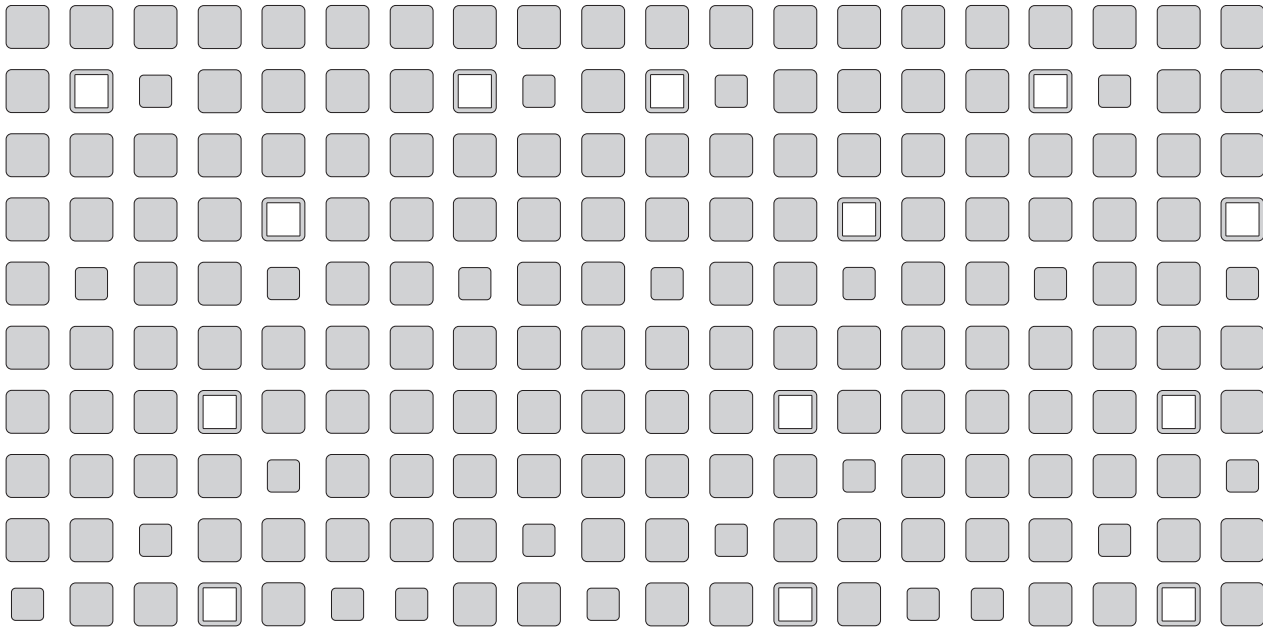


VMware Virtual Machine Importer

User's Manual



VMware, Inc.

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Please note that you will always find the most up-to-date technical documentation on our Web site at <http://www.vmware.com/support/>.

The VMware Web site also provides the latest product updates.

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1

CHAPTER

Introducing VMware Virtual Machine Importer

This chapter includes the following sections:

- [Virtual Machine Importer Overview on page 6](#)
- [Importer Requirements on page 7](#)

Virtual Machine Importer Overview

The VMware Virtual Machine Importer allows you to import virtual machines from Microsoft® Virtual Server and Virtual PC, and Symantec® LiveState Recovery system images to the following VMware platforms:

- Workstation 5.x and VMware Server 1.0
- Legacy Virtual Machines (for example, virtual machines compatible with Workstation 4.x, GSX Server 3.x, ESX Server 2.x, and ACE 1.x)

The importer is a wizard that outputs a completely new VMware virtual machine based on the input virtual machine or system image. The newly-migrated VMware virtual machine retains the configuration of the original virtual machine or image.

The migration process is non-destructive, so you can continue to use the original virtual machine with Virtual PC, or the original system image with LiveState Recovery. However, if you plan to run a new VMware virtual machine on the same network as the original Virtual PC virtual machine or Microsoft Virtual Server virtual machine, you must modify the network name and IP address on one of the virtual machines, so the original and new virtual machines can coexist properly.

