

# VMware vCenter Converter Standalone User's Guide

vCenter Converter Standalone 6.0

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# Contents

About This Book	7
<b>1 Introduction to VMware vCenter Converter Standalone</b>	<b>9</b>
Migration with Converter Standalone	9
Converter Standalone Components	10
Cloning and System Configuration of Physical and Powered On Virtual Machines	10
Hot Cloning of Physical and Virtual Powered On Machines	11
Remote Hot Cloning of Powered On Source Machines That Are Running Windows	11
Remote Hot Cloning of Powered On Source Machines That Are Running Linux	13
Types of Data Cloning Operations	14
Volume-Based Cloning	14
Disk-Based Cloning	15
Full and Linked Clones	15
Using Converter Standalone with Virtual Machine Sources and System Images	15
System Settings Affected by Conversion	16
Changes to Virtual Hardware After Virtual Machine Migration	16
<b>2 System Requirements</b>	<b>19</b>
Supported Operating Systems	19
Supported Firmware Interfaces	20
Supported Source Types	21
Supported Destination Types	22
Supported Source Disk Types	23
Supported Destination Disk Types	24
Support for IPv6 in Converter Standalone	25
Installation Space Requirements	25
Screen Resolution Requirements	26
Configuring Permissions for vCenter Users	26
TCP/IP and UDP Port Requirements for Conversion	26
Requirements for Remote Hot Cloning of Windows Operating Systems	28
Ensure that Windows Firewall Does Not Block File and Printer Sharing	28
Prepare the Guest Operating System for Customization	29
<b>3 Conversion Limitations</b>	<b>31</b>
Conversion Limitations for Powered On Machines	31
Conversion Limitations for VMware Virtual Machines	31
Conversion Limitations for Third-Party Virtual Machines or System Images	32
Limitations Related to Creating Snapshots of Windows Sources	33
<b>4 Installing and Uninstalling Converter Standalone</b>	<b>35</b>
Perform a Local Installation on Windows	35

Perform a Client-Server Installation in Windows	36
Perform a Command-Line Installation in Windows	38
Command-Line Options for Windows Installation	38
Modify Converter Standalone in Windows	39
Repair Converter Standalone in Windows	40
Uninstall Converter Standalone in Windows	41
Connect to a Remote Converter Standalone Server	41

## 5 Convert a Physical or Virtual Machine 43

Start the Wizard for a Conversion	44
Select a Source Machine to Convert	44
Select a Powered On Windows Machine to Convert	45
Select a Powered On Linux Machine to Convert	46
Select an ESX/ ESXi or vCenter Server Virtual Machine to Convert	46
Select a VMware Hosted Virtual Machine to Convert	48
Select a Backup Image or a Third-Party Virtual Machine to Convert	48
Select a Hyper-V Server Virtual Machine to Convert	49
Select a Destination for the New Virtual Machine	50
Select a Managed Destination	50
Select a Hosted Destination	52
Configure the Hardware of the Destination Virtual Machine	53
Organize the Data to Be Copied on the Destination Machine	53
Edit the Number of Processor Sockets and Cores	63
Allocate Memory for the Destination Virtual Machine	63
Select a Disk Controller for the Destination Virtual Machine	64
Configure the Network Settings of the Destination Virtual Machine	65
Configure the Network for the Helper Virtual Machine	65
Configure the Software on the Destination Virtual Machine	66
Customize the Windows Guest Operating System	66
Install VMware Tools on the Destination Virtual Machine	70
Remove System Restore Checkpoints	70
Configure the Conversion Job	71
Set the Startup Mode for Destination Services	72
Stop Services Running on the Source Machine	73
Synchronize the Destination Machine with Changes Made to the Source Machine	73
Power Off the Source Machine After Conversion	74
Power On the Destination Virtual Machine After Conversion	75
Limit the Amount of Resources Used by the Conversion Job	75
Uninstall Converter Standalone Agent from the Source Machine	76
Review the Summary and Submit the Conversion Job	76

## 6 Configure Virtual Machines 79

Save Sysprep Files	79
Start the Configuration Wizard	80
Select a Source Machine to Configure	80
Select a vSphere Virtual Machine to Configure	81
Select a VMware Desktop Virtual Machine to Configure	82

Select the Options to Configure	83
Install VMware Tools on a Virtual Machine	83
Customize the Windows Guest Operating System	83
Remove System Restore Checkpoints	87
Reconfiguring a Virtual Machine To Boot Properly	87
Review and Submit the Configuration Job	87
<b>7 Manage Conversion and Configuration Jobs and Tasks</b>	<b>89</b>
Manage Jobs in the Job List	89
Add a Job to the Job List	90
View the Running Task of a Job	90
Deactivate a Job	90
Delete a Job	91
Create a Job by Copying an Existing Job	91
Filter the Jobs in the Jobs List	91
Add a Synchronization Task to a Conversion Job	92
Manage Tasks in the Task List	93
Control the Number of Tasks Running Concurrently	93
Set the Number of Data Connections per Task	94
View the Job to Which a Task Belongs	94
Cancel a Task	95
Filter the Tasks in the Task List	95
Verify Jobs and Tasks Progress and the Log Files	96
View Task Progress	96
Export the Log Files for a Job	97
Export the Log Files for a Task	97
Back-End and Client Log Files Locations	97
Index	99



# About This Book

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The *VMware vCenter Converter Standalone User's Guide* provides information about installing and using VMware® vCenter Converter Standalone.

## Intended Audience

This book is intended for users who want to perform the following tasks:

- Install, upgrade, or use Converter Standalone
- Convert physical and virtual machines into VMware virtual machines

The material is written for information systems engineers, software developers, QA engineers, trainers, salespeople who run demonstrations, and anyone who wants to create virtual machines.

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# Introduction to VMware vCenter Converter Standalone

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# 1

VMware® vCenter Converter Standalone is a product to convert virtual and physical machines to VMware virtual machines. You can also configure existing virtual machines in your vCenter Server environment.

Converter Standalone eases the exchange of virtual machines among the following products.

- VMware hosted products can be both conversion sources and conversion destinations.
  - VMware Workstation
  - VMware Fusion™
  - VMware Player
- Virtual machines running on an ESX or ESXi instance that vCenter Server manages can be conversion sources and the corresponding ESX, ESXi, and vCenter Server instances can be conversion destinations.
- Virtual machines running on unmanaged ESX or ESXi hosts can be conversion sources and the corresponding ESX or ESXi hosts can be conversion destinations.

This chapter includes the following topics:

- [“Migration with Converter Standalone,”](#) on page 9
- [“Converter Standalone Components,”](#) on page 10
- [“Cloning and System Configuration of Physical and Powered On Virtual Machines,”](#) on page 10
- [“Types of Data Cloning Operations,”](#) on page 14
- [“Using Converter Standalone with Virtual Machine Sources and System Images,”](#) on page 15
- [“System Settings Affected by Conversion,”](#) on page 16
- [“Changes to Virtual Hardware After Virtual Machine Migration,”](#) on page 16

## Migration with Converter Standalone

Migration with Converter Standalone involves converting physical machines, virtual machines, and system images for use in VMware hosted and managed products.

You can convert virtual machines that vCenter Server manages for use in other VMware products. You can use Converter Standalone to perform a number of conversion tasks.

- Import running remote physical and virtual machines as virtual machines to standalone ESX/ESXi or to ESX/ESXi hosts that vCenter Server manages.
- Import virtual machines hosted by VMware Workstation or Microsoft Hyper-V Server to ESX/ESXi hosts that vCenter Server manages.
- Import third-party backup or disk images to ESX/ESXi hosts that vCenter Server manages.

- Export virtual machines managed by vCenter Server hosts to other VMware virtual machine formats.
- Configure virtual machines managed by vCenter Server so that they are bootable, and install VMware Tools or customize their guest operating systems.
- Customize guest operating systems of virtual machines in the vCenter Server inventory (for example, change the host name or network settings).
- Reduce the time needed to set up new virtual machine environments.
- Migrate legacy servers to new hardware without reinstalling operating systems or application software.
- Perform migrations across heterogeneous hardware.
- Readjust volume sizes and place volumes on separate virtual disks.

## Converter Standalone Components

The Converter Standalone application consists of Converter Standalone server, Converter Standalone worker, Converter Standalone client, and Converter Standalone agent.

<b>Converter Standalone server</b>	Enables and performs the import and export of virtual machines. The Converter Standalone server comprises two services, Converter Standalone server and Converter Standalone worker. The Converter Standalone worker service is always installed with the Converter Standalone server service.
<b>Converter Standalone agent</b>	The Converter Standalone server installs the agent on Windows source machines to import them as virtual machines. You can choose to remove the Converter Standalone agent from the source machine automatically or manually after the import is complete.
<b>Converter Standalone client</b>	The Converter Standalone server works with the Converter Standalone client. The client component consists of the Converter Standalone user interface, which provides access to the Conversion and the Configuration wizards, and lets you to manage the conversion and the configuration tasks.

## Cloning and System Configuration of Physical and Powered On Virtual Machines

When you convert a source machine, Converter Standalone uses cloning and system reconfiguration steps to create and configure the destination virtual machine so that it works successfully in vCenter Server and hosted environments. Because the migration process does not delete or modify the source, you can continue to use the original source machine after the conversion completes.

Cloning is the process of copying the source disks or volumes for the destination virtual machine. Cloning involves copying the data on the source machine's hard disk and transferring that data to a destination virtual disk. The destination virtual disk might have a different size, file layout, and other characteristics, and thus might not be an exact copy of the source disk.

System reconfiguration adjusts the migrated operating system so that it to functions on the new virtual hardware .

If you plan to run an imported virtual machine on the same network as the source machine, you must modify the network name and IP address on one of the machines so that the source and destination machines can coexist. Besides, you must make sure that the Windows source machine and the destination virtual machine have different computer names.

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**NOTE** Before converting a Windows machine, verify that you have the proper Windows license.

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## Hot Cloning of Physical and Virtual Powered On Machines

With Converter Standalone, you can perform hot cloning.

Hot cloning, also called live cloning or online cloning, requires converting the source machine while it is running its operating system. Hot cloning lets you clone machines without shutting them down.

Because processes continue to run on the source machine during conversion, the resulting virtual machine is not an exact copy of the source machine.

When converting Windows sources, you can set Converter Standalone to synchronize the destination virtual machine with the source machine after hot cloning. Synchronization is performed by transferring from the source to the destination the blocks that were changed during the initial cloning period. To avoid loss of data on the destination virtual machine, Converter Standalone can shut down certain Windows services before the synchronization. Based on your settings, Converter Standalone shuts down the selected Windows services so that no critical changes occur on the source machine while destination is being synchronized.

Converter Standalone can shut down the source machine and power on the destination machine when the conversion process is complete. When combined with synchronization, this action allows seamless migration of a source machine to a virtual machine destination. The destination machine takes over the source machine operations with the least possible downtime.

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**NOTE** When you hot clone dual-boot systems, you can clone only the default operating system to which the `boot.ini` file or the BCD points. To clone the nondefault operating system, change the `boot.ini` file or the BCD to point to the other operating system and reboot. After the other operating system is booted, you can hot clone it. If your second operating system is Linux, you can boot it and clone it using the standard procedure for cloning Linux powered on source machines.

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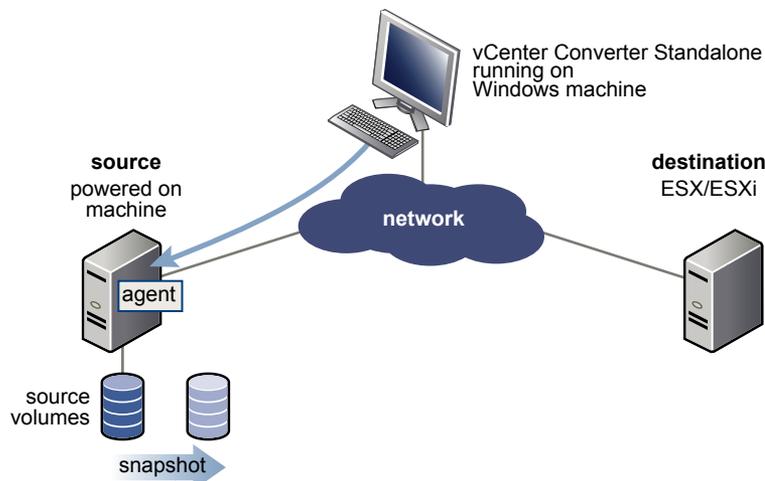
## Remote Hot Cloning of Powered On Source Machines That Are Running Windows

You can use the Conversion wizard to set up conversion tasks and Converter Standalone components perform all of the cloning tasks.

The following workflow is an example of remote hot cloning in which the powered on machine being cloned experiences no downtime.

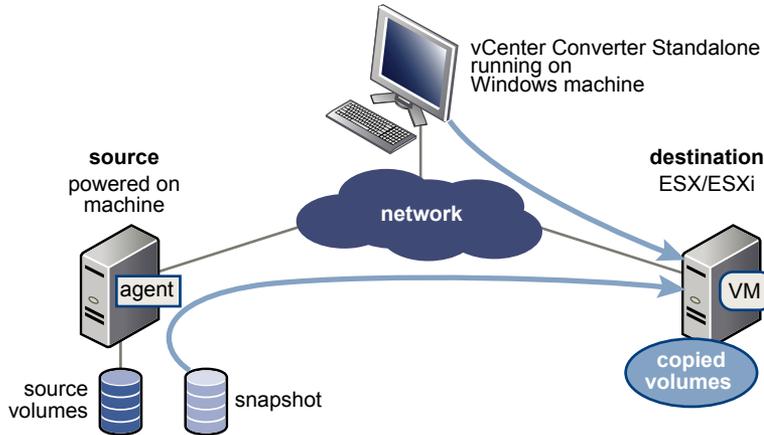
- 1 Converter Standalone prepares the source machine for the conversion.

Converter Standalone installs the agent on the source machine and the agent takes a snapshot of the source volumes.



- 2 Converter Standalone prepares the virtual machine on the destination machine.

Converter Standalone creates a virtual machine on the destination machine and the agent copies volumes from the source machine to the destination machine.



If the proxy mode feature is off, the data traffic passes from the source machine directly to the destination server.

If the proxy mode feature is on, the data traffic passes from the source machine through the Converter Standalone server to the destination server. The proxy mode feature enables conversion processes when the source machine does not have direct access to the destination ESXi server.

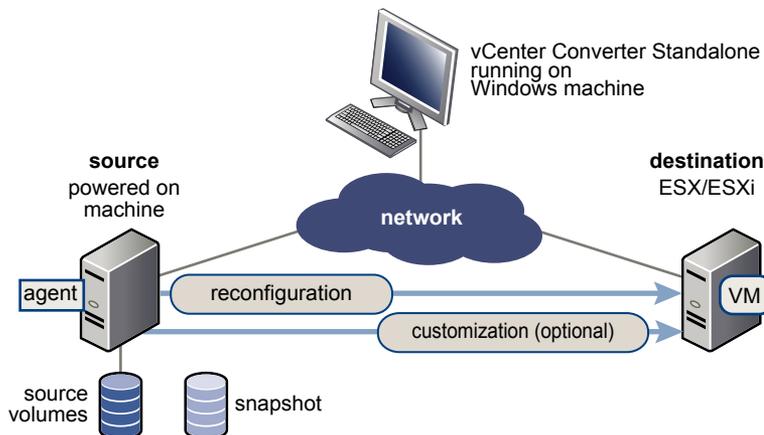
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**NOTE** The proxy mode feature is available only for conversion of powered on Windows sources to managed destinations.

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- 3 Converter Standalone completes the conversion process.

The agent installs the required drivers to allow the operating system to boot in a virtual machine and personalizes the virtual machine (changes the IP information, for example).



- 4 Optionally, Converter Standalone uninstalls the agent from the source machine.

The virtual machine is ready to run on the destination server.

## Remote Hot Cloning of Powered On Source Machines That Are Running Linux

The conversion process of powered on machines that are running Linux operating systems differs from that of Windows machines.

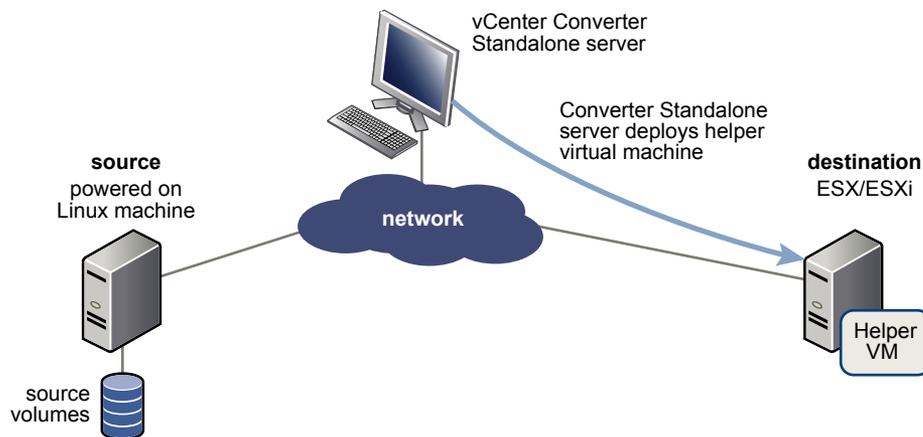
In Windows conversions, the Converter Standalone agent is installed on the source machine and the source information is pushed to the destination.

In Linux conversions, no agent is deployed on the source machine. Instead, a helper virtual machine is created and deployed on the destination ESX/ESXi host. The source data is then copied from the source Linux machine to the helper virtual machine. After the conversion is complete, the helper virtual machine shuts down to become the destination virtual machine the next time you power it on.

