusion has a rich, searchable help system available from the **Help** menu.
- You can find self-paced video tutorials and answers to frequently asked questions through the VMware support portal at <http://www.vmware.com/go/fusionsupport>.
- VMware recommends joining the VMware Fusion Community at <http://www.vmware.com/go/fusionforums>. The VMware Fusion Community Forum is where users can exchange information, questions, and comments with each other to get the most out of VMware Fusion.

## Supported Guest Operating Systems

VMware Fusion supports over 150 guest operating systems, including most versions of Windows, and including Mac OS X Server, Linux, Solaris, and FreeBSD. For guest operating system support and known issues, go to the VMware Web site and click the **Support & Downloads** tab. Under Support Resources, click the **Compatibility Guides** link.