Note: Beginning with Workstation release version 5.5 and VMware Server 1.0, the VMware Virtual Machine Importer features are incorporated into the Workstation and the VMware Server software. When you upgrade to Workstation version 5.5 and VMware Server 1.0, you no longer need the separate VMware Virtual Machine Importer application to convert a Microsoft Virtual PC virtual machine and Microsoft Virtual Server virtual machine, or a Symantec LiveState Recovery system image to a VMware virtual machine: you can open and convert virtual machines and system images directly from Workstation or the VMware Server. See the user's manual for Workstation or VMware Server.

Benefits of the Importer

The importer lets you convert existing Virtual PC virtual machines, Microsoft Virtual Server virtual machines, and LiveState Recovery system images to VMware virtual machines, allowing you to:

- Avoid reinstalling operating systems and applications for system configurations you use often.
- Overcome legacy migration barriers — certain legacy systems may be impossible to recreate through reinstallation.

Importer Requirements

Requirements for the importer include the following.

Importer — Application Requirements

The importer runs on the following Microsoft Windows operating systems: Windows NT, Windows 2000, Windows Server 2003, Windows Server 2003 R2, and Windows XP Professional.

Note: Although the importer operates only on Windows, after the migration you can transfer the virtual machine to the VMware-supported host platform of your choice.

The Virtual Machine and System Image — Input Requirements

- System images can be imported from Symantec LiveState Recovery.
- Virtual machines can be imported from Microsoft Virtual PC version 7 and later.
- Virtual machines can be imported from any version of Microsoft Virtual Server.
- Virtual machines from Macintosh versions of Virtual PC are not supported.
- Virtual machines must be powered off before you attempt the migration process. Suspended virtual machines cannot be migrated.
- The operating system on the source Virtual PC or Virtual Server virtual machine must be a Windows guest operating system — but not Windows 9x — supported by the intended VMware platform (for example, VMware Workstation 4 or 5). See the VMware Web site for a list of supported operating systems: www.vmware.com/support/guestnotes/doc/index.html

Note: Virtual PC and Virtual Server virtual machines with Windows 9x, and non-Windows guest operating systems (for example, Linux and DOS), are not compatible with VMware Virtual Machine Importer. This is true even when the destination VMware platform otherwise supports that guest operating system.

The VMware Virtual Machine — Output Compatibility

- The resulting VMware virtual machine can be used with Workstation 4.x, Workstation 5.x, or VMware Server 1.0.

Note: Workstation 4.x virtual machines are compatible with VMware GSX Server 3.0, ESX Server 2.x, and ACE 1.x.

How Virtual Machine and System Image Settings Are Affected

The VMware virtual machine created by the importer contains an exact copy of the disk state from your source virtual machine or system image, with the exception of some hardware-dependent drivers and, sometimes, the mapped drive letters.

Settings from the source computer that remain identical include:

- Operating system configuration (computer name, security ID, user accounts, profiles and preferences, and so forth)
- Applications and data files
- Each disk partition's volume serial number

Since the target and the source virtual machines or system images have the same identities (name, SID, and so on), running both on the same network can result in conflicts. If you are planning to redeploy the source virtual machine or system image, be aware of this issue and do not run both the source and target images or virtual machines on the same network at the same time.

You can resolve the duplicate ID problem by using additional tools, such as the Windows 2000 System Preparation Tool (Sysprep). For example, if you use Virtual Machine Importer to test the viability of running a Virtual PC virtual machine as a VMware virtual machine without first decommissioning the original Virtual PC machine, you need to resolve the duplicate ID problem.

Refer to [Changes to Virtual Hardware on page 25](#) for a discussion of possible migration issues.

Installing the VMware Virtual Machine Importer

This chapter includes the following sections:

- [Installing the VMware Virtual Machine Importer on page 10](#)
- [Uninstalling or Repairing the VMware Virtual Machine Importer on page 13](#)

Installing the VMware Virtual Machine Importer

You can install the VMware Virtual Machine Importer onto a physical machine or virtual machine.