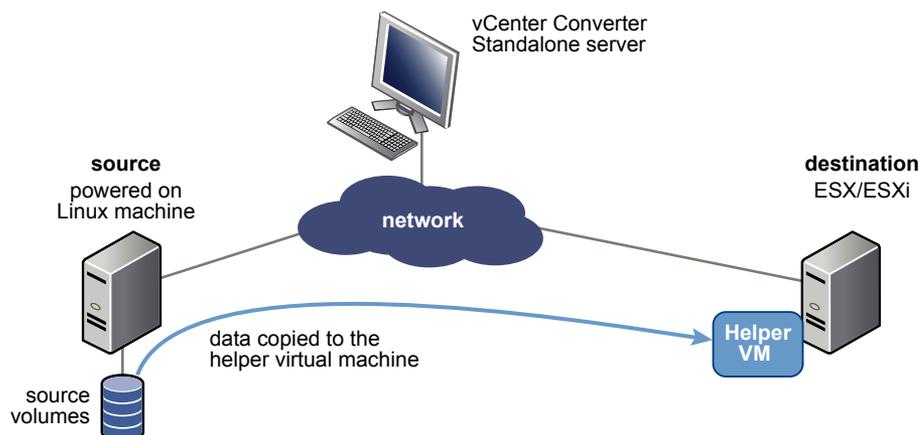
Converter Standalone supports conversion of Linux sources only to managed destinations.

The following workflow demonstrates the principles of hot cloning powered on source machines that run Linux to managed destinations.

- 1 Converter Standalone uses SSH to connect to the source machine and retrieves source information. Converter Standalone creates an empty helper virtual machine based on your conversion task settings. The helper virtual machine serves as a container for the new virtual machine during conversion. Converter Standalone deploys the helper virtual machine on the managed destination, an ESX/ESXi host. The helper virtual machine boots from a \*.iso file that is located on the Converter Standalone server machine.



- 2 The helper virtual machine powers on, boots from the Linux image, connects to the source machine through SSH, and starts retrieving the selected data from the source. While you set up the conversion task, you can select which source volumes to be copied to the destination machine.



- 3 Optionally, after data is copied, the destination virtual machine is reconfigured to allow the operating system to boot in a virtual machine.
- 4 Converter Standalone shuts down the helper virtual machine. The conversion process is complete.  
You can configure Converter Standalone to power on the newly created virtual machine after the conversion is complete.

## Types of Data Cloning Operations

Converter Standalone supports disk-based cloning, volume-based cloning, and linked-cloning modes.

**Table 1-1.** Cloning Modes

Data Copy Types	Application	Description
Volume based	Copy volumes from the source machine to the destination machine.	Volume-based cloning is relatively slow. File-level cloning is slower than block-level cloning. Dynamic disks are converted into basic volumes on the target virtual machine.
Disk based	Create copies of the powered off source machines, for all types of basic and dynamic disks.	You cannot select which data to copy. Disk-based cloning is faster than volume-based cloning.
Linked clone	Use to quickly check compatibility of non-VMware images	For certain third-party sources, the linked clone is corrupted if you power on the source machine after the conversion. Linked cloning is the fastest (but incomplete) cloning mode that Converter Standalone supports.

## Volume-Based Cloning

During volume-based cloning, volumes from the source machine are copied to the destination machine. Converter Standalone supports volume-based cloning during hot cloning, and during the import of existing virtual machines.

During volume-based cloning, all volumes in the destination virtual machine, except LVM2 logical volumes, are converted to basic volumes, regardless of their type in the corresponding source volume. LVM2 logical volumes can be preserved as logical volumes during conversion.

Volume-based cloning is performed at the file level or block level, depending on the destination volume size that you select.

### Volume-based cloning at the file level

Performed when you select a size smaller than the original volume for NTFS volumes or you choose to resize a FAT volume.

For FAT, FAT32, NTFS, ext2, ext3, ext4, XFS, and ReiserFS file systems, Converter Standalone preserves the file system type during a volume-based cloning at the file level.

Dynamic source disks are read but not preserved during volume-based conversions. Dynamic disks are converted into basic volumes on the target virtual machine. Volume-based cloning of dynamic source disks at the file level is supported only for Windows.

### Volume-based cloning at the block level

Performed when you choose to preserve the size of the source volume or when you specify a larger volume size for NTFS source volumes. Volume-based cloning at the block level is supported only for Windows.

## Disk-Based Cloning

Converter Standalone supports disk-based cloning to import existing virtual machines.

Disk-based cloning transfers all sectors from all disks and preserves all volume metadata. The destination virtual machine receives partitions of the same type, size, and structure, as the partitions of the source virtual machine. All volumes on the source machine's partitions are copied as they are.

Disk-based cloning supports all types of basic and dynamic disks.

## Full and Linked Clones

Clones can be full or linked depending on the amount of data copied from the source to the destination machine.

A full clone is an independent copy of a virtual machine that shares nothing with the parent virtual machine after the cloning operation. Ongoing operation of a full clone is separate from the parent virtual machine.

Because a full clone does not share virtual disks with the parent virtual machine, full clones generally perform better than linked clones. Full clones take longer to create than linked clones. Creating a full clone can take several hours or even days if the files involved are large.

You can create a full clone by using any disk clone type other than the linked clone type.

A linked clone is a copy of a virtual machine that shares virtual disks with the parent virtual machine in an ongoing manner. A linked clone is a fast way to convert and run a new virtual machine. You can create a linked clone from the current state, or snapshot, of a powered off virtual machine. This practice conserves disk space and lets multiple virtual machines use the same software installation.

All files available on the source machine at the moment of the snapshot continue to remain available to the linked clone. Ongoing changes to the virtual disk of the parent do not affect the linked clone, and changes to the disk of the linked clone do not affect the source machine. If you make changes to a source Virtual PC and Virtual Server machines, or to LiveState images, the linked clone is corrupted and cannot be used anymore.

A linked clone must have access to the source. Without access to the source, you cannot use a linked clone.

For more information about how to create a linked clone, see [“Create a Linked Clone,”](#) on page 62.

## Using Converter Standalone with Virtual Machine Sources and System Images

With Converter Standalone, you can convert virtual machines and system images, and configure VMware virtual machines.

### Converting virtual machines

You can convert VMware virtual machines from and to Workstation, VMware Player, VMware Fusion, Hyper-V, ESX, ESXi Embedded, and ESXi Installable. You can also import virtual machines from Microsoft Virtual Server and Virtual PC.

To be able to run an imported VMware virtual machine and its source virtual machine on the same network, you must modify the network name and IP address on one of the virtual machines. Modifying the network name and IP address lets the original and new virtual machines to coexist on the same network.

### Configuring virtual machines

If the VMware virtual machines have disks that have been populated by using a backup of a physical host, Converter Standalone prepares the image to run on VMware virtual hardware. If you have used third-party virtualization software to create a virtual machine on an ESX host, you can use Converter Standalone to reconfigure it. You can also reconfigure any operating system installed on a multiboot machine if you have imported the virtual machine to an ESX host. Before you reconfigure a multiboot machine, you must change the `boot.ini` file or the BCD.

## System Settings Affected by Conversion

A VMware virtual machine that Converter Standalone creates contains a copy of the disk state of the source physical machine, virtual machine, or system image. Some hardware-dependent drivers and sometimes the mapped drive letters might not be preserved.

The following source computer settings remain unchanged:

- Operating system configuration (computer name, security ID, user accounts, profiles, preferences, and so on)
- Applications and data files
- Volume serial number for each disk partition

Because the target and the source virtual machines or system images have the same identities (name, SID, and so on), running them on the same network might result in conflicts. To redeploy the source virtual machine or system image, make sure that you do not run the source and target images or virtual machines on the same network at the same time.

For example, if you use Converter Standalone to test whether you can run a Virtual PC virtual machine as a VMware virtual machine without first decommissioning the original Virtual PC machine, you must first resolve the duplicate ID problem. You can resolve this problem by customizing the virtual machines in the Conversion or the Configuration wizard.

## Changes to Virtual Hardware After Virtual Machine Migration

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

Several hardware changes might occur after you migrate a virtual machine.

**Table 1-2.** Hardware Changes After Virtual Machine Migration

Hardware	Behavior
CPU model and serial numbers	Might change after migration. They correspond to the physical computer hosting the VMware virtual machine.
Ethernet adapters	Might change for AMD PCNet or VMXnet and get different MAC addresses. The IP address of each interface must be individually reconfigured.
USB adapters	Might be updated during the cloning process.
Graphics cards	Might change after migration (VMware SVGA card).

**Table 1-2.** Hardware Changes After Virtual Machine Migration (Continued)

<b>Hardware</b>	<b>Behavior</b>
Disks and partitions	The number of disks and partitions might change during the cloning process. Each disk device might have a different model and different manufacturer strings.
Primary disk controllers	Might differ from the source machine.

Applications that depend on devices that are not available within a virtual machine might not work after you migrate the virtual machine.



# System Requirements

You must consider the compatibilities and the interoperabilities among the systems on which and with which the Converter Standalone components work.

This chapter includes the following topics:

- [“Supported Operating Systems,”](#) on page 19
- [“Supported Firmware Interfaces,”](#) on page 20
- [“Supported Source Types,”](#) on page 21
- [“Supported Destination Types,”](#) on page 22
- [“Supported Source Disk Types,”](#) on page 23
- [“Supported Destination Disk Types,”](#) on page 24
- [“Support for IPv6 in Converter Standalone,”](#) on page 25
- [“Installation Space Requirements,”](#) on page 25
- [“Screen Resolution Requirements,”](#) on page 26
- [“Configuring Permissions for vCenter Users,”](#) on page 26
- [“TCP/IP and UDP Port Requirements for Conversion,”](#) on page 26
- [“Requirements for Remote Hot Cloning of Windows Operating Systems,”](#) on page 28

## Supported Operating Systems

You can install Converter Standalone components only on Windows operating systems.

Converter Standalone supports Windows and Linux operating systems as sources for powered-on-machine conversions and virtual-machine conversions. You cannot reconfigure Linux distributions.

**Table 2-1.** Supported Operating Systems

Supported Operating Systems	Converter Standalone Support	Source for Powered On Machine Conversions	Source for Virtual Machine Conversions	Configuration Source
Windows Server 2003 R2 (32-bit and 64-bit) SP2	Yes	Yes	Yes	Yes
Windows Vista (32-bit and 64-bit) SP2	Yes	Yes	Yes	Yes
Windows Server 2008 (32-bit and 64-bit) SP2	Yes	Yes	Yes	Yes
Windows Server 2008 R2 (64-bit)	Yes	Yes	Yes	Yes

**Table 2-1.** Supported Operating Systems (Continued)

Supported Operating Systems	Converter Standalone Support	Source for Powered On Machine Conversions	Source for Virtual Machine Conversions	Configuration Source
Windows 7 (32-bit and 64-bit)	Yes	Yes	Yes	Yes
Windows 8 (32-bit and 64-bit)	Yes	Yes	Yes	Yes
Windows 8.1 (32-bit and 64-bit)	Yes	Yes	Yes	Yes
Windows Server 2012 (64-bit)	Yes	Yes	Yes	Yes
Windows Server 2012 R2(64-bit)	Yes	Yes	Yes	Yes
CentOS 6.x (32-bit and 64-bit)	No	Yes	Yes	No
CentOS 7.0 (64-bit)	No	Yes	Yes	No
Red Hat Enterprise Linux 4.x (32-bit and 64-bit)	No	Yes	Yes	No
Red Hat Enterprise Linux 5.x (32-bit and 64-bit)	No	Yes	Yes	No
Red Hat Enterprise Linux 6.x (32-bit and 64-bit)	No	Yes	Yes	No
Red Hat Enterprise Linux 7.x (64-bit)	No	Yes	Yes	No
SUSE Linux Enterprise Server 9.x (32-bit and 64-bit)	No	Yes	Yes	No
SUSE Linux Enterprise Server 10.x (32-bit and 64-bit)	No	Yes	Yes	No
SUSE Linux Enterprise Server 11.x (32-bit and 64-bit)	No	Yes	Yes	No
Ubuntu 12.04 (32-bit and 64-bit)	No	Yes	Yes	No
Ubuntu 14.x (32-bit and 64-bit)	No	Yes	Yes	No

## Supported Firmware Interfaces

With Converter Standalone you can perform conversions from BIOS and UEFI sources.

Converter Standalone preserves the firmware interface during the conversion. You cannot convert BIOS sources to UEFI destinations and the reverse.

For UEFI sources, the supported destination types are Workstation 10.0 and later, ESXi 5.0 and later, and vCenter Server 5.0 and later.

**Table 2-2.** Supported Sources Based on Operating System and Firmware Interface

Operating System	BIOS	64-Bit UEFI
Windows Server 2003 R2 SP2	Yes	No
Windows Vista SP2	Yes	Yes
Windows Server 2008 SP2	Yes	Yes
Windows Server 2008 R2	Yes	Yes
Windows 7	Yes	Yes
Windows 8	Yes	Yes
Windows 8.1	Yes	Yes
Windows Server 2012	Yes	Yes

**Table 2-2.** Supported Sources Based on Operating System and Firmware Interface (Continued)

Operating System	BIOS	64-Bit UEFI
Windows Server 2012 R2	Yes	Yes
CentOS 6.x	Yes	Yes
CentOS 7.x	Yes	Yes
Red Hat Enterprise Linux 4.x	Yes	No
Red Hat Enterprise Linux 5.x	Yes	No
Red Hat Enterprise Linux 6.x	Yes	Yes
Red Hat Enterprise Linux 7.x	Yes	Yes
SUSE Linux Enterprise Server 10.x	Yes	No
SUSE Linux Enterprise Server 11.x	Yes	No
Ubuntu 12.04.5 LTS	Yes	Yes
Ubuntu 14.x	Yes	Yes

## Supported Source Types

With Converter Standalone, you can convert remote powered on machines, powered off VMware virtual machines, Hyper-V Server virtual machines, and other third-party virtual machines and system images.

**Table 2-3.** Supported Sources

Source Type	Sources
Powered on machines	<ul style="list-style-type: none"> <li>■ Remote Windows physical machines</li> <li>■ Remote Linux physical machines</li> <li>■ Local Windows physical machines</li> <li>■ Powered on VMware virtual machines</li> <li>■ Powered on Hyper-V Server virtual machines</li> <li>■ Powered on virtual machines running under Red Hat KVM or RHEL XEN</li> </ul>
VMware vCenter virtual machines	Powered off virtual machines managed by the following servers: <ul style="list-style-type: none"> <li>■ vCenter Server 4.0, 4.1, 5.0, 5.1, 5.5 and 6.0</li> <li>■ ESX 4.0 and 4.1</li> <li>■ ESXi 4.0, 4.1, 5.0, 5.1, 5.5 and 6.0</li> </ul>
VMware virtual machines	Powered off hosted virtual machines running on the following VMware products: <ul style="list-style-type: none"> <li>■ VMware Workstation 10.x and 11.0</li> <li>■ VMware Fusion 6.x and 7.0</li> <li>■ VMware Player 6.x and 7.0</li> </ul>

**Table 2-3.** Supported Sources (Continued)

Source Type	Sources
Hyper-V Server virtual machines	<p>For Hyper-V Server versions distributed with Windows Server 2008 R2, powered off virtual machines with the following guest operating systems:</p> <ul style="list-style-type: none"> <li>■ Windows Server 2003 (x86 and x64) SP1 and SP2</li> <li>■ Windows Server 2003 (x86 and x64) R2 SP1 and SP2</li> <li>■ Windows Server 2008 (x86 and x64) SP2</li> <li>■ Windows Server 2008 (x64) R2 and R2 SP1</li> <li>■ Windows 7 (except Home editions)</li> <li>■ Windows Vista SP1 and SP2 (except Home editions)</li> </ul> <p>For other Hyper-V Server sources, perform the procedure for powered on source machines.</p>
Third-party virtual machines or system images	<ul style="list-style-type: none"> <li>■ Acronis True Image Echo 9.1 and 9.5, and Acronis True Image Home 10 and 11 (.tib).</li> <li>■ Symantec Backup Exec System Recovery (formerly LiveState Recovery) 6.5, 7.0, 8.0, and 8.5, and LiveState Recovery 3.0 and 6.0 (.sv2i format only).</li> <li>■ Norton Ghost version 10.0, 12.0, and 14.0 (.sv2i format only).</li> <li>■ Parallels Desktop 2.5, 3.0, and 4.0 (.pvs and .hdd). Compressed disks are not supported.</li> <li>■ Parallels Workstation 2.x (.pvs). Compressed disks are not supported. Parallels Virtuozzo Containers are not supported.</li> <li>■ StorageCraft ShadowProtect Desktop, ShadowProtect Server, ShadowProtect Small Business Server (SBS), ShadowProtect IT Edition, versions 2.0, 2.5, 3.0, 3.1, and 3.2 (.spf).</li> <li>■ The Microsoft VHD format for the following sources: <ul style="list-style-type: none"> <li>■ Microsoft Virtual PC 2004 and Microsoft Virtual PC 2007 (.vmc)</li> <li>■ Microsoft Virtual Server 2005 and 2005 R2 (.vmc)</li> </ul> </li> </ul>

## Supported Destination Types

With Converter Standalone, you can create virtual machines compatible with VMware hosted and managed products.