Note: Workstation version 5.5 and VMware Server 1.0 include the importer. If you have these applications installed, you do not need the standalone VMware Virtual Machine Importer. However, the standalone VMware Virtual Machine Importer v1.5 is compatible with Workstation 5.5 and VMware Server 1.0. You can install both programs on the same machine. The Windows control panel Add or Remove Programs will contain entries for VMware Virtual Machine Importer 1.5, Workstation 5.5, and VMware Server 1.0. The Virtual Machine Importer files will remain until you uninstall both the importer and Workstation applications.

Caution: The standalone VMware Virtual Machine Importer v1.0 is not compatible with Workstation 5.5 and VMware Server 1.0. If you currently have Workstation 5.5 or VMware Server 1.0 installed, do not attempt to install VMware Virtual Machine Importer v1.0. The version 1.0 importer cannot be installed over Workstation 5.5 or VMware Server 1.0. Attempting this installation will damage the Workstation installation and disable the import capability built into Workstation 5.5 or VMware Server 1.0.

Follow these steps to install the VMware Virtual Machine Importer:

1. Make sure the importer requirements have been met. See [Importer Requirements on page 7](#).
2. Obtain the latest version of the VMware Virtual Machine Importer.

Check with your VMware Sales representative or see the VMware Web site: www.vmware.com

Caution: Copy the program and run the installer locally. Do not run the importer installer through Terminal Services.

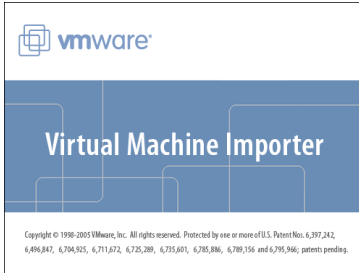
3. Start the installer.

Go to the folder that contains the installer file:

`VMware-VMimporter-1.5.0-<xxxx>.exe` file, where **<xxxx>** is the name of the build. This file is on the application CD, or in the local directory to which you downloaded the installer.

Double-click the file.

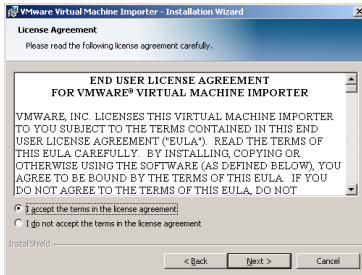
A splash panel appears momentarily.



4. The importer Installation Wizard opens. Click **Next**.

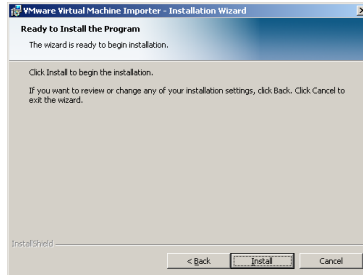


5. Acknowledge the license agreement.



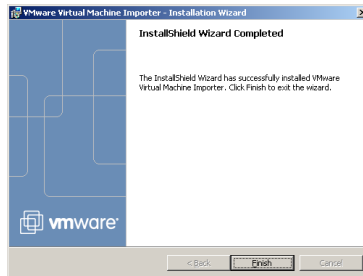
Select **I accept the terms in the license agreement** and click **Next**.

- In the panel Ready to Install the Program, click **Install**.

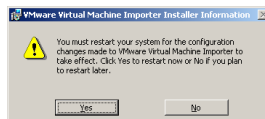


Various messages indicate the progress of the installation.

- When the installation is complete, click **Finish**.



- You may have to restart your system before you can use the Virtual Machine Importer.



You have finished installing the VMware Virtual Machine Importer.

Uninstalling or Repairing the VMware Virtual Machine Importer

To uninstall or reinstall the VMware Virtual Machine Importer:

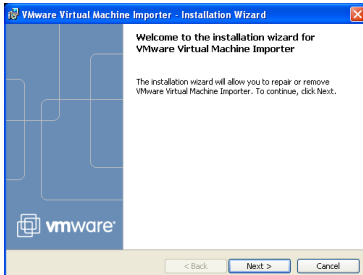
1. Start the VMware Virtual Machine Importer installer.

Go to the folder that contains the installer file:

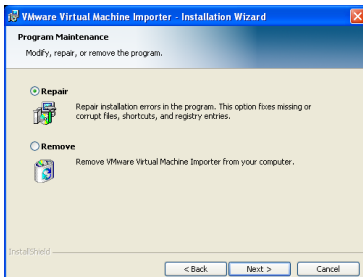
`VMware-VMimporter-1.0.0-<xxxx>.exe` file, where **<xxxx>** is the name of the build. This file is on the Application CD, or in the local directory to which you downloaded the installer.

Double-click the file.

2. The importer wizard opens. Click **Next**.



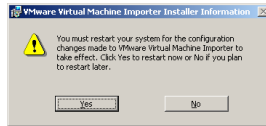
3. Select **Repair** or **Remove**.



Select **Repair** to verify and reinstall any damaged components of the importer

Select **Remove** to uninstall the importer.

4. Depending on the changes you make, the installer may ask you to reboot your machine.



You have finished repairing, or removing the importer.

CHAPTER 3

Using the VMware Virtual Machine Importer

Use the VMware Virtual Machine Importer to create a new VMware virtual machine from a Microsoft® Virtual PC virtual machine or a Symantec® LiveState Recovery system image in a few simple steps.

To convert a virtual machine or system image using the Import command:

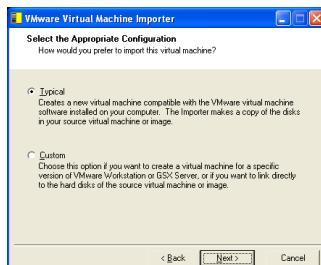
1. If you are importing a Virtual PC virtual machine, make sure the virtual machine is powered off.

Note: You cannot import a virtual machine while it is operating.

2. To launch the VMware Virtual Machine Importer, from your Windows start menu, select **All Programs > VMware > VMware Virtual Machine Importer**. The VMware Virtual Machine Importer Wizard starts automatically. From the opening panel, click **Next**.



3. Select the configuration and click **Next**.

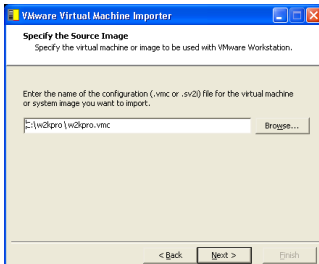


Typical — This configuration is appropriate for most use.

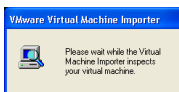
Custom — Custom configurations are useful if

- You run Workstation 5.x or VMware Server 1.0, but you need to create a legacy virtual machine for use with VMware Workstation 4, GSX 3.x, ESX 2.x, or VMware ACE1.x.
- You run Workstation 5.x or VMware Server 1.0, and you prefer not to make a copy of the virtual disks of the source virtual machine or system image. You might make this choice to save disk space. The migrated VMware virtual machine uses the virtual disks of the source virtual machine or system image.

- Browse or (type the path) to the source Virtual PC virtual machine. Click **Next**.

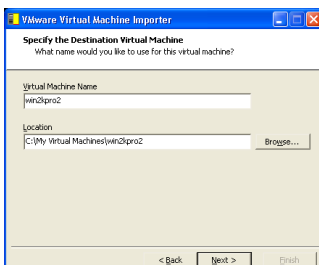


The importer inspects the file.



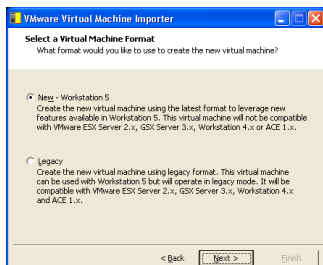
Note: If you are running Workstation on a system running Microsoft Windows 2000 or later, and you are importing a Microsoft Windows NT 4.0 virtual machine or image, a warning panel is displayed, advising that the import process will upgrade any NTFS partitions in the resulting virtual machine to a newer version of the NTFS file system. An upgraded file system is compatible with Windows 4.0. The operating system and applications will work normally. However, some utilities shipped with Windows NT 4.0, including chkdsk and defrag, will not operate properly. Microsoft provides hotfix 872952 for this issue. To avoid upgrading your file system in this case, press **Cancel** to end the import, and run the importer from a computer running Windows NT to import the virtual machine or image.