**Table 2-4.** Supported Destinations

Destination Type	Supported Versions
VMware vCenter virtual machines	<p>Managed destinations</p> <ul style="list-style-type: none"> <li>■ ESX 4.0 and 4.1</li> <li>■ ESXi 4.0, 4.1, 5.0, 5.1, 5.5 and 6.0</li> <li>■ vCenter Server 4.0, 4.1, 5.0, 5.1, 5.5 and 6.0</li> </ul>
VMware hosted virtual machines	<p>Hosted destinations</p> <ul style="list-style-type: none"> <li>■ VMware Workstation 10.x and 11.0</li> <li>■ VMware Fusion 6.x and 7.0</li> <li>■ VMware Player 6.x and 7.0</li> </ul>

For UEFI sources, the supported destination types are Workstation 10.0 and later, ESXi 5.0 and later, and vCenter Server 5.0 and later.

## Supported Source Disk Types

Converter Standalone supports conversions from master boot record (MBR) and GUID partition table (GPT) disks with some limitations that depend on the selected data cloning mode.

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**NOTE** Converter Standalone preserves the partitioning scheme during the conversion. You cannot convert an MBR source disk to a GPT destination disk and the reverse.

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Converter Standalone supports all types of basic and dynamic disks for disk-based conversions with the exception of GPT/MBR hybrid disks.

**Table 2-5.** Supported and Nonsupported Source Volumes and Disks

Source	Supported Volumes and Disks	Nonsupported Volumes and Disks
Virtual machine	<ul style="list-style-type: none"> <li>■ Basic volumes</li> <li>■ All types of dynamic volumes</li> <li>■ Master boot record (MBR) disks</li> <li>■ GUID partition table (GPT) disks</li> </ul>	<ul style="list-style-type: none"> <li>■ RAID</li> <li>■ GPT/MBR hybrid disks</li> <li>■ RDM disks</li> </ul>
Powered on machine	<ul style="list-style-type: none"> <li>■ All types of source volumes that the operating system recognizes</li> <li>■ GUID partition table (GPT) disks</li> <li>■ Master boot record (MBR) disks</li> </ul>	<ul style="list-style-type: none"> <li>■ RAID</li> <li>■ GPT/MBR hybrid disks</li> <li>■ Linux volumes mounted by Device Mapper multipath</li> </ul>

## Supported Destination Disk Types

Several destination disk types might be available for the selected destination.

**Table 2-6.** Destination Disk Types

Destination	Available Disk Types	
VMware vSphere virtual machine	<b>Thick</b>	Copies the entire source disk size to the destination, regardless of its used and free space.
	<b>Thin</b>	For managed destinations that support thin provisioning through GUI, creates an expanding disk on the destination. For example, if the source disk size is 10GB, but only 3GB is used, the created destination disk is 3GB but can expand to 10GB.
Managed destinations of virtual machine version 10 and later support disks up to 62TB in size. Earlier virtual machine versions support up to 2TB disks.		
VMware Workstation or other VMware virtual machine	<b>Pre-allocated</b>	Copies the entire source disk size to the destination, regardless of its used and free space.
	<b>Not pre-allocated</b>	Creates an expanding disk on the destination. For example, if the source disk size is 20GB, but only 5GB is used, the created destination disk is 5GB but can expand to 20GB. Take this expansion into account when you calculate the free disk space on the destination datastore.
	<b>Split pre-allocated</b>	For disks smaller than 2TB, splits the source disk into 2GB sections on the destination.  For disks larger than 2TB, splits the source disk into 2TB sections on the destination.
	<b>Split not pre-allocated</b>	For disks smaller than 2TB, creates 2GB sections on the destination that include only the real used space on the source disk. As the destination disk grows, new 2GB sections are created to accommodate the new data until the size reaches that of the original source disk.  For disks larger than 2TB, creates 2TB sections on the destination that include only the real used space on the source disk. As the destination disk grows, new 2TB sections are created to accommodate the new data until the size reaches that of the original source disk.

**Table 2-6.** Destination Disk Types (Continued)

Destination	Available Disk Types
	Hosted destinations of virtual machines support up to 8TB disks.
	Hosted destinations support disks sizes larger than 2040GB only if the <b>Split not pre-allocated</b> disk type is selected.

To support destination virtual disks on FAT file systems, split the source data into 2GB files.

## Support for IPv6 in Converter Standalone

Converter Standalone supports both IPv4 and IPv6 Internet protocols with several limitations.

Internet Protocol version 6 (IPv6 or IPng) is the successor to Internet Protocol version 4 (IPv4), which is the currently used protocol for assigning IP addresses to computers on the Internet. IPv6 was adopted to overcome the expected exhaustion of IPv4 addresses that might be caused by the constantly increasing number of computers on the Internet.

While IPv4 uses 32bit addresses, IPv6 uses 128bit. IPv6 addresses can have different formats or notations.

- 1040:0:0:0:0:0:1
- 1040::1
- 21DA:00D3:0010:2F3B:02AA:00FF:FE28:9C5A
- [2001:0db8:85a3:08d3:1319:8a2e:0370:7344]:443

Converter Standalone supports all IPv6 notations for all components of the system.

- Converter Standalone installer
- Converter Standalone client
- Converter Standalone agent
- All destinations supported in Converter Standalone

Along with the higher security level and much larger address space, IPv6 brings about some compatibility tasks that have not been resolved yet. For example, IPv4-only nodes cannot communicate directly with IPv6 nodes and need additional routing. This makes the end-to-end support of mixed IPv4 and IPv6 environments precarious.

## Installation Space Requirements

During installation, you can select the Converter Standalone components that you want to install. All components require different amounts of free disk space to install.

[Table 2-7](#) shows the disk space required to install Converter Standalone and its components.

**Table 2-7.** Installation Space Requirements

Installation Component	Disk Space Required	Disk Space Requirement for Decompressed Files
Installation file	100MB	100MB
vCenter Converter client	25MB	25MB
vCenter Converter server	120MB	300MB
vCenter Converter agent	25MB	100MB

## Screen Resolution Requirements

To display wizards properly, Converter Standalone requires a screen resolution of at least 1024x768 pixels.

## Configuring Permissions for vCenter Users

To convert virtual machines to vCenter Server machines with Converter Standalone, you must have certain vCenter Server permissions set at the datacenter level.

To start using Converter Standalone, you need to set a number of minimum privileges at the datacenter level.

- **Datastore.Allocate space**
- **Datastore.Browse datastore**
- **Host.Local operations.Create virtual machine**
- **Host.Local operations.Delete virtual machine**
- **Host.Local operations.Reconfigure virtual machine**
- **Network.Assign network** (required only if you plan to connect the destination virtual machine to a network)
- **Resource.Assign virtual machine to resource pool**
- **Virtual machine.Configuration**
- **Virtual machine.Interaction.Power On** (required only if you choose to power on the destination virtual machine after conversion)
- **Virtual machine.Inventory**
- **Virtual machine.Provisioning.Allow disk access**
- **Virtual machine.Provisioning.Allow read-only disk access**

Converting Linux and powered on Windows machines might require a number of additional vCenter Server privileges.

- **Virtual machine.Interaction.Configure CD media** (required only if you need to boot a converted Linux virtual machine to install media after the conversion)
- **Virtual machine.Snapshot management.Create snapshot** (required only if you want to synchronize changes between the source and destination Windows virtual machine)
- **Virtual machine.Snapshot management.Remove Snapshot** (required only if you want to synchronize changes between the source and destination Windows virtual machine)

For more information about setting permissions, see the *vSphere Datacenter Administration Guide*.

## TCP/IP and UDP Port Requirements for Conversion

To enable conversion, the Converter Standalone server and client must be able to send data to each other, to remote machines, and to vCenter Server. Also, the source and destination hosts must receive data from each other. Designated ports are reserved for this communication.

If any of these ports is blocked, the corresponding conversion task fails.

### Ports Used When Converting a Powered On Machine Running Windows

[Table 2-8](#) contains a list of the ports that must be open during the conversion of powered on source machines running Windows.

**Table 2-8.** Ports Required During Windows P2V

Communication Paths	Communication Ports	Notes
Converter Standalone server to powered on source machine	TCP - 445, 139, 9089 UDP - 137, 138	If the source computer uses NetBIOS, port 445 is not required. If NetBIOS is not being used, ports 137, 138, and 139 are not required. When in doubt, make sure that none of the ports are blocked.  <b>NOTE</b> Unless you have installed Converter Standalone server or agent on the source computer, the account used for authentication to the source computer must have a password, network file sharing must be enabled on the source computer, and Simple File Sharing must not be used.
Converter Standalone server to vCenter Server	TCP - 443	Required only if the conversion destination is a vCenter Server.
Converter Standalone client to vCenter Server	TCP - 443	Required only if the Converter Standalone server and client components are on different machines.
Converter Standalone server to the destination ESX/ESXi	TCP - 902	Converter server always requires access to ESX/ESXi at port 902.
Powered on source machine to ESX/ESXi	TCP - 443, 902	If the conversion destination is vCenter Server, only port 902 is required.  If the proxy mode feature is on, port 902 is not required.

## Ports Used When Converting a Powered On Machine Running Linux

[Table 2-9](#) contains a list of the ports that must be open during the conversion of powered on source machines running Linux.

**Table 2-9.** Ports Required During Linux P2V

Communication Paths	TCP Ports	Notes
Converter Standalone server to powered on source machine	22	Used to establish an SSH connection between the Converter Standalone server and the source machine.
Converter Standalone client to Converter Standalone server	443	Required only if the Converter Standalone server and client components are on different machines.
Converter Standalone server to vCenter Server	443	Required only if the conversion destination is a vCenter Server.
Converter Standalone server to ESX/ESXi	443, 902	If the conversion destination is a vCenter Server, only port 902 is required.
Converter Standalone server to helper virtual machine	443	
Helper virtual machine to powered on source machine	22	Used to establish an SSH connection between the helper virtual machine and the source machine. By default, the IP address of the helper virtual machine is assigned by DHCP. If no DHCP server is available on the destination network, you must manually assign the helper virtual machine an IP address.

## Ports Used When Converting Virtual Machine Sources

[Table 2-10](#) contains a list of the ports that must be open during the conversion of virtual machines.

**Table 2-10.** Ports Required During V2V

Communication Paths	Communication Ports	Notes
Converter Standalone server to Fileshare path	TCP - 445, 139 UPD - 137, 138	Required only for standalone virtual machine sources or destinations. If the computer hosting the source or destination path uses NetBIOS, port 445 is not required. If NetBIOS is not being used, ports 137, 138, and 139 are not required. When in doubt, make sure that none of the ports are blocked.
Converter Standalone client to Converter Standalone server	TCP - 443	Required only if the Converter Standalone server and client components are on different machines.
Converter Standalone server to vCenter Server	TCP - 443	Required only if the conversion destination is a vCenter Server.
Converter Standalone server to ESX/ESXi	TCP - 443, 902	If the conversion destination is a vCenter Server, only port 902 is required.

## Requirements for Remote Hot Cloning of Windows Operating Systems

To avoid problems related to permissions and network access, ensure that simple file sharing is turned off and that Windows Firewall does not block file and printer sharing. Also, to access file and printer sharing ports, you might need to change the scope of the IP addresses that the firewall allows.

To ensure successful remote hot cloning of Windows platforms, verify the following conditions on the source machine before you start the application:

- Ensure that simple file sharing is turned off.
- Ensure that file and printer sharing is not blocked by Windows Firewall.

You must allow incoming file share connections in the following situations:

- When you use the machine to host standalone images
- When you use the machine as a standalone destination
- When you hot clone the machine remotely

For Windows Vista and later, you must either use an administrator account for Converter Standalone when logging to the source machine, or disable UAC on the source machine.

To enable customization of the guest operating system, install Sysprep files on the machine where Converter Standalone server runs.

### Ensure that Windows Firewall Does Not Block File and Printer Sharing

If Converter Standalone fails to connect to a remote Windows machine and issues a bad `username/password` error message, ensure that file and printer sharing is not blocked by Windows Firewall.

#### Procedure

- 1 Select **Start > Settings > Control Panel > Administrative Tools > Local Security Policy**.
- 2 In the Security Settings list on the left, select **Local Policies > Security Options**.
- 3 In the policies list on the right, select **Network access: Sharing and Security model for local accounts**.
- 4 Verify that **Classic – local users authenticate as themselves** is selected.

**What to do next**

For troubleshooting information about file and printer sharing, search the Microsoft TechNet Web site.

For information about setting file and printer sharing on other Windows systems, see the documentation for your system.

**Prepare the Guest Operating System for Customization**

To customize the guest operating system of a virtual machine that runs Windows Server 2003, you must save the Sysprep files to the specified locations on the machine where Converter Standalone server runs.

If Sysprep files are missing from the server machine, the **Customize Guest OS** option is not accessible in the Converter Standalone wizards.

**Prerequisites**

Make sure you have obtained the Sysprep files that correspond to the source operating system. You can download the Sysprep files from the Microsoft Download Center.

**Procedure**

- ◆ Save the Sysprep files that correspond to the source operating system on the machine where Converter Standalone server runs.

If you have downloaded a .cab file, you need to extract its contents. If you have downloaded an .exe file, double-click the downloaded file to start the Sysprep installation.

Operating System	Action
<b>Windows Server 2003 (32bit)</b>	Save the Sysprep files in %ALLUSERSPROFILE %\Application Data\VMware\VMware vCenter Converter Standalone\sysprep\svr2003
<b>Windows Server 2003 (64bit)</b>	Save the Sysprep files in %ALLUSERSPROFILE %\Application Data\VMware\VMware vCenter Converter Standalone\sysprep\svr2003-64

**What to do next**

You can now customize Windows Server 2003 (32bit and 64bit) guest operating system by using the Conversion or the Configuration wizard.



## Conversion Limitations

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When you are aware of the conversion limitations of Converter Standalone, you might be able to avoid conversion and post-conversion problems, and handle them more easily.

This chapter includes the following topics:

- [“Conversion Limitations for Powered On Machines,”](#) on page 31
- [“Conversion Limitations for VMware Virtual Machines,”](#) on page 31
- [“Conversion Limitations for Third-Party Virtual Machines or System Images,”](#) on page 32
- [“Limitations Related to Creating Snapshots of Windows Sources,”](#) on page 33

### Conversion Limitations for Powered On Machines

When you convert a powered on machine, some conversion features might not be available for certain source operating systems.

**Table 3-1.** Limitations for Powered On Machine Conversion

Source Operating System	Limitations
Windows	<ul style="list-style-type: none"> <li>■ When you convert UEFI sources, Converter Standalone does not copy any UEFI variables to the destination.</li> <li>■ Synchronization is supported only for volume-based cloning at the block level.</li> </ul>
Linux	<ul style="list-style-type: none"> <li>■ Only volume-based cloning at the file level is supported.</li> <li>■ Only managed destinations are supported.</li> <li>■ Converting multiboot virtual machines is supported only if GRUB is installed as the boot loader. LILO is not supported.</li> <li>■ When you convert UEFI sources, Converter Standalone copies only the current UEFI boot entry option to the destination.</li> <li>■ Simultaneous cloning of multiple disks and volumes is supported only when converting a virtual Linux source.</li> <li>■ Installing VMware Tools on Linux guest operating systems is not supported.</li> </ul>

### Conversion Limitations for VMware Virtual Machines

Certain limitations exist when you convert a VMware virtual machine.

You must power off source virtual machines before you convert them. You can convert running virtual machines if you follow the procedure for converting powered on machines.

For volume-based conversions of virtual machine sources that run Windows 8 or Windows Server 2012, Converter Standalone does not preserve storage pools on the destination.

For volume-based conversions of UEFI sources, Converter Standalone does not preserve the UEFI settings. The UEFI settings are preserved during disk-based conversions.

When you convert a virtual machine with snapshots, the snapshots are not transferred to the destination virtual machine.

For volume-based conversions of powered-off virtual machine sources at file level, the Converter Standalone server host operating system must support the file system of the source volume. For example, when the Converter Standalone is running on Windows Server 2008, you cannot convert source volumes with ReFS.

Certain limitations are applicable when you convert Linux virtual machine sources.

- Only disk-based cloning is supported for Linux guest operating systems.
- Configuration or customization is not supported for Linux guest operating systems.
- Installing VMware Tools is not supported on Linux guest operating systems.

## Conversion Limitations for Third-Party Virtual Machines or System Images

Converter Standalone can convert third-party virtual machines, system images, ShadowProtect images, and BackupExec System Recovery images. These conversions have limitations.

### Third-Party Virtual Machines and System Images

Third-party virtual machines and system images have the following limitations.

- Virtual machines created with Macintosh versions of Virtual PC are not supported.
- The operating system on the source Virtual PC or Virtual Server virtual machine must be a Windows guest operating system supported by the destination VMware platform (for example, Workstation 8.x or 9.0). For a list of supported operating systems, see the *Guest Operating System Installation Guide*.

Converter Standalone supports Virtual PC and Virtual Server virtual machines with most Windows operating systems earlier than Windows NT 4.0 and with non-Windows operating systems (for example, Linux and DOS) only for cloning. Converter Standalone does not support these systems as configuration sources.

- Parallels Virtuozzo containers are not supported.

### ShadowProtect and Backup Exec System Recovery

ShadowProtect and Backup Exec System Recovery have the following limitations.

- Dynamic disks are not supported.
- All images for the backup of a machine must be in a single folder. The source folder must not contain images that are not part of the backup.
- For volume-based cloning, all volumes in the disk up to the active and system volumes must be backed up. For example, if a disk has four partitions, 1 through 4, with partition 2 as the active volume and partition 3 as the system volume, the backup must include partitions 1 through 3.
- For incremental images, up to 16 incremental backups are supported.
- ShadowProtect images of systems with logical drives are not supported if the logical drive is also a system or active volume.