- Browse (or type the path) to the location where you want to create a VMware virtual machine and click **Next**.



Steps 6 and 7 refer to the custom configuration. If you selected the typical configuration in step 3, skip to step 8.

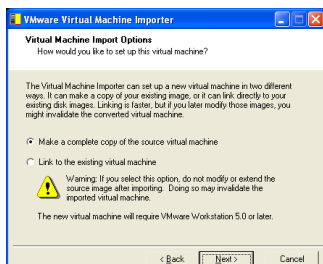
6. Select the format of the virtual machine.



- Select **New** if you want to use the virtual machine only with Workstation 5.x or VMware Server 1.0.
- Select **Legacy** if you want to use the virtual machine with Workstation 4, ESX 2.x, GSX Server 3.x or VMware ACE 1.x.

Click **Next**.

7. Select the import options for the new virtual machine.

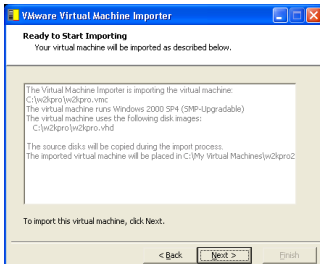


- **Make a complete copy of the source virtual machine** — This creates a VMware virtual machine with no dependencies on the original virtual machine or system image.
- **Link to the existing virtual machine** — This creates a VMware virtual machine that shares the virtual disk of the source virtual machine or system image. If you chose to create a legacy virtual machine in step 7, this option is disabled.

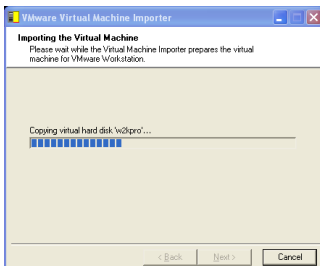
Note: If you choose to link to the existing virtual machine for a Virtual PC virtual machine, opening the original source virtual machine in Virtual PC may invalidate the imported virtual machine.

Click **Next**.

- Review the settings. To make changes, click **Back**. To proceed, click **Next**.

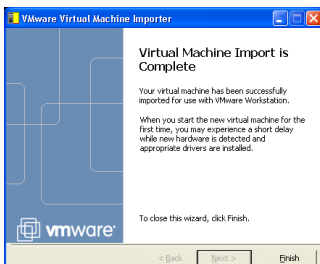


Virtual Machine Importer creates a VMware virtual machine from the source virtual machine or system image.



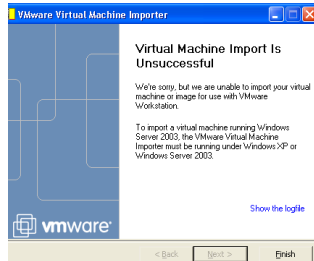
A progress bar appears. To stop the migration, click **Cancel**.

The import process can often take more than a minute per gigabyte of disk space of the migrated virtual machine. When the migration is complete, the wizard displays a completion panel.



- Click **Finish**.

If the migration is not successful, the wizard displays a panel like the following. To see the log file for the unsuccessful migration, click **Show the logfile**.



4

CHAPTER

Using the VMware Virtual Machine Importer from the Command Line

To import a virtual machine or system image from the Windows command line, use the following syntax:

```
v2vapp [sourceVMimagepath] [targetVMname] [targetVMpath]
[options]
```

The following table shows the options available.

Option	Name	Description
-a	(auto)	Launch the virtual machine after migration.
-f	(fast)	Share the virtual disk of the virtual machine or system image. This option requires Workstation 5.
-lxxx	(log)	Write the logfile to xxx.

CHAPTER 5

Troubleshooting the Importer

This chapter describes known issues with the importer.

- [Importer Installation Issues on page 24](#)
- [Virtual Machine Migration Issues on page 25](#)
- [Technical Support Resources on page 27](#)

Importer Installation Issues

Importer Installation Wizard Interrupted

Installation can fail with a message saying that the installation was interrupted.

The following are possible workarounds.

- Verify that you do not have a previous installation of the importer.
If you have a previous installation of the importer, use the Add/Remove Programs control panel to remove the previous installation.
Remove any references to Virtual Machine Importer from the registry entry:
HKEY_LOCAL_MACHINE\SOFTWARE\VMware, Inc.
- Delete any previous failed installation source files or folders from your **Temp** directory, or move the **Temp** directory to another folder during the installation.

Virtual Machine Migration Issues

Changes to Virtual Hardware

Most migrated applications should function correctly in the VMware virtual machine because their configuration and data files have the same location as the source virtual machine. However, applications might not work if they depend on the specific characteristics of the underlying hardware — such as the serial number or the device manufacturer.

When troubleshooting after migration, keep in mind the following hardware changes:

- The CPU model and serial number (if activated) may be different after the migration. They correspond to the physical computer hosting the VMware virtual machine.
- The Ethernet adapter is different (AMD™ PCNet™ or VMXnet) with a different MAC address. Each interface's IP address has to be individually reconfigured.
- The graphics card is different (VMware SVGA card).
- The number of disks and partitions is the same, but each disk device has a different model and different manufacturer strings.
- The primary disk controllers are likely to be different from the source machine's.
- Applications may not work if they depend on devices that are not available from within a virtual machine.

Importer Fails to Migrate Virtual PC with More Than Six PCI Devices

importer supports migration of only six PCI devices. If you have a virtual machine or system image with more than six PCI devices, the importer does not import all of them.

Workaround: Remove the default audio controller or another virtual PCI device you don't require before you import a virtual machine or system image with the importer.

Virtual Machine or System Image Shared Folder Settings Not Migrated

The importer does not support the migration of shared folders.

Workaround: Recreate shared folders in your VMware virtual machine after migration.

Windows NT4 Ethernet Adapter Not Migrated Correctly

If your Virtual PC virtual machine does not have an AMD PCnet-PCI-II compatible Ethernet adapter, it can migrate improperly.

Workaround: After you migrate a Windows NT4 virtual machine, install a new virtual Ethernet adapter, and then install VMware Tools.

Failed to Impersonate Client

After you select the `.vmc` or `.sv2i` file, the wizard could finish with the error:
`Failed to impersonate client before deleting drive letter.`

Workaround: Not available.

No Keyboard or Mouse in Migrated Virtual Machine

After you import a virtual machine or system image to VMware, the mouse and keyboard do not work in the new machine. The mouse and keyboard are not available in the guest operating system, but they are available in the BIOS.

Workaround: Reset the virtual machine.

Importer Reports Error When Converting Virtual PC Disk Files with Duplicate Names

During the import process, the importer writes all the Virtual PC disk files to the same target folder. If the Virtual PC virtual machine has virtual disk files (*.vhd) of the same name on different paths, the import process fails when it attempts to write target virtual disks with duplicate names into the destination folder. The completion panel of the VMware Virtual Machine Importer Wizard displays the message: `The Virtual Machine Importer encountered a problem while copying the disks of the source virtual machine.` The log file shows the error message `The file already exists.`

Workaround: Ensure that each Virtual PC .vhd file has a unique name:

1. In Virtual PC Console, remove the disk you wish to rename (set the hard disk value to None).
2. Rename the .vhd file corresponding to the disk you just removed.
3. In Virtual PC Console, add the renamed disk file.
4. Close Virtual PC Console.

The importer should successfully convert all the disks.

Technical Support Resources

If you have problems while running the Virtual Machine Importer, please submit a support request using the support request form on the VMware Web site at:

www.vmware.com/requestsupport.

Additional Resources

Refer to the following for additional information.

General VMware Web site — www.vmware.com

Log case issues Web site — www.vmware.com/support

New features requests email address — V2V@vmware.com

Education services email — education@vmware.com

Technical support Web site — www.vmware.com/support

Consulting services email — consulting@vmware.com

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