## Limitations Related to Creating Snapshots of Windows Sources

Converter Standalone uses VSS snapshots to save the state of source volumes during hot cloning of physical and virtual machines that run Windows. VSS snapshots are also used to synchronize the destination virtual machine with the source machine after the initial conversion. Some of the VSS-related issues are inherited in Converter Standalone and can prevent the proper completion of your conversion tasks.

Read the limitations listed in [Table 3-2](#) before you initiate a conversion task.

If your conversion task fails with an VSS-related error message, you can check the table for possible reasons and workarounds.

**Table 3-2.** VSS Snapshotting Limitations

VSS Limitations	Error Messages	Workarounds
For all operating systems that support volume-based cloning, you need at least one NTFS volume for VSS to work.		There is no workaround for this limitation.
VSS under Windows Vista and later does not support FAT and FAT32.		Deselect all FAT and FAT32 volumes on the View/Edit Options page of the vCenter Converter wizards.
VSS under Windows Server 2008 does not support unformatted or unrecognized volumes.	Failed to create VSS snapshot of source volume. Error code :2147754764 (0x8004230C)	<ul style="list-style-type: none"> <li>■ Format all unformatted or unrecognized volumes and try the conversion again.</li> <li>■ Deselect all unformatted or unrecognized volumes while setting up the conversion task in the Data to copy pane of the View/Edit Options page.</li> </ul>
If the space in the VSS snapshot storage area is not enough for VSS to create a snapshot, the conversion fails.	Failed to create VSS snapshot of source volume. Error code: 2147754783(0x8004231F)	Clean up the source volumes, especially the system volume and all NTFS volumes, and try to convert the source again.
Importing powered-on Hyper-V sources fails if the following two VSS services are not started or are not operating properly on the source machine: <ul style="list-style-type: none"> <li>■ Microsoft Software Shadow Copy Provider Service</li> <li>■ Volume Shadow Copy Service</li> </ul>	Failed to create VSS snapshot of source volume. Error code: 2147754758 (0x80042306)	<ol style="list-style-type: none"> <li>1 Set the starting mode for Microsoft Software Shadow Copy Provider Service and Volume Shadow Copy Service to <b>Automatic</b>.</li> <li>2 Restart the source machine and try cloning it again.</li> </ol>



# Installing and Uninstalling Converter Standalone

# 4

You can install Converter Standalone on a physical or a virtual machine. You can also modify or repair a Converter Standalone installation.

The Local setup installs the Converter Standalone server, Converter Standalone agent, and Converter Standalone client for local use.

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**NOTE** Local installation of Converter Standalone complies with the following security restrictions:

- After the initial setup, the use of an administrator account requires physical access to the product.
  - You can manage Converter Standalone only from the machine where it is installed.
- 

During the client-server installation, you can select the Converter Standalone components that you want to install on your system.

When you install the Converter Standalone server and Remote access, the local machine becomes a server for conversions, which you can manage remotely. When you install the Converter Standalone server and the Converter Standalone client, you can use the local machine to access remote Converter Standalone servers or create conversion jobs locally.

If you install only Converter Standalone client, you can connect to a remote Converter Standalone server. You can then use the remote machine to convert hosted virtual machines, managed virtual machines, or remote physical machines.

This chapter includes the following topics:

- [“Perform a Local Installation on Windows,”](#) on page 35
- [“Perform a Client-Server Installation in Windows,”](#) on page 36
- [“Perform a Command-Line Installation in Windows,”](#) on page 38
- [“Command-Line Options for Windows Installation,”](#) on page 38
- [“Modify Converter Standalone in Windows,”](#) on page 39
- [“Repair Converter Standalone in Windows,”](#) on page 40
- [“Uninstall Converter Standalone in Windows,”](#) on page 41
- [“Connect to a Remote Converter Standalone Server,”](#) on page 41

## Perform a Local Installation on Windows

You can install Converter Standalone on a physical or a virtual machine. The local setup installs the Converter Standalone server, Converter Standalone agent, and Converter Standalone client for local use.

If you install Converter Standalone in local mode, you can create and manage conversion tasks only from the machine on which you installed the application.

**Prerequisites**

Verify that your system meets the Converter Standalone system requirements.

Verify that you have Administrator privileges.

If you have Converter 3.0.x installed and your machine runs Windows Vista, uninstall Converter 3.0.x manually before you install Converter Standalone 6.0 .

If you have an earlier version of Converter Standalone agent on the system, uninstall Converter Standalone agent.

**Procedure**

- 1 Download the latest version of Converter Standalone from the VMware Web site.
- 2 In the folder that contains the installer file you downloaded, double-click the `VMware-converter-6.x.x-<xxxx>.exe` file, where `<xxxx>` is the number of the build.
- 3 Follow the prompts till the End-User License Agreement page appears.
- 4 Select **I accept the terms in the License agreement** and click **Next**.
- 5 On the Destination Folder page, select the location to install Converter Standalone and click **Next**.  
The default location is `C:\Program Files\VMware\VMware vCenter Converter Standalone`.
- 6 On the Setup Type page, select **Local installation** and click **Next**.
- 7 On the Ready to Install page, click **Install**.
- 8 (Optional) On the Installation Completed page, deselect **Run VMware vCenter Converter Standalone Client now** if you want to start the application later.
- 9 On the Installation Completed page, click **Finish**.  
A prompt might ask you to restart your system.

Converter Standalone is installed on the local machine and is ready for use.

**What to do next**

You can use Converter Standalone to convert physical or virtual machine sources to virtual machine destinations.

**Perform a Client-Server Installation in Windows**

Perform a client-server installation so that you can create and manage conversion tasks remotely.

During the client-server installation, you can select the Converter Standalone components that you want to install on your system.

**Prerequisites**

Verify that your system meets the Converter Standalone system requirements.

Verify that you have Administrator privileges.

If you have Converter 3.0.x installed and your machine runs Windows Vista, uninstall Converter 3.0.x manually before you install Converter Standalone 6.0 .

If you have an earlier version of Converter Standalone agent on the system, uninstall Converter Standalone agent.

**Procedure**

- 1 Download the latest version of Converter Standalone from the VMware Web site.

- 2 In the folder that contains the installer file you downloaded, double-click the VMware-converter-6.x.x-  
<xxxxx>.exe file, where <xxxxx> is the number of the build.
- 3 Follow the prompts till the End-User License Agreement page appears.
- 4 Select **I accept the terms in the License agreement** and click **Next**.
- 5 On the Destination Folder page, select the location to install Converter Standalone and click **Next**.  
The default location is C:\Program Files\VMware\VMware vCenter Converter Standalone.
- 6 On the Setup Type page, select **Client-Server installation (advanced)** and click **Next**.
- 7 On the Custom Setup page, select the components that you want to install and click **Next**.

Option	Description
<b>Converter server</b>	Converter Standalone server manages the conversion tasks. It handles the communication between the Converter Standalone clients and Converter Standalone agents. You cannot install Converter server alone. You must install Converter Standalone server together with Remote access or with the Converter Standalone client, or with both.
<b>Remote access</b>	If you install Remote access, local and multiple remote Converter Standalone clients can connect to the local Converter Standalone server. With Remote access you can create and manage conversion tasks remotely. For remote access, you must perform a client-server installation.
<b>Converter agent</b>	Install Converter Standalone agent so that the local machine can be a source machine for conversions.
<b>Converter client</b>	If you install only Converter Standalone client, you can connect to a remote Converter Standalone server. You can then use the remote machine to convert hosted virtual machines, managed virtual machines, or remote physical machines.

When you install the Converter Standalone server and Remote access, the local machine becomes a server for conversions, which you can manage remotely. When you install the Converter Standalone server and the Converter Standalone client, you can use the local machine to access remote Converter Standalone servers or create conversion jobs locally.

- 8 (Optional) If you decided to install Remote access or Converter Standalone agent, modify the Web service ports on the Port Settings page.
  - Type the HTTPS port service number.
  - Type the HTTP port service number.
  - Type the Agent port service number.
- 9 On the Ready to Install page, click **Install**.
- 10 (Optional) If you installed the Converter Standalone client, deselect **Run Converter Standalone Client now** to complete the installation without starting the application at this time.
- 11 On the Installation Completed page, click **Finish**.  
A prompt might ask you to restart your system.

The selected Converter Standalone components are installed on the local machine and are ready for use.

### What to do next

You can use Converter Standalone to convert physical or virtual machine sources to virtual machine destinations.

## Perform a Command-Line Installation in Windows

You can install Converter Standalone from the MS-DOS command prompt or by writing a Windows batch file (.bat) to automate the installation process.

### Prerequisites

Verify that your system meets the Converter Standalone system requirements.

Verify that you have Administrator privileges.

If you have Converter 3.0.x installed and your machine runs Windows Vista, uninstall Converter 3.0.x manually before you install Converter Standalone 6.0 .

If you have an earlier version of Converter Standalone agent on the system, uninstall Converter Standalone agent.

### Procedure

- 1 Download the latest version of Converter Standalone from the VMware Web site.
- 2 Open an MS-DOS command prompt window.
- 3 At the command line, navigate to the local directory to which you downloaded the installer.
- 4 To install Converter Standalone silently with the log file written to the temp directory, enter:

```
VMware-converter-6.x.x-<build>.exe /s /v"/qn ADDLOCAL=ALL /l*v %TEMP%\vmconvservermsi.log"
```

where VMware-converter-6.x.x-<build>.exe is the full installer filename.

For more command-line options, see ["Command-Line Options for Windows Installation,"](#) on page 38.

### What to do next

You can use Converter Standalone to convert physical or virtual machine sources to virtual machine destinations.

## Command-Line Options for Windows Installation

You can use the command-line installation options when you install Converter Standalone from the MS-DOS command prompt in Windows or by writing a Windows batch file (.bat).

For a list of options to perform command-line installation, see [Table 4-1](#).

**Table 4-1.** Command-Line Options

Option	Action
/s	Does not display the Windows Installer version check.
/v"params"	Passes parameters to the msiexec.exe file.
/qn	Runs the msi command in silent mode.
/qb	Runs the msi command in basic mode.
/qf	Runs the msi command in full mode.
/l*v <i>Logfile</i>	Records login information in the file provided in <i>Logfile</i> .
/x	Uninstalls VMware vCenter Converter Standalone.
ADDLOCAL="ALL"	Installs full package. The parameter is case-sensitive.
PROPERTY= <i>property value</i>	Sets the value of a property to <i>property value</i> .

**Table 4-1.** Command-Line Options (Continued)

Option	Action
VMCE_HTTP_PORT	Sets the HTTP port. The default is 80. Remote machines connect to the server through this port to download the Converter Standalone client.
VMCE_HTTPS_PORT	Set the HTTPS port. The default is 443. Remote Converter Standalone clients connect to this port on the server and submit conversion tasks.
VMCE_AGENT_PORT	Sets an Agent port. The default is 9089. Remote Converter Standalone servers connect to this port to convert this machine.

## Modify Converter Standalone in Windows

To change the installed Converter Standalone agent or the communication ports for the Converter Standalone components, you must modify the Converter Standalone installation.

### Prerequisites

Verify that you have Administrator privileges.

Close the Converter Standalone application before you start the installer wizard.

### Procedure

- To start the Converter Standalone installer, perform one of the following actions:
  - Go to the folder that contains the installer file and double-click the VMware-converter-6.x.x-  
<xxxx>.exe file, where <xxxx> is the number of the build. Check the number of the build to see if it matches the build you installed.
  - Select **Add or Remove Programs** from Control Panel, select Converter Standalone from the list, and click **Change**.
- On the Welcome page of the installer wizard, click **Next**.
- On the Program Maintenance page, select **Modify** and click **Next**.
- On the Custom Setup page, select the components that you want to install and click **Next**.

Option	Description
<b>Converter server</b>	Converter Standalone server manages the conversion tasks. It handles the communication between the Converter Standalone clients and Converter Standalone agents. You cannot install Converter server alone. You must install Converter Standalone server together with Remote access or with the Converter Standalone client, or with both.
<b>Remote access</b>	If you install Remote access, local and multiple remote Converter Standalone clients can connect to the local Converter Standalone server. With Remote access you can create and manage conversion tasks remotely. For remote access, you must perform a client-server installation.

Option	Description
<b>Converter agent</b>	Install Converter Standalone agent so that the local machine can be a source machine for conversions.
<b>Converter client</b>	If you install only Converter Standalone client, you can connect to a remote Converter Standalone server. You can then use the remote machine to convert hosted virtual machines, managed virtual machines, or remote physical machines.

When you install the Converter Standalone server and Remote access, the local machine becomes a server for conversions, which you can manage remotely. When you install the Converter Standalone server and the Converter Standalone client, you can use the local machine to access remote Converter Standalone servers or create conversion jobs locally.

- 5 (Optional) If you decided to install Remote access or Converter Standalone agent, modify the Web service ports on the Port Settings page.
  - Type the HTTPS port service number.
  - Type the HTTP port service number.
  - Type the Agent port service number.
- 6 On the Ready to Modify page, click **Install**.
- 7 (Optional) If you installed the Converter Standalone client, deselect **Run Converter Standalone Client now** to complete the installation without starting the application at this time.
- 8 On the Installation Completed page, click **Finish**.  
A prompt might ask you to restart your system.

The selected Converter Standalone components are installed on the local machine and are ready for use.

### What to do next

You can use Converter Standalone to convert physical or virtual machine sources to virtual machine destinations.

## Repair Converter Standalone in Windows

You can repair the Converter Standalone installation to check for and reinstall the Converter Standalone client or Converter Standalone agent.

### Prerequisites

Verify that you have Administrator privileges.

Close the Converter Standalone application before you start the installer wizard.

### Procedure

- 1 To start the Converter Standalone installer, perform one of the following actions:
  - Go to the folder that contains the installer file and double-click the `VMware-converter-6.x.x-<xxxx>.exe` file, where `<xxxx>` is the number of the build. Check the number of the build to see if it matches the build you installed.
  - Select **Add or Remove Programs** from Control Panel, select Converter Standalone from the list, and click **Change**.
- 2 On the Welcome page of the installer wizard, click **Next**.
- 3 On the Program Maintenance page, select **Repair** and click **Next**.

- 4 On the Ready to Repair page, click **Install**.
  - 5 On the Installation Completed page, click **Finish**.
- A prompt might ask you to restart your system.

### What to do next

You can use Converter Standalone to convert physical or virtual machine sources to virtual machine destinations.

## Uninstall Converter Standalone in Windows

You can uninstall Converter Standalone by using the Microsoft Windows Add or Remove Programs utility from the Control Panel or by using the VMware vCenter Converter Standalone installer wizard.

### Prerequisites

Verify that you have Administrator privileges.

Close the Converter Standalone application before you start the installer wizard.

### Procedure

- 1 To start the Converter Standalone installer, perform one of the following actions:
    - Go to the folder that contains the installer file and double-click the `VMware-converter-6.x.x-<xxxx>.exe` file, where `<xxxx>` is the number of the build. Check the number of the build to see if it matches the build you installed.
    - Select **Add or Remove Programs** from Control Panel, select Converter Standalone from the list, and click **Change**.
  - 2 On the Welcome page of the installer wizard, click **Next**.
  - 3 On the Program Maintenance page, select **Remove** and click **Next**.
  - 4 On the Ready to Remove page, click **Remove**.
  - 5 On the Installation Completed page, click **Finish**.
- A prompt might ask you to restart your system.

## Connect to a Remote Converter Standalone Server

You can use the Converter Standalone client to connect to a Converter Standalone server installed on a remote machine.

### Prerequisites

Ensure that the Converter Standalone server and agent are installed on the remote machine.

### Procedure

- 1 Start Converter Standalone.

- 2 Follow the procedure that is applicable for your installation type.

Option	Action
<b>Local installation</b>	<ol style="list-style-type: none"><li>a Select <b>Administration &gt; Connect to another server</b>.</li><li>b On the Converter Standalone login page, select <b>Enter the IP address or host name of the Converter Standalone server</b>.</li><li>c Provide the IP address and Administrator credentials, and click <b>Login</b>.</li></ol>
<b>Client-server installation with remote access</b>	<ol style="list-style-type: none"><li>a On the Converter Standalone login page, select <b>Enter the IP address or host name of the Converter Standalone server</b>.</li><li>b Provide the IP address and Administrator credentials, and click <b>Login</b>.</li></ol>

### What to do next

You can now use the remote Converter Standalone server to set up and manage conversion tasks.

# Convert a Physical or Virtual Machine

---

You can create a conversion job to convert a physical or virtual machine to a variety of destinations. You can convert powered on physical machines, VMware virtual machines, third-party backup images and virtual machines, and Hyper-V Server virtual machines into VMware standalone virtual machines or virtual machines that vCenter Server manages.

The approach you take for creating the conversion job is determined by the type of source and the type of destination that you select.

## Source type

A powered on physical or virtual machine, a vSphere virtual machine running on an ESX/ESXi host, a standalone virtual machine, or a third-party backup image.

Standalone virtual machines include VMware virtual machines, and third-party virtual machines and backup images, such as VMware Workstation, Acronis True Image, Microsoft Virtual PC, Symantec Backup Exec Server Recovery (formerly known as LiveState Recovery), LiveState Recovery, StorageCraft, Parallels Desktop for Microsoft Windows and Mac OS, Parallels Workstation, and Norton Ghost (only .sv2i) images.

For a complete list of supported source types and product versions, see [“Supported Source Types,”](#) on page 21.

## Destination type

ESX/ESXi host, ESX/ESXi host that vCenter Server manages, or a VMware standalone virtual machine.

For a complete list of supported destination types and product versions, see [“Supported Destination Types,”](#) on page 22.

## Procedure

- 1 [Start the Wizard for a Conversion](#) on page 44  
The Conversion wizard guides you through the steps of creating a conversion job.
- 2 [Select a Source Machine to Convert](#) on page 44  
You can select from several source options for the type of machine to convert.
- 3 [Select a Destination for the New Virtual Machine](#) on page 50  
When you set up a conversion job, you must select a destination for the new virtual machine.
- 4 [Configure the Hardware of the Destination Virtual Machine](#) on page 53  
You can configure the virtual hardware resources that the destination virtual machine uses.
- 5 [Configure the Software on the Destination Virtual Machine](#) on page 66  
You can configure the guest operating system so that it is ready to operate in a virtual environment.

- 6 [Configure the Conversion Job](#) on page 71  
You can configure the conversion process and select the behavior of the source and destination machine during and after conversion. You can change the status of the source and destination services only when the source machine is running a Windows operating system.
- 7 [Review the Summary and Submit the Conversion Job](#) on page 76  
On the Summary page, you can view a summary of the conversion job before you add it to the job list.

## Start the Wizard for a Conversion

The Conversion wizard guides you through the steps of creating a conversion job.

### Procedure

- 1 Start the Converter Standalone application.
- 2 Click **Convert machine** in the application menu.

The Conversion wizard opens on the Source System page.

### What to do next

You can now select the source machine type to convert.

## Select a Source Machine to Convert

You can select from several source options for the type of machine to convert.

### Prerequisites

Before you select a source machine to convert, verify that it is listed in the list of supported source types. See [“Supported Source Types,”](#) on page 21.

- [Select a Powered On Windows Machine to Convert](#) on page 45  
You can select a running (powered on) Windows machine to convert. The source machine can be physical or virtual.
- [Select a Powered On Linux Machine to Convert](#) on page 46  
You can select a powered on Linux machine to convert. The source machine can be a physical or virtual machine.
- [Select an ESX/ESXi or vCenter Server Virtual Machine to Convert](#) on page 46  
You can convert a powered off virtual machine that is located on an ESX/ESXi host, or on an ESX/ESXi host managed by vCenter Server.
- [Select a VMware Hosted Virtual Machine to Convert](#) on page 48  
You can convert a virtual machine created or used in a VMware hosted product, such as VMware Workstation, VMware Player, and VMware Fusion.
- [Select a Backup Image or a Third-Party Virtual Machine to Convert](#) on page 48  
You can select a backup image or a third-party virtual machine as the conversion source.
- [Select a Hyper-V Server Virtual Machine to Convert](#) on page 49  
You can convert virtual machines that Hyper-V Server manages.

## Select a Powered On Windows Machine to Convert

You can select a running (powered on) Windows machine to convert. The source machine can be physical or virtual.

### Prerequisites

Before you continue, you must prepare the source Windows machine for conversion.

- Make sure that the Windows version installed on the powered on machine is supported. For a list of supported operating systems, see [“Supported Operating Systems,”](#) on page 19.
- Make sure that the Converter Standalone server machine has network access to the Windows source machine.
- Turn off firewall applications running on the source machine.
- Disable simple file sharing on the source Windows machine.
- Make sure that no other conversion job is using the source you select.
- Remove any VMware Converter 4.x and VMware Converter 5.x installations manually from the source machine.
- If you plan to convert a powered on machine by using IPv6, ensure that the operating system is Windows Vista or later.

### Procedure

- 1 On the Source System page of the Conversion wizard, select **Powered-on machine** from the **Select source type** drop-down menu.
- 2 Select an option that corresponds to your source machine location.

Source Location	Action
<b>Local</b>	Click <b>This local machine</b> . For local machines, the authorization is set to the current user and cannot be changed. If you connect to Converter Standalone server by IP address, <b>Connect this local machine</b> option is not active. Convert the local machine like a remote machine.
<b>Remote</b>	<ol style="list-style-type: none"> <li>a Click <b>A remote machine</b>.</li> <li>b Provide the IP address or name of the machine and administrator credentials.</li> <li>c Select the operating system type from the <b>OS Family</b> drop-down menu.</li> </ol>

- 3 (Optional) Click **View source details** to see hardware and software information about the source machine.

- 4 Click **Next**.

If you convert a remote machine and Converter Standalone agent is not already installed on the source machine, a dialog box prompts you to confirm the installation and select an uninstallation method for Converter Standalone agent.

- 5 (Optional) Select the uninstallation procedure for Converter Standalone agent and click **Yes**.

Converter Standalone agent is installed on the source machine.

Converter Standalone agent prepares the source machine for conversion.

**What to do next**

On the Destination System page, you can select the destination type for the new virtual machine.

**Select a Powered On Linux Machine to Convert**

You can select a powered on Linux machine to convert. The source machine can be a physical or virtual machine.

You can convert powered on machines that run Linux only if GRUB is installed as the boot loader on the source. LILO boot loader is not supported.

**Prerequisites**

Before you continue, you must prepare the source machine for conversion.

- Enable SSH on the source Linux machine.
- Make sure that you use the root account or account with sudo privileges for all commands to convert a Linux powered on machine.
- Make sure that the Converter Standalone server machine has network access to the Linux source machine.
- Make sure that no other conversion job is using the source you select.

**Procedure**

- 1 On the Source System page of the Conversion wizard, select **Powered-on machine** from the **Select source type** drop-down menu.
- 2 Provide the IP address or DNS name and root credentials for the Linux machine you want to convert.
- 3 From the **OS Family** drop-down menu, select **Linux**.
- 4 Click **Next**.

Converter Standalone connects to the powered on Linux machine and prepares it for conversion.

**What to do next**

On the Destination System page, you can select the destination type for the new virtual machine.

**Select an ESX/ ESXi or vCenter Server Virtual Machine to Convert**

You can convert a powered off virtual machine that is located on an ESX/ESXi host, or on an ESX/ESXi host managed by vCenter Server.

You cannot convert a running or suspended virtual machine by using this procedure. For powered on virtual machines, use the procedures for powered on source machines.

If you connect to a vCenter Server that is part of an environment that contains multiple vCenter Server instances, Converter Standalone displays only ESX hosts managed directly by the currently connected vCenter Server.

**Prerequisites**

If the source machine that you want to convert resides on a VMware DRS cluster that vCenter Server manages, set VMware DRS Power Management (DPM) to manual so that DPM does not power off the ESX hosts used by Converter Standalone. When the conversion process completes, restore DPM to its original settings. For information about how to change DPM settings, see the *Resource Management Guide*.

Power off the source machine before the conversion.

**Procedure**

- 1 On the Source System page of the Conversion wizard, select **VMware Infrastructure virtual machine** from the **Select source type** drop-down menu.
- 2 Provide the IP address or host name and credentials for authentication with the ESX host or the vCenter Server, and click **Next**.

The Source Machine page appears, displaying the host name or IP address and the inventory of the ESX host or the vCenter Server.

**What to do next**

On the Source Machine page of the Conversion wizard, you can browse the virtual infrastructure inventory and select the virtual machine to convert.

**Specify the vCenter Server Virtual Machine to Convert**

If you choose to convert a virtual machine managed by a vCenter Server or ESX host, you must browse the inventory to locate the source virtual machine.

**Prerequisites**

On the Source System page of the Conversion wizard, select **VMware Infrastructure virtual machine** as the conversion source and click **Next** to proceed to the Source Machine page.

**Procedure**

- 1 (Optional) If you are connected to a vCenter Server, select a virtual machine view from the **Specify machine with** drop-down menu.

Option	Description
<b>Hosts and Clusters</b>	The Inventory tree pane provides a view of hosts, clusters, resource pools, and vApps. If you select a host managed by a cluster, you see the full list of virtual machines and templates in the virtual machine list view. If you select a standalone host or a cluster, you see only the virtual machines that are not deployed in the resource pools of that host or cluster.
<b>VMs and Templates</b>	The Inventory tree pane provides a view of datacenters and virtual machine folders.

- 2 (Optional) If you are connected to a vCenter Server, select an object from the Inventory tree pane.

Option	Description
<b>Hosts and Clusters</b>	Select cluster, ESX host, resource pool, or vApp.
<b>VMs and Templates</b>	Select datacenter or virtual machine folder.

- 3 From the virtual machines list, select the virtual machine you want to convert.

You can search for virtual machines in the virtual machine list by typing one or more letters of their names in the **Search for name with** text box. You can clear your search by clicking **Clear**.

**NOTE** You cannot select a virtual machine from an ESX host that is powered off, connected to another vCenter Server, or in maintenance mode.

- 4 (Optional) To refresh the inventory, click **Refresh**.
- 5 (Optional) To view more details about a machine, select it and click **View source details**.
- 6 Click **Next** to proceed to the Destination System page.

**What to do next**

On the Destination System page, you can select the destination type for the new virtual machine.

**Select a VMware Hosted Virtual Machine to Convert**

You can convert a virtual machine created or used in a VMware hosted product, such as VMware Workstation, VMware Player, and VMware Fusion.

**Prerequisites**

Verify that your source machine is a supported VMware Desktop products virtual machine. For more information, see [“Supported Source Types,”](#) on page 21.

If you plan to use a network path to locate the source, verify that the machine where Converter Standalone server runs has access to that network path.

Power off the source machine before the conversion.

**Procedure**

- 1 On the Source System page of the Conversion wizard, select **VMware Workstation or other VMware virtual machine** from the **Select source type** drop-down menu.
- 2 Locate the virtual machine source.
  - If you are connected to a remote Converter Standalone server, provide a network path to the source virtual machine file (.vmx) in the **Virtual machine file** text box. For example, \\server\virtual\_machines\virtual\_machine.vmx.
  - If you are connected to a local Converter Standalone server, provide a network path or a local path to the .vmx file.

By default, only VMware virtual machine \*.vmx files are displayed.
- 3 If you are connected to a remote Converter Standalone server, type user credentials for accessing the source virtual machine.
 

You do not have to provide user credentials if you are connected to a local Converter Standalone server. In such cases, Converter Standalone uses the Windows credentials to connect to the source machine.
- 4 (Optional) To view more information about the selected source, click **View source details**.
- 5 Click **Next** to proceed to the Destination System page.

**What to do next**

On the Destination System page, you can select the destination type for the new virtual machine.

**Select a Backup Image or a Third-Party Virtual Machine to Convert**

You can select a backup image or a third-party virtual machine as the conversion source.

**Prerequisites**

Verify that your machine is a supported backup image or third-party virtual machine here [“Supported Source Types,”](#) on page 21.

If you plan to use a network path to locate the source, verify that the machine where Converter Standalone server runs has access to that network path.

Power off the source machine before the conversion.

**Procedure**

- 1 On the Source System page, select **Backup image or third-party virtual machine** from the **Select source type** drop-down menu.
- 2 Locate the source backup image or virtual machine file.
  - If you are connected to a remote Converter Standalone server, provide a valid network path to the source backup image or virtual machine file in the **Virtual machine file** text box. For example, `\\server\backup_images\backup_image.pvs`.
  - If you are connected to a local Converter Standalone server, provide a network path or a local path to the source backup image or virtual machine file.
- 3 If you are connected to a remote Converter Standalone server, type user credentials for accessing the source virtual machine.  
  
You do not have to provide user credentials if you are connected to a local Converter Standalone server. In such cases, Converter Standalone uses the Windows credentials to connect to the source machine.
- 4 (Optional) To view more information about the selected source, click **View source details**.
- 5 Click **Next** to proceed to the Destination System page.

**What to do next**

On the Destination System page, you can select the destination type for the new virtual machine.

**Select a Hyper-V Server Virtual Machine to Convert**

You can convert virtual machines that Hyper-V Server manages.

---

**IMPORTANT** This operation is applicable to Hyper-V Server versions distributed with Windows Server 2008 R2. For other Hyper-V Server sources, perform the procedure for powered on machines.

---

**Prerequisites**

Power off the source Hyper-V virtual machine.

**Procedure**

- 1 On the Source System page, select **Hyper-V Server** from the **Select source type** drop-down menu.
- 2 Provide the IP address or DNS name and administrative credentials to authenticate with the Hyper-V Server and click **Next**.  
  
If Converter Standalone agent is not already installed on the Hyper-V Server, a dialog box appears. In it, you confirm the installation of Converter Standalone agent.
- 3 (Optional) Select an uninstallation procedure for Converter Standalone agent and click **Yes**.

Converter Standalone agent is installed on the source Hyper-V Server.

**What to do next**

On the Source Machine page, browse the Hyper-V Server inventory to locate the source virtual machine to convert.

## Select the Hyper-V Server Virtual Machine to Convert

If you choose to convert a virtual machine managed by a Hyper-V Server, you must browse the inventory to locate the source virtual machine.

---

**IMPORTANT** This operation is applicable to Hyper-V Server versions distributed with Windows Server 2008 R2. For other Hyper-V Server sources, perform the procedure for powered on machines.

---

### Prerequisites

On the Source System page, select **Hyper-V Server** as the source type and navigate to the Source Machine page.

### Procedure

- 1 On the Source Machine page, select the virtual machine you want to convert.

You can search for virtual machines in the inventory by typing one or more letters of their names in the **Search for name with** text box. You can clear your search by clicking **Clear**.

---

**NOTE** You can select only powered off virtual machines. To convert a running machine, on the Source System page select **Powered-on machine** as the source type. To convert a suspended machine, power it off and convert it as a Hyper-V Server virtual machine, or power it on and convert it as a powered on source.

---

- 2 (Optional) To refresh the inventory, click **Refresh**.
- 3 (Optional) To view more details about the virtual machine to convert, click **View source details**.
- 4 Click **Next** to proceed to the Destination System page.

The Converter Standalone agent prepares the Hyper-V source machine for conversion.

### What to do next

On the Destination System page, you can select the destination type for the new virtual machine.

## Select a Destination for the New Virtual Machine

When you set up a conversion job, you must select a destination for the new virtual machine.

When you use a VMware DRS cluster as the destination, you must set VMware DRS Power Management (DPM) to manual. This setting ensures that DPM does not power off the ESX hosts that Converter Standalone uses. When the conversion process completes, restore DPM to its original settings. For information about how to change DPM settings, see the *vSphere Resource Management Guide*.

---

**NOTE** For conversions of powered on source machines that run Linux, the only supported destination is a vSphere destination.

---

## Select a Managed Destination

You can convert a virtual machine to use with ESX/ESXi or with an ESX/ESXi host that vCenter Server manages.

### Procedure

- 1 On the Destination System page, select **VMware Infrastructure virtual machine** from the **Select destination type** drop-down menu.

- 2 Provide the IP address or host name and credentials for authentication with the ESX host or the vCenter Server.
- 3 (Optional) If you want the data traffic to pass through the Converter Standalone server machine, select the **Use proxy mode** check box.
- 4 Click **Next** to proceed to the Destination Virtual Machine page.

### What to do next

On the Destination Virtual Machine page, you can specify the name of the destination virtual machine and select the folder in which it should reside.

### Name the Destination Virtual Machine and Select a Folder

For vSphere destinations, you can select the destination folder and rename the destination virtual machine.

If you connect to an ESX host directly, you can view only the list of virtual machines. Therefore, you cannot select a destination folder.

### Prerequisites

On the Destination System page of the Conversion wizard, select **VMware Infrastructure virtual machine** as the destination type.

### Procedure

- 1 On the Destination Virtual Machine page, select the datacenter to accommodate the destination virtual machine.

If you use folders in your virtual environment to manage groups of virtual machines, you can select a folder to accommodate the destination virtual machine.

- 2 In the **Name** text box, enter a name for the destination virtual machine.

By default, Converter Standalone assigns the source machine name in this text box.

---

**NOTE** Search the list of virtual machines in the datacenter or folder you selected to ensure that the name you assign to the destination virtual machine does not exist. Virtual machines are filtered as you type. You can clear your search by clicking **Clear**.

---

- 3 (Optional) To refresh the inventory, click **Refresh**.
- 4 Click **Next** to proceed to the Destination Location page.

### What to do next

On the Destination Location page, you can modify the destination environment for the new virtual machine. This includes selecting a host, resource pool, or cluster to accommodate the destination virtual machine, selecting the Datastore to hold the files of the destination virtual machine, and selecting the virtual hardware version to install on the destination virtual machine.

### Customize the Location of the Destination Virtual Machine

For vSphere destinations, you can select an ESX/ESXi host, a resource pool, or a cluster. You can also select a datastore and the virtual hardware version to be installed on the destination.

### Prerequisites

On the Destination Virtual Machine page, name the destination virtual machine. If the destination is a vCenter Server, select the destination folder.

**Procedure**

- 1 On the Destination Location page of the Conversion wizard, select a datacenter object from the inventory to accommodate the destination virtual machine.
  - Select an ESX/ESXi host.
  - Select a resource pool.
  - Select a cluster.
 

On the selected cluster, if DRS is not running in the automated mode, you can select an ESX/ESXi host that belongs to the selected cluster from the **Host** drop-down menu.
- 2 (Optional) From the **Datastore** drop-down menu, select the datastore to hold the destination virtual machine files.
- 3 (Optional) From the **Virtual machine version** drop-down menu, select the virtual hardware version for the destination virtual machine.

Option	Description
<b>Version 7</b>	Select if the destination host is running ESX/ESXi 4.x or later.
<b>Version 8</b>	Select if the destination host is running ESXi 5.0 or later.
<b>Version 9</b>	Select if the destination host is running ESXi 5.1 or later.
<b>Version 10</b>	Select if the destination host is running ESXi 5.5 or later.

The **Virtual machine version** drop-down menu lists only the virtual hardware versions that are compatible with the destination location.

- 4 Click **Next** to proceed to the Options page.

**What to do next**

On the Options page, you can set up the parameters of the conversion task. These settings include data layout, network settings, and guest operating system customization.

**Select a Hosted Destination**

You can convert a virtual machine for use with VMware Workstation, VMware Fusion, VMware Server, or VMware Player.

**Prerequisites**

If you plan to use a network path to locate the destination, verify that you have access to that network path.

**Procedure**

- 1 On the Destination System page, select **VMware Workstation or other VMware virtual machine** from the **Select destination type** drop-down menu.
- 2 Select the destination VMware hosted product from the **Select VMware product** drop-down menu.
- 3 Provide a name for the destination virtual machine in the **Name** text box.
- 4 Specify the location to store the destination virtual machine files.
  - If you are connected to a remote Converter Standalone server, provide a network path to the destination directory. For example, \\server\virtual\_machines\.
  - If you are connected to a local Converter Standalone server, provide a network path or a local path to the destination directory.

- 5 (Optional) If the destination directory is password-protected, provide valid user credentials.  
You do not have to provide user credentials if the destination location is on the local storage of the machine where Converter Standalone server runs.
- 6 Click **Next** to proceed to the Options page.

### What to do next

On the Options page, you can set up the parameters of the conversion task. These settings include data layout, network settings, and guest operating system customization.

## Configure the Hardware of the Destination Virtual Machine

You can configure the virtual hardware resources that the destination virtual machine uses.

- [Organize the Data to Be Copied on the Destination Machine](#) on page 53  
Your selected source and destination determine the available data cloning options. For a conversion job, you can copy all disks to the destination or select the volumes to be copied or to be excluded. For destinations with multiple datastores, you can select the data location on specific datastores in your virtual environment.
- [Edit the Number of Processor Sockets and Cores](#) on page 63  
You can change the number of virtual sockets and the number of processor cores per socket that the destination virtual machine uses.
- [Allocate Memory for the Destination Virtual Machine](#) on page 63  
You can change the amount of memory allocated to the destination virtual machine.
- [Select a Disk Controller for the Destination Virtual Machine](#) on page 64  
You can select the disk controller type for the destination virtual disks.
- [Configure the Network Settings of the Destination Virtual Machine](#) on page 65  
You can change the number of network adapters and select the network that the destination virtual machine uses.
- [Configure the Network for the Helper Virtual Machine](#) on page 65  
When you convert a powered on Linux machine, Converter Standalone creates a Helper virtual machine on the destination. The Helper virtual machine needs network access to the source machine to clone the source files. Default conversion settings enforce automatic acquisition of an IPv4 address, IPv6 address, and a DNS server for the Helper virtual machine, but you can set up this network connection manually.

## Organize the Data to Be Copied on the Destination Machine

Your selected source and destination determine the available data cloning options. For a conversion job, you can copy all disks to the destination or select the volumes to be copied or to be excluded. For destinations with multiple datastores, you can select the data location on specific datastores in your virtual environment.

If you selected a source with multiple disks and volumes, you can set Converter to start concurrent data transfers. For details, see [“Set the Number of Data Connections per Task,”](#) on page 94.

### Prerequisites

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

## Procedure

- ◆ In the Data to copy pane, select a copy mode from the **Data copy type** drop-down menu.

Option	Description
<b>Copy all disks and maintain layout</b>	Results in disk-based cloning. You can preserve the source disk layout in the destination virtual machine. This option is not available for powered on source machines.
<b>Select volumes to copy</b>	Results in volume-based cloning. Volume-based cloning is performed at file or block level. You can select the volumes to be copied to the destination virtual machine. You can also resize and reorganize the volume layout. This option is available for powered on source machines that run Windows and Linux, and for all other supported sources that run Windows.
<b>Linked clone</b>	Results in creating a VMware virtual machine that shares the virtual disk of the source machine or system image. This option is available only for hosted sources and hosted destinations.

## What to do next

The destination that you select determines the destination disk types that are available to you. To support destination virtual disks on FAT file systems, divide the source data into 2GB files. For detailed information about destination virtual disks types, see [“Supported Destination Disk Types,”](#) on page 24.

## Resize a Volume

To manage disk space on the destination datastore, you can resize the disk volumes before you begin the conversion.

### Prerequisites

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

### Procedure

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 In the Destination size column, select an option to specify the size of a destination volume.

Option	Description
<b>Maintain size</b>	Maintains the original source volume size. <b>NOTE</b> If the volume is nearly full, Converter Standalone allocates a buffer amount and displays a volume amount greater than the source volume.
<b>Min size</b>	Copies only the used space of the source volume. <b>NOTE</b> Converter Standalone allocates a buffer amount and displays a volume amount greater than the source volume.
<b>Type size in GB</b>	Allows you to type a custom size in GB for the destination volume. The value cannot be smaller than the used space on the source volume, but can be larger than the total size of the source volume. The maximum allowed volume size for the destination is 999999GB.
<b>Type size in MB</b>	Allows you to type a custom size in MB for the destination volume. The value cannot be smaller than the used space on the source volume, but can be larger than the total size of the source volume. The maximum allowed volume size for the destination is 999999GB.

- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Change a Volume Cluster Size

To enhance performance and storage space, you can change the volume cluster size before the conversion. Modifying the cluster size changes the cloning mode from block level to file level.

### Prerequisites

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

Ensure that the source is a Windows machine.

### Procedure

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 Click **Advanced** and select the **Destination layout** tab.
- 3 Select the volume for which you want to change the cluster size.
- 4 In the Cluster size column, select an option to specify the cluster size of the destination volume.

Option	Description
<b>Default cluster size</b>	Applies a default cluster size to the destination volume.
<b>Keep source cluster size</b>	Preserves the cluster size of the original source volume.
<b>Select a predefined size</b>	Allows you to select a cluster size for the destination volume from a list of supported values.

In the Copy type column, you can verify that the cloning operation type is set to file level.

- 5 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Exclude a Source Volume from the Conversion Process

You can choose not to copy a volume from the source machine to the destination virtual machine. During the conversion process, Converter Standalone ignores the deselected volumes and copies only the volumes that are selected.

The source virtual machine must have more than one volume to be able to deselect existing volumes.

**Prerequisites**

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

**Procedure**

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 Deselect the volumes that you do not want to copy to the destination virtual machine.
- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

The deselected volumes are ignored during the conversion process and do not appear on the destination virtual machine.

**Move a Volume to a Different Virtual Disk**

You can add virtual disks to the destination virtual machine and move source volumes in the new disks.

The number of virtual disks you can create depends on the number of volumes that exist on the source virtual machine. For example, if you have only one volume on the source virtual machine, you cannot add a virtual disk to the destination virtual machine.

You cannot move the system volume where the guest operating system is installed. For example, if your Windows operating system is installed on C:, you cannot move the C: volume.

**Prerequisites**

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

**Procedure**

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 Click **Advanced** and select the **Destination layout** tab.
- 3 Select a volume from the list and click **Add disk**.

A new virtual disk appears in the Destination layout column.

- 4 Select a source volume and use the **Move up** or **Move down** buttons to accommodate the volume in the new virtual disk.

The partitioning scheme of the first source volume that you move will determine the type of the new virtual disk on the destination virtual machine.

If you leave the virtual disk empty, Converter Standalone does not create the virtual disk on the destination virtual machine.

The selected source volume is copied to a new virtual disk on the destination virtual machine.

## Select the Destination Datastore for a Source Volume

You can store a disk volume in a datastore different from the one that accommodates the virtual machine configuration file (.vmtx).

You can select the destination datastore for a volume only for managed destinations with more than one datastore.

### Prerequisites

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

### Procedure

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 Click **Advanced** and select the **Destination layout** tab.
- 3 Select a volume from the list and click **Add disk**.  
A new virtual disk appears in the Destination layout column.
- 4 Select a source volume and use the **Move up** or **Move down** buttons to accommodate the volume in the new virtual disk.  
The partitioning scheme of the first source volume that you move will determine the type of the new virtual disk on the destination virtual machine.  
If you leave the virtual disk empty, Converter Standalone does not create the virtual disk on the destination virtual machine.
- 5 Highlight the new virtual disk and select a different datastore from the **Destination datastore** drop-down menu.
- 6 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

The virtual disk file (.vmdk) that contains the volume is stored in the selected datastore.

## Add a Virtual Disk

You can add additional virtual disks to the destination virtual machine .

The number of virtual disks on the destination virtual machine depends on the number of volumes that exist on the source virtual machine . For example, if you have only one volume on the source virtual machine, you cannot add a virtual disk to the destination virtual machine.

### Prerequisites

You must have more than one volumes on the source machine to be able to add an additional virtual disk.

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

**Procedure**

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 Click **Advanced** and select the **Destination layout** tab.
- 3 Click **Add disk**.  
A new virtual disk appears in the Destination layout column.
- 4 Click on the new virtual disk to select it.
- 5 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

The new virtual disk is created on the destination datastore.

**Set Up a Virtual Disk as a Logical-Volume Group Container**

To preserve the LVM structure when converting a Linux source, you can set up a virtual disk as a logical-volume container. Converter Standalone allows you to preserve and modify the source LVM structure.

You can manage logical volumes and logical-volume groups in the same way as basic volumes and disks.

Logical-volume groups are listed together with virtual disks and are marked with a different icon.

You cannot move active and system volumes in a logical-volume group.

**Prerequisites**

Ensure that the source is a Linux machine and supports LVM.

Only LVM2 is supported.

**Procedure**

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 Click **Advanced** and select the **Destination layout** tab.
- 3 Select a disk and click **To LVG**.

**Move a Disk to a Different Datastore**

You can use disk-based cloning to select a different datastore for a destination virtual disk.

**Prerequisites**

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

You can change the destination datastore for a disk only for managed destinations with more than one datastore.

**Procedure**

- 1 From the **Data copy type** drop-down menu, select **Copy all disks and maintain layout**.

- 2 Click the name of the virtual disk to relocate and select a different datastore from the **Destination datastore** drop-down menu.
- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

The virtual disk file (.vmdk) is stored in the selected datastore.

## Create an Expandable Disk on a Managed Destination

To save space on the destination datastore, you can copy only the existing data from a source virtual disk and create an expandable disk on the destination. Later, as you use the destination virtual machine and write new data, the destination virtual disk grows.

You can create expandable disks on managed destinations that support thin provisioning through their GUI.

You can create an expandable disk by using volume-based or disk-based cloning.

### Prerequisites

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

### Procedure

- Use disk-based cloning to create an expandable disk.
  - a From the **Data copy type** drop-down menu, select **Copy all disks and maintain layout**.
  - b Click a virtual disk and select **Thin** from the **Type** drop-down menu.
  - c To apply your settings, select another option from the options list or click **Next**.
- Use volume-based cloning to create an expandable disk.
  - a From the **Data copy type** drop-down menu, select **Select volumes to copy** and click **Advanced**.
  - b Select the **Destination layout** tab, click a virtual disk, and select **Thin** from the **Type** drop-down menu.
  - c To apply your settings, select another option from the options list or click **Next**.

Converter Standalone copies only the existing data to the destination datastore. The empty disk space from the virtual disk is not copied to the datastore. As you use the destination virtual machine and write new data to the disk, the size of the destination disk grows.

## Create an Expandable Disk on a Hosted Destination

To save space on the destination, you can copy only the existing data from a source virtual disk. Later, as you use the destination virtual machine and write new data, the destination virtual disk grows.

You can create an expandable disk by using volume-based or disk-based cloning.

**Prerequisites**

You must select a hosted destination, such as VMware Workstation, to use the **Not pre-allocated** disk option.

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

**Procedure**

- Use disk-based cloning to create an expandable disk.
  - a From the **Data copy type** drop-down menu, select **Copy all disks and maintain layout**.
  - b From the **Type** drop-down menu, select **Not pre-allocated**.
  - c To apply your settings, select another option from the options list or click **Next**.
- Use volume-based cloning to create an expandable disk.
  - a From the **Data copy type** drop-down menu, select **Select volumes to copy** and click **Advanced**.
  - b Select the **Destination layout** tab, select a virtual disk, and select **Not pre-allocated** from the **Type** drop-down menu.
  - c To apply your settings, select another option from the options list or click **Next**.

Converter Standalone copies only the existing data to the destination datastore. The empty disk space from the virtual disk is not copied to the datastore. As you use the destination virtual machine and write new data to the disk, the size of the destination disk grows.

**Exclude a Source Disk from the Conversion Process**

You can select a disk from the source machine and delete it from the disk layout of the destination virtual machine.

**Prerequisites**

The source machine must have more than one hard disk.

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

**Procedure**

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 Delete the disk.

Option	Description
<b>Preserve the volumes associated with the disk</b>	a Click <b>Advanced</b> and select the <b>Destination layout</b> tab.
	b Move the volumes from the disk that you want to delete to another virtual disks.
	c Highlight the empty disk and click <b>Remove disk</b> .
<b>Delete the volumes associated with the disk</b>	a Click <b>Advanced</b> and select the <b>Source volumes</b> tab.
	b Deselect the volumes associated with the disk that you want to delete.

- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Copy All Disks to the Destination

To preserve the source disks on the destination virtual machine, you can copy all disks to the destination.

Disk-based cloning is not available for powered on source machines.

### Prerequisites

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

### Procedure

- 1 From the **Data copy type** drop-down menu, select **Copy all disks and maintain layout**.
- 2 (Optional) If the destination datastore is low on disk space, click a virtual disk and select a different datastore from the **Destination datastore** drop-down menu.

---

**NOTE** You must have access to more than one datastore to move a disk to a different datastore.

---

- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

Converter Standalone copies the disks to the selected datastores and preserves the source disk layout.

## Create an Optimized Partition Layout

By default, Converter Standalone optimizes the disk partitions alignment. Optimizing the partition alignment improves the performance of the destination virtual machine.

### Prerequisites

On the Options page of the Conversion wizard, click **Data to copy** in the options list.

### Procedure

- 1 From the **Data copy type** drop-down menu, select **Select volumes to copy**.
- 2 Select the **Create optimized partition layout** check box.

- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

Creating an optimized partition layout aligns the partitions on a 1MB boundary for Windows sources and on a 64KB boundary for Linux sources.

## Create a Linked Clone

A linked clone is a VMware virtual machine that shares the virtual disk of the source virtual machine or system image. Linked clones are useful for checking the compatibility of non-VMware images, such as .sv2i and .vmc files.

You can create linked clones only when you convert a virtual machine or other image source to a hosted destination.

You cannot create linked clones from Parallels source images.

You cannot create a linked clone if the source image is password-protected.



**CAUTION** Linked clones converted from Virtual PC and Virtual Server machines, and from LiveState images are corrupted if the source is modified or powered on after the conversion.

### Prerequisites

Turn off the source virtual machine.

To verify that your source type is a supported third-party source, see [“Supported Source Types,”](#) on page 21.

### Procedure

- 1 On the Destination System page, select **VMware Workstation or other VMware virtual machine** as a destination and click **Next**.
- 2 On the Options page, click **Data to copy** in the left pane.
- 3 In the **Data copy type** drop-down menu, select **Linked clone**.
- 4 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

You have set up a conversion job to create a linked clone.

## Edit the Number of Processor Sockets and Cores

You can change the number of virtual sockets and the number of processor cores per socket that the destination virtual machine uses.

### Prerequisites

Make sure the destination host and the guest operating system support the number of processor cores you assign to the destination virtual machine.

---

**NOTE** You can change the number of cores per socket on virtual hardware version 8 and later.

---

On the Options page of the Conversion wizard, click **Devices** in the options list.

### Procedure

- 1 Click the **Other** tab.
- 2 From the **Number of virtual sockets** drop-down menu on the CPU Settings panel, select the number of virtual sockets for the destination virtual machine.
- 3 From the **Number of cores per socket** drop-down menu on the CPU Settings panel, select the number of cores per socket for the destination virtual machine.
- 4 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

The destination virtual machine is configured with the number of virtual processor sockets and cores that you selected. If Converter Standalone shows a message that the destination hardware does not support the number of cores you selected, you must select a supported number of sockets and cores.

## Allocate Memory for the Destination Virtual Machine

You can change the amount of memory allocated to the destination virtual machine.

By default, Converter Standalone recognizes the amount of memory on the source machine and allocates it to the destination virtual machine.

### Prerequisites

On the Options page of the Conversion wizard, click **Devices** in the options list.

### Procedure

- 1 Click the **Memory** tab.
- 2 In the Memory panel, use the slider or the spin-box to specify the amount of memory for the destination virtual machine.

- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

Converter Standalone validates the amount of memory. A warning appears if you set the memory amount to more than the maximum supported or to less than the required minimum.

## Select a Disk Controller for the Destination Virtual Machine

You can select the disk controller type for the destination virtual disks.

### Prerequisites

On the Options page of the Conversion wizard, click **Devices** in the options list.

### Procedure

- 1 Click the **Other** tab.
- 2 From the **Disk controller** drop-down menu, select a disk controller for the destination virtual disk or retain the selected recommended type.

Option	Description
<b>SCSI Bus Logic</b>	Use SCSI virtual disks in the destination virtual machine.
<b>IDE</b>	Use IDE virtual disks in the destination virtual machine.
<b>SCSI LSI Logic</b>	Use LSI Logic SCSI virtual disks in the destination virtual machine.
<b>SCSI LSI Logic SAS</b>	Use LSI Logic SCSI (SAS) virtual disks in the destination virtual machine.
<b>SATA</b>	Use SATA virtual disks in the destination virtual machine.
<b>Preserve source</b>	Use the same types of disk controllers as those installed on the source machine. If they are not supported on the destination virtual machine, replace them with supported ones. This option is not available for powered on Linux sources. <b>NOTE</b> When converting Linux virtual machines on ESX and vCenter Server earlier than 4.1, the system might not retrieve the full list of supported controllers.

- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Configure the Network Settings of the Destination Virtual Machine

You can change the number of network adapters and select the network that the destination virtual machine uses.

For managed destinations, you can also select the controller type for each network adapter.

### Procedure

- 1 On the Options page of the Conversion wizard, select **Networks** from the options list.
- 2 From the **Network adapters to connect** drop-down menu, select the number of network adapters to be used by the destination virtual machine.
- 3 Configure each of the network adapters for the destination.

Option	Description
<b>For managed destinations</b>	<ol style="list-style-type: none"> <li>a From the <b>Network</b> drop-down menu, select the network that the adapter connects to.</li> <li>b From the <b>Controller type</b> drop-down menu, select the controller type.</li> </ol>
<b>For hosted destinations</b>	From the <b>Connection type</b> drop-down menu, select the connection type.

- 4 To connect an adapter when you power on the destination virtual machine, select the **Connect at power-on** check box.
- 5 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	<p>Saves your settings and displays the next page of the Conversion wizard.</p> <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Configure the Network for the Helper Virtual Machine

When you convert a powered on Linux machine, Converter Standalone creates a Helper virtual machine on the destination. The Helper virtual machine needs network access to the source machine to clone the source files. Default conversion settings enforce automatic acquisition of an IPv4 address, IPv6 address, and a DNS server for the Helper virtual machine, but you can set up this network connection manually.

### Procedure

- 1 On the Options page of the Conversion wizard, click **Helper VM network**.
- 2 (Optional) To assign a static IPv4 address to the Helper virtual machine, on tab **IPv4** select **Use the following IP address** and specify the IPv4 address, subnet mask, and default gateway.

Make sure that the IP address you specify for the Helper virtual machine is not already in use on the network.

- 3 (Optional) If you want the Helper virtual machine to use only IPv4 address, on tab **IPv6** deselect the **Use IPv6** check box.

- 4 (Optional) To assign a static IPv6 address to the Helper virtual machine, on tab **IPv6** select **Use the following IPv6 address** and specify the IPv6 address, subnet prefix length, and default gateway.  
 Make sure that the IP address you specify for the Helper virtual machine is not already in use on the network.
- 5 (Optional) If you want the Helper virtual machine to use only IPv6 address, on tab **IPv4** deselect the **Use IPv4** check box.
- 6 (Optional) Select **Use the following DNS server address** and type the preferred DNS server address to configure the DNS server address manually.  
 Optionally, you can type an alternative DNS server address as well.
- 7 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

Converter Standalone uses the IP address and DNS server you specify to copy data from the source Linux machine to the Helper virtual machine during conversion.

## Configure the Software on the Destination Virtual Machine

You can configure the guest operating system so that it is ready to operate in a virtual environment.

Software configuration includes a number of settings.

- [Customize the Windows Guest Operating System](#) on page 66  
 You can customize guest operating systems running Windows so that the virtual machine is prepared to work immediately in the destination environment.
- [Install VMware Tools on the Destination Virtual Machine](#) on page 70  
 When converting Windows source machines, you can install VMware Tools to improve graphics performance of the guest operating system. Other enhancements include automatic grab and release of the mouse pointer, copy and paste operations between guest and host, and improved mouse performance.
- [Remove System Restore Checkpoints](#) on page 70  
 When you convert source machines running Windows, you can remove System Restore checkpoints so that the conversion process is faster.

## Customize the Windows Guest Operating System

You can customize guest operating systems running Windows so that the virtual machine is prepared to work immediately in the destination environment.

### Prerequisites

- For Windows Server 2003, save the Sysprep files to %ALLUSERSPROFILE%\Application Data\VMware\VMware vCenter Converter Standalone\sysprep on the machine that runs Converter Standalone server. For more details about the Sysprep files location for different operating systems, see [“Save Sysprep Files,”](#) on page 79.

- On the Options page of the Conversion wizard, click **Advanced options**, click the **Post-conversion** tab, and select **Customize guest preferences for the virtual machine**. Click **Next** to view and adjust the available customization options.
- [Customize the Identity of the Destination Virtual Machine](#) on page 67  
To configure the identity of the destination virtual machine for the destination network, personalize it by editing its name, owner, and organization name, and by generating a new security ID.
- [Enter the Windows License Information](#) on page 68  
Ensure that you provide licensing information for all destination virtual machines running guest operating systems as necessary. Because of third-party licensing policies, you might not be able to transfer the license from the source machine and you might need to provide a new valid license for the destination virtual machine.
- [Set the Time Zone for the Destination Virtual Machine](#) on page 68  
You can set the time zone if you are converting a virtual machine to use in a different time zone.
- [Configure the Network Adapters](#) on page 69  
You can configure the network settings of the virtual machine to work with the network configuration of the destination environment.
- [Assign a Workgroup or Domain Details](#) on page 69  
You can set up the workgroup and the domain in which the destination virtual machine belongs.

## Customize the Identity of the Destination Virtual Machine

To configure the identity of the destination virtual machine for the destination network, personalize it by editing its name, owner, and organization name, and by generating a new security ID.

### Prerequisites

On the Options page of the Conversion wizard, click **Advanced options**, click the **Post-conversion** tab, and select **Customize guest preferences for the virtual machine**. Click **Next** to view and adjust the available customization options.

### Procedure

- 1 On the Customizations page, select **Computer information** from the options list.
- 2 Customize the guest operating system identity.
  - a In the **Computer Name** text box, type a computer name to identify the virtual machine on the network.  
  
Valid characters include A-Z, a-z, 0-9, and the hyphen (-). The underscore (\_) is nonstandard, but Converter Standalone permits it. The recommended length for most languages is 15 characters or less. Computer names cannot consist only of numerals.
  - b In the **Owner Name** text box, type the name of the owner of the virtual machine.  
  
Valid characters include A-Z, a-z, 0-9, and the hyphen (-). The underscore (\_) is nonstandard, but Converter Standalone permits it. The owner name cannot have more than 63 characters or consist only of numerals.
  - c In the **Organization** text box, type an organization name.  
  
Valid characters include all printable characters (A-Z, a-z, 0-9, symbols, and space). The limit is 63 characters.
- 3 (Optional) To create a new security identifier, select **Generate New Security ID (SID)**.  
  
By default, the **Generate New Security ID (SID)** check box is selected for source systems that run Windows Vista or later and cannot be deselected.

The identifiers of the destination virtual machine are assigned according to your settings.

### What to do next

You can select another option to set or click **Next** to view a summary of the conversion job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

## Enter the Windows License Information

Ensure that you provide licensing information for all destination virtual machines running guest operating systems as necessary. Because of third-party licensing policies, you might not be able to transfer the license from the source machine and you might need to provide a new valid license for the destination virtual machine.

### Prerequisites

On the Options page of the Conversion wizard, click **Advanced options**, click the **Post-conversion** tab, and select **Customize guest preferences for the virtual machine**. Click **Next** to view and adjust the available customization options.

### Procedure

- 1 On the Customizations page, select **Windows license** from the options list.
- 2 In the **Product ID** text box, type the licensing information for the destination virtual machine.
- 3 (Optional) If the guest operating system is Windows Server 2003 or Windows Server 2008, select **Include server license information**.
- 4 Select a **Server license mode** option.

Option	Description
<b>Per seat</b>	For individual user licenses.
<b>Per server</b>	For a concurrent user license. When you select this option, you need to type a value in the <b>Maximum connections</b> text box.

The Windows license information is saved to the destination virtual machine after the conversion.

### What to do next

You can select another option to set or click **Next** to view a summary of the conversion job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

## Set the Time Zone for the Destination Virtual Machine

You can set the time zone if you are converting a virtual machine to use in a different time zone.

### Prerequisites

On the Options page of the Conversion wizard, click **Advanced options**, click the **Post-conversion** tab, and select **Customize guest preferences for the virtual machine**. Click **Next** to view and adjust the available customization options.

### Procedure

- 1 On the Customizations page, select **Time zone** from the options list.
- 2 Select the target time zone from the **Time zone** drop-down menu.

The time zone is set on the destination virtual machine after the conversion.

**What to do next**

You can select another option to set or click **Next** to view a summary of the conversion job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

**Configure the Network Adapters**

You can configure the network settings of the virtual machine to work with the network configuration of the destination environment.

The option for configuring network adapters is available for all supported destinations.

**Prerequisites**

On the Options page of the Conversion wizard, click **Advanced options**, click the **Post-conversion** tab, and select **Customize guest preferences for the virtual machine**. Click **Next** to view and adjust the available customization options.

**Procedure**

- 1 On the Customizations page, select **Network interface settings** from the options list.
- 2 Select a network adapter and click **Customize** to configure its properties.
  - a On the **IPv4** tab, type the IPv4 address and DNS server address.
  - b On the **IPv6** tab, type the IPv6 address and DNS server address.
  - c On the **DNS** tab, configure the DNS connections by adding DNS suffixes.
  - d Type a DNS suffix and click **Add**.  
You can add more than one DNS suffix.
  - e If you have provided multiple DNS suffixes, use **Move up** and **Move down** to set the order in which the guest operating system uses the connections.
  - f On the **WINS** tab, type the primary and secondary WINS IPv4 address in the text box.

When powered on, the destination virtual machine uses the network settings that you configured.

**What to do next**

You can select another option to set or click **Next** to view a summary of the conversion job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

**Assign a Workgroup or Domain Details**

You can set up the workgroup and the domain in which the destination virtual machine belongs.

**Prerequisites**

On the Options page of the Conversion wizard, click **Advanced options**, click the **Post-conversion** tab, and select **Customize guest preferences for the virtual machine**. Click **Next** to view and adjust the available customization options.

**Procedure**

- 1 On the Customizations page, select **Workgroup/Domain** from the options list.

- 2 Select how the virtual machine participates in the destination network.

Option	Description
<b>Workgroup</b>	The text box must have a value. Valid characters include A-Z, a-z, 0-9, space, and the hyphen (-). The maximum length is 15 characters.
<b>Windows server domain</b>	The text box must have a value. Valid characters include A-Z, a-z, 0-9, space, period, and the hyphen (-). The maximum length is 64 characters. User credentials are required.

The destination virtual machine connects to the specified workgroup and domain server.

**What to do next**

You can select another option to set or click **Next** to view a summary of the conversion job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

## Install VMware Tools on the Destination Virtual Machine

When converting Windows source machines, you can install VMware Tools to improve graphics performance of the guest operating system. Other enhancements include automatic grab and release of the mouse pointer, copy and paste operations between guest and host, and improved mouse performance.

**Prerequisites**

On the Options page of the Conversion wizard, click **Advanced options** in the options list.

**Procedure**

- 1 Click the **Post-conversion** tab.
- 2 In the Post-conversion processing section, select the **Install VMware Tools on the destination virtual machine** check box.
- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

Converter Standalone installs VMware Tools on the destination machine when the destination machine is powered on for the first time after the conversion job.

## Remove System Restore Checkpoints

When you convert source machines running Windows, you can remove System Restore checkpoints so that the conversion process is faster.

System Restore is enabled on Windows systems by default. If you are performing volume-based file-level cloning, System Restore checkpoints are removed automatically from the destination virtual machine, regardless of whether the **Remove System Restore checkpoints on destination** check box is selected or deselected. If you are performing disk-based cloning or volume-based block-level cloning, deselecting the check box instructs Converter Standalone to keep the System Restore checkpoints in the destination virtual machine.

Removing System Restore checkpoints prevents the target machine from reverting to a preconversion state. In the target virtual machine, restoring a checkpoint that was created before you cloned the source machine can damage the system and prevent the destination virtual machine from starting up.

### Prerequisites

On the Options page of the Conversion wizard, click **Advanced options** in the options list.

### Procedure

- 1 Click the **Post-conversion** tab.
- 2 In the Post-conversion processing section, select the **Remove System Restore checkpoints on destination** check box.
- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Configure the Conversion Job

You can configure the conversion process and select the behavior of the source and destination machine during and after conversion. You can change the status of the source and destination services only when the source machine is running a Windows operating system.

- [Set the Startup Mode for Destination Services](#) on page 72  
To minimize downtime for a Windows service, you can select the service and set the service startup mode to automatic, manual, or disabled.
- [Stop Services Running on the Source Machine](#) on page 73  
You can make sure that you do not lose data from services running on the source machine. You can select the services that you want to stop before Converter Standalone synchronizes the data between the source and destination machine. As a result, the services do not generate data while source and destination machines are synchronized.
- [Synchronize the Destination Machine with Changes Made to the Source Machine](#) on page 73  
When you convert a powered on Windows machine, Converter Standalone copies data from the source machine to the destination machine while the source machine is still running and generating changes. This process is the first transfer of data. You can transfer data for the second time by copying only the changes made during the first transfer of data. This process is called synchronization.
- [Power Off the Source Machine After Conversion](#) on page 74  
If your source machine is running services that you want to start on the destination virtual machine after conversion, you can power off the source machine to avoid interference between source and destination services.
- [Power On the Destination Virtual Machine After Conversion](#) on page 75  
You can minimize the downtime of important services by powering on the destination virtual machine immediately after the conversion is complete.

- [Limit the Amount of Resources Used by the Conversion Job](#) on page 75  
A conversion job competes for computing resources with other processes. To limit the impact of the conversion job on other workloads, you can throttle the job. If you do not throttle conversion jobs, they are carried out with normal priority and depending on the available computing resources during conversion.
- [Uninstall Converter Standalone Agent from the Source Machine](#) on page 76  
When setting up a conversion job for a powered on Windows source or a Hyper-V Server virtual machine, you can choose how you want to remove the Converter Standalone agent from the source after the conversion. If the Converter Standalone agent is installed by the Converter Standalone server, it is uninstalled automatically. Otherwise, you must uninstall it manually.

## Set the Startup Mode for Destination Services

To minimize downtime for a Windows service, you can select the service and set the service startup mode to automatic, manual, or disabled.

You can change the settings for the destination services only when you convert source machines that run Windows.

### Prerequisites

On the Options page of the Conversion wizard, click **Services** in the options list.

### Procedure

- 1 If you are converting a powered on source machine, click the **Destination services** tab.  
If the source machine is powered off, the Services pane displays no tabs. You can modify only the starting mode of destination services.
- 2 On the services list, select the startup mode for each service.

Option	Description
<b>Automatic</b>	The service starts automatically after the destination machine is powered on.
<b>Manual</b>	The service does not start after the destination machine is powered on, but you can start it manually.
<b>Disabled</b>	The service is disabled and does not start after the destination machine is powered on.

- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Stop Services Running on the Source Machine

You can make sure that you do not lose data from services running on the source machine. You can select the services that you want to stop before Converter Standalone synchronizes the data between the source and destination machine. As a result, the services do not generate data while source and destination machines are synchronized.

You can stop services on the source only when you convert a powered on Windows machine.

### Prerequisites

On the Options page of the Conversion wizard, click **Services** in the options list.

### Procedure

- 1 Click the **Source services** tab.
- 2 To stop a service on the source machine before synchronization, highlight a service and select the **Stop** check box to the right.
- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

Converter Standalone stops the selected source services before it synchronizes the destination machine with the source machine.

## Synchronize the Destination Machine with Changes Made to the Source Machine

When you convert a powered on Windows machine, Converter Standalone copies data from the source machine to the destination machine while the source machine is still running and generating changes. This process is the first transfer of data. You can transfer data for the second time by copying only the changes made during the first transfer of data. This process is called synchronization.

Synchronization is available only for Windows source operating systems and managed destinations.

If you resize FAT volumes or shrink NTFS volumes, or change the cluster size on the destination volume, you cannot use the synchronization option.

You cannot add or remove volumes on the source machine between two cloning tasks of a synchronizable job because it might cause conversion to fail.

### Prerequisites

Stop various source services to make sure they do not generate additional changes during the final synchronization, as that might lead to data loss.

On the Options page of the Conversion wizard, click **Advanced options** in the options list.

### Procedure

- 1 Click the **Synchronize** tab.

- 2 Select **Synchronize changes**.
- 3 Specify when you want to perform the synchronization.

Option	Description
<b>Click Run immediately after cloning</b>	Synchronization is performed immediately after the cloning is complete.
<b>Click Schedule</b>	Synchronization is performed at the scheduled time and date. Use the <b>Run at</b> text box to specify the start date and time for the synchronization.

- 4 Select **Perform final synchronization** if you do not plan to make further synchronizations between the source and the destination.
- 5 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Power Off the Source Machine After Conversion

If your source machine is running services that you want to start on the destination virtual machine after conversion, you can power off the source machine to avoid interference between source and destination services.

### Prerequisites

On the Options page of the Conversion wizard, click **Advanced options** in the options list.

### Procedure

- 1 Click the **Post-conversion** tab.
- 2 In the **Post-conversion power state** panel, select **Power off source machine**.

This option appears in the **Post-conversion power state** panel only if the conversion source is a remote powered on machine.

- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

Converter Standalone powers off the source machine after the conversion is complete.

## Power On the Destination Virtual Machine After Conversion

You can minimize the downtime of important services by powering on the destination virtual machine immediately after the conversion is complete.

### Prerequisites

On the Options page of the Conversion wizard, click **Advanced options** in the options list.

### Procedure

- 1 Click the **Post-conversion** tab.
- 2 In the **Post-conversion power state** panel, select **Power on destination machine**.
- 3 Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

After the conversion, Converter Standalone powers on the destination machine.

## Limit the Amount of Resources Used by the Conversion Job

A conversion job competes for computing resources with other processes. To limit the impact of the conversion job on other workloads, you can throttle the job. If you do not throttle conversion jobs, they are carried out with normal priority and depending on the available computing resources during conversion.

A powered on source machine runs its own conversion job. You can limit the impact of the conversion job on other workloads running on the powered on machine.

For source machines that are not powered on, you can limit the resources used on the machine where Converter Standalone server is installed.

Throttling controls the CPU and network resources that the conversion process uses. You cannot throttle disk I/O from the Converter Standalone interface, but can throttle it indirectly by throttling the network bandwidth.

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**NOTE** You cannot throttle conversion jobs for powered on source machines that run Linux. You cannot throttle conversion jobs for powered off virtual machines or third party backups to VMware hosted destinations.

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### Procedure

- 1 On the Options page, select **Throttling** from the options list.

- From the **CPU throttling** drop-down menu, select the priority of the conversion task.

Option	Description
<b>None</b>	The priority of the current conversion task is set to normal.
<b>Light</b>	The priority of the current conversion task is reduced slightly below normal.
<b>Medium</b>	The priority of the current conversion task is set to lowest.

**NOTE** Converter Standalone reduces the thread priorities of conversion tasks to control the CPU resources they consume.

- (Optional) Select **Network bandwidth throttling** and specify the maximum network bandwidth at which Converter Standalone performs the conversion jobs.
- Save your settings.

Option	Description
<b>Select another option from the options list</b>	Saves your settings and displays the pane for the selected option.
<b>Click Next</b>	Saves your settings and displays the next page of the Conversion wizard. <ul style="list-style-type: none"> <li>■ The Customizations page is displayed if you select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> <li>■ The Summary page is displayed if you do not select <b>Customize guest preferences for the virtual machine</b> in the Advanced options pane.</li> </ul>

## Uninstall Converter Standalone Agent from the Source Machine

When setting up a conversion job for a powered on Windows source or a Hyper-V Server virtual machine, you can choose how you want to remove the Converter Standalone agent from the source after the conversion. If the Converter Standalone agent is installed by the Converter Standalone server, it is uninstalled automatically. Otherwise, you must uninstall it manually.

Use Add or Remove Programs on the source machine to uninstall the Converter Standalone agent.

### Procedure

- In Windows, run **Add or Remove Programs**.
- In the list of installed programs, locate and click **VMware vCenter Converter Standalone Agent**.
- Click **Remove**.
- In the confirmation dialog box, click **Yes**.

Windows installer uninstalls the Converter Standalone agent from the source machine.

## Review the Summary and Submit the Conversion Job

On the Summary page, you can view a summary of the conversion job before you add it to the job list.

The summary includes information about the source machine, the destination virtual machine, and destination customization settings (if any). Converter Standalone performs job validation at this stage.

### Prerequisites

You must complete all steps in the Conversion wizard to access the Summary page.

### Procedure

- Review the summary of the job.

2 Click **Finish** to submit the job.

Converter Standalone validates the job parameters. This might take several minutes. If the validation succeeds, the conversion job appears in the Job View list in the main application window. You can find information about the tasks of the job in the Task View. If the validation fails, you must click **Back** and correct the invalid parameters as prompted.



# Configure Virtual Machines

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You might need to configure a virtual machine after you convert it so that it is ready to start in the destination virtual environment. You might also need to configure virtual machines if their virtual environment changes or if you need to improve their performance.

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**NOTE** You can configure only VMware virtual machines that run Windows. You cannot configure virtual machines that run operating systems other than Windows.

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Unlike the conversion process, which is nondestructive to the source machine, the configuration process affects the source. When you create a configuration job, your settings are applied to the configuration source machine and cannot be reverted.

## Procedure

- 1 [Save Sysprep Files](#) on page 79  
To customize the guest operating system of a virtual machine that runs Windows Server 2003, you must save the Sysprep files to the specified locations on the machine where Converter Standalone server runs.
- 2 [Start the Configuration Wizard](#) on page 80  
You can configure VMware desktop virtual machines or virtual machines managed by ESXi hosts or vCenter Server.
- 3 [Select a Source Machine to Configure](#) on page 80  
You can select a powered off VMware virtual machine as the source for a configuration task.
- 4 [Select the Options to Configure](#) on page 83  
When you create a configuration job, you can select the steps of the configuration process that you want to run.
- 5 [Review and Submit the Configuration Job](#) on page 87  
After you review your settings on the Summary page of the Configuration wizard, you can go back and change a setting or submit the job.

## Save Sysprep Files

To customize the guest operating system of a virtual machine that runs Windows Server 2003, you must save the Sysprep files to the specified locations on the machine where Converter Standalone server runs.

### Prerequisites

Make sure you have obtained the Sysprep files that correspond to the source operating system. You can download the Sysprep files from the Microsoft Download Center.

**Procedure**

- ◆ Save the Sysprep files that correspond to the source operating system on the machine where Converter Standalone server runs.

If you have downloaded a .cab file, you need to extract its contents. If you have downloaded an .exe file, double-click the downloaded file to start the Sysprep installation.

Operating System	Action
Windows Server 2003 (32bit)	Save the Sysprep files in %ALLUSERSPROFILE %\Application Data\VMware\VMware vCenter Converter Standalone\sysprep\svr2003
Windows Server 2003 (64bit)	Save the Sysprep files in %ALLUSERSPROFILE %\Application Data\VMware\VMware vCenter Converter Standalone\sysprep\svr2003-64

You can now customize Windows Server 2003 (32bit and 64bit) guest operating system by using the Conversion or the Configuration wizard.

**What to do next**

You can now use the Configuration wizard to customize Windows guest operating systems.

## Start the Configuration Wizard

You can configure VMware desktop virtual machines or virtual machines managed by ESXi hosts or vCenter Server.

A powered on machine cannot be a configuration source.

You can configure only powered off virtual machines.

**Procedure**

- 1 Start the VMware vCenter Converter Standalone application.
- 2 Click **Configure machine** in the application menu.

The Configuration wizard opens.

**What to do next**

Select the source machine to configure.

## Select a Source Machine to Configure

You can select a powered off VMware virtual machine as the source for a configuration task.

**Procedure**

- ◆ On the Source System page of the Configuration wizard, select a source type from the drop-down menu.

**What to do next**

On the Options page of the Configuration wizard, you can select the required configuration options.

## Select a vSphere Virtual Machine to Configure

You can configure vSphere virtual machines. A vSphere virtual machine is a virtual machine that runs on an ESX host or on an ESX host managed by vCenter Server.

### Prerequisites

Power off the source machine before the configuration.

In the main application window of Converter Standalone, click **Configure machine** to open the Configuration wizard.

### Procedure

- 1 On the Source System page of the Configuration wizard, select **VMware Infrastructure virtual machine** from the **Select source type** drop-down menu.
- 2 Provide the IP address or host name and credentials for authentication with the ESX host or the vCenter Server, and click **Next**.

The Source Machine page appears, displaying the host name or IP address and the inventory of the ESX host or the vCenter Server.

### What to do next

On the Source Machine page of the Configuration wizard you can browse the virtual infrastructure inventory and select the virtual machine to configure.

## Specify the vCenter Server Virtual Machine to Configure

If you choose to configure a virtual machine managed by a vCenter Server or ESXi host, you must browse the inventory to locate the source virtual machine.

### Prerequisites

On the Source System page of the Configuration wizard, select **VMware Infrastructure virtual machine** as the configuration source and click **Next** to proceed to the Source Machine page.

### Procedure

- 1 (Optional) If you are connected to a vCenter Server, select a virtual machine view from the **Specify machine with** drop-down menu.

Option	Description
<b>Hosts and Clusters</b>	The Inventory tree pane provides a view of hosts, clusters, resource pools, and vApps. If you select a host managed by a cluster, you see the full list of virtual machines and templates in the virtual machine list view. If you select a standalone host or a cluster, you see only the virtual machines that are not deployed in the resource pools of that host or cluster.
<b>VMs and Templates</b>	The Inventory tree pane provides a view of datacenters and virtual machine folders.

- 2 (Optional) If you are connected to a vCenter Server, select an object from the Inventory tree pane.

Option	Description
<b>Hosts and Clusters</b>	Select cluster, ESX host, resource pool, or vApp.
<b>VMs and Templates</b>	Select datacenter or virtual machine folder.

- 3 From the virtual machines list, select the virtual machine you want to configure.

You can search for virtual machines in the virtual machine list by typing one or more letters of their names in the **Search for name with** text box. You can clear your search by clicking **Clear**.

---

**NOTE** You cannot select a virtual machine from an ESX host that is powered off, connected to another vCenter Server, or in maintenance mode.

---

- 4 (Optional) To refresh the inventory, click **Refresh**.
- 5 (Optional) To view more details about a machine, select it and click **View source details**.
- 6 Click **Next** to proceed to the Options page.

#### What to do next

On the Options page of the Configuration wizard, you can select the required configuration options.

## Select a VMware Desktop Virtual Machine to Configure

You can configure standalone VMware virtual machines created with VMware Workstation, VMware Fusion, or VMware Player.

#### Prerequisites

If you plan to use a network path to locate the source, verify that the machine where Converter Standalone server runs has access to that network path.

In the main application window of Converter Standalone, click **Configure machine** to open the Configuration wizard.

#### Procedure

- 1 On the Source System page of the Configuration wizard, select **VMware Workstation or other VMware virtual machine**.
- 2 Locate the virtual machine source.
  - If you are connected to a remote Converter Standalone server, provide a network path to the source virtual machine file (.vmx) in the **Virtual machine file** text box. For example, \\server\virtual\_machines\virtual\_machine.vmx.
  - If you are connected to a local Converter Standalone server, provide a network path or a local path to the .vmx file.

By default, only VMware virtual machine \*.vmx files are displayed.

- 3 If you are connected to a remote Converter Standalone server, type user credentials for accessing the source virtual machine.

You do not have to provide user credentials if you are connected to a local Converter Standalone server. In such cases, Converter Standalone uses the Windows credentials to connect to the source machine.

- 4 (Optional) To view more information about the selected source, click **View source details**.
- 5 Click **Next** to proceed to the Options page.

#### What to do next

On the Options page of the Configuration wizard, you can select the required configuration options.

## Select the Options to Configure

When you create a configuration job, you can select the steps of the configuration process that you want to run.

### Procedure

- ◆ On the Options page, select one or more configuration steps to perform and click **Next**.

Option	Description
<b>Install VMware Tools on the destination virtual machine</b>	Installs VMware Tools to enhance the performance of the destination virtual machine.
<b>Customize guest preferences for the virtual machine</b>	Lets you customize Windows guest operating systems so that you can prevent and resolve licensing and networking issues.
<b>Remove System Restore checkpoints on destination</b>	Removes System Restore checkpoints from the destination virtual machine.
<b>Reconfigure destination virtual machine</b>	Modifies the configuration of the virtual machine so that it is prepared to boot and work properly in the destination virtual environment.

### What to do next

On the basis of the configuration options you selected, you can either customize the guest operating system of the source virtual machine or view the Summary page of the Configuration wizard.

## Install VMware Tools on a Virtual Machine

Install VMware Tools to improve graphics performance for the guest operating system of a configured virtual machine. Other enhancements include automatic grab and release of the mouse pointer, copying and pasting between guest and host, improved mouse performance, and so on.

Install VMware Tools on the virtual machine you are configuring.

### Procedure

- ◆ On the Options page of the Configuration wizard, select **Install VMware Tools on the destination virtual machine** and click **Next**.

vCenter Converter Standalone installs VMware Tools on the configured virtual machine.

### What to do next

You can customize the guest operating system or view the Summary page of the Configuration wizard.

## Customize the Windows Guest Operating System

As a part of the configuration job, you can customize virtual machines running Windows.

### Prerequisites

- For Windows Server 2003, save the Sysprep files to %ALLUSERSPROFILE%\Application Data\VMware\VMware vCenter Converter Standalone\sysprep on the machine that runs Converter Standalone server. For more details about the Sysprep files location for different operating systems, see [“Save Sysprep Files,”](#) on page 79.
- On the Options page of the Configuration wizard, select **Customize guest preferences for the virtual machine** and click **Next** to view and modify the available customization options.

- [Customize the Identity of a Virtual Machine](#) on page 84  
To configure the identity of a virtual machine on a virtual network, personalize the virtual machine by editing its name, owner, and organization name, and by generating a new security ID.
- [Specify the Windows License Information](#) on page 85  
Ensure that you provide licensing information for all destination virtual machines running guest operating systems as necessary. Because of third-party licensing policies, you might not be able to transfer the license from the source machine and you might need to provide a new valid license for the destination virtual machine.
- [Set the Time Zone](#) on page 85  
You can configure the time zone for a virtual machine.
- [Configure the Network Adapters](#) on page 86  
You can change the network settings of a virtual machine to work with the network configuration of the virtual environment.
- [Assign a Workgroup or Domain Details](#) on page 86  
You can configure the workgroup and the domain for a virtual machine.

## Customize the Identity of a Virtual Machine

To configure the identity of a virtual machine on a virtual network, personalize the virtual machine by editing its name, owner, and organization name, and by generating a new security ID.

### Prerequisites

On the Options page of the Configuration wizard, select **Customize guest preferences for the virtual machine** and click **Next** to view and modify the available customization options.

### Procedure

- 1 On the Customizations page, select **Computer information** from the options list.
- 2 Customize the guest operating system identity.
  - a In the **Computer Name** text box, type a computer name to identify the virtual machine on the network.  
  
Valid characters include A-Z, a-z, 0-9, and the hyphen (-). The underscore (\_) is nonstandard, but Converter Standalone permits it. The recommended length for most languages is 15 characters or less. Computer names cannot consist only of numerals.
  - b In the **Owner Name** text box, type the name of the owner of the virtual machine.  
  
Valid characters include A-Z, a-z, 0-9, and the hyphen (-). The underscore (\_) is nonstandard, but Converter Standalone permits it. The owner name cannot have more than 63 characters or consist only of numerals.
  - c In the **Organization** text box, type an organization name.  
  
Valid characters include all printable characters (A-Z, a-z, 0-9, symbols, and space). The limit is 63 characters.
- 3 (Optional) To create a new security identifier, select **Generate New Security ID (SID)**.  
  
By default, the **Generate New Security ID (SID)** check box is selected for source systems that run Windows Vista or later and cannot be deselected.

The identifiers of the configured virtual machine are assigned according to your settings.

**What to do next**

You can select another option to set or click **Next** to view a summary of the configuration job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

**Specify the Windows License Information**

Ensure that you provide licensing information for all destination virtual machines running guest operating systems as necessary. Because of third-party licensing policies, you might not be able to transfer the license from the source machine and you might need to provide a new valid license for the destination virtual machine.

**Prerequisites**

On the Options page of the Configuration wizard, select **Customize guest preferences for the virtual machine** and click **Next** to view and modify the available customization options.

**Procedure**

- 1 On the Customizations page, select **Windows license** from the options list.
- 2 In the **Product ID** text box, type the licensing information for the destination virtual machine.
- 3 (Optional) If the guest operating system is Windows Server 2003 or Windows Server 2008, select **Include server license information**.
- 4 Select a **Server license mode** option.

Option	Description
<b>Per seat</b>	For individual user licenses.
<b>Per server</b>	For a concurrent user license. When you select this option, you need to type a value in the <b>Maximum connections</b> text box.

The Windows license information is saved to the configuration source machine when the configuration task is completed.

**What to do next**

You can select another option to set or click **Next** to view a summary of the configuration job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

**Set the Time Zone**

You can configure the time zone for a virtual machine.

**Prerequisites**

On the Options page of the Configuration wizard, select **Customize guest preferences for the virtual machine** and click **Next** to view and modify the available customization options.

**Procedure**

- 1 On the Customizations page, select **Time zone** from the options list.
- 2 Select the target time zone from the **Time zone** drop-down menu.

The time zone is set on the destination machine when the configuration job completes.

**What to do next**

You can select another option to set or click **Next** to view a summary of the configuration job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

## Configure the Network Adapters

You can change the network settings of a virtual machine to work with the network configuration of the virtual environment.

The options for configuring network adapters are available for all supported customization sources.

### Prerequisites

On the Options page of the Configuration wizard, select **Customize guest preferences for the virtual machine** and click **Next** to view and modify the available customization options.

### Procedure

- 1 On the Customizations page, select **Network interface settings** from the options list.
- 2 Select a network adapter and click **Customize** to configure its properties.
  - a On the **IPv4** tab, type the IPv4 address and DNS server address.
  - b On the **IPv6** tab, type the IPv6 address and DNS server address.
  - c On the **DNS** tab, configure the DNS connections by adding DNS suffixes.
  - d Type a DNS suffix and click **Add**.  
You can add more than one DNS suffix.
  - e If you have provided multiple DNS suffixes, use **Move up** and **Move down** to set the order in which the guest operating system uses the connections.
  - f On the **WINS** tab, type the primary and secondary WINS IPv4 address in the text box.

When powered on, the configured virtual machine uses the network settings that you specified.

### What to do next

You can select another option to set or click **Next** to view a summary of the configuration job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

## Assign a Workgroup or Domain Details

You can configure the workgroup and the domain for a virtual machine.

### Prerequisites

On the Options page of the Configuration wizard, select **Customize guest preferences for the virtual machine** and click **Next** to view and modify the available customization options.

### Procedure

- 1 On the Customizations page, select **Workgroup/Domain** from the options list.
- 2 Select how the virtual machine participates in the destination network.

Option	Description
<b>Workgroup</b>	The text box must have a value. Valid characters include A-Z, a-z, 0-9, space, and the hyphen (-). The maximum length is 15 characters.
<b>Windows server domain</b>	The text box must have a value. Valid characters include A-Z, a-z, 0-9, space, period, and the hyphen (-). The maximum length is 64 characters. User credentials are required.

The configured virtual machine connects to the specified workgroup and domain server.

**What to do next**

You can select another option to set or click **Next** to view a summary of the configuration job. If the **Next** button is inactive, check the Current settings list for other settings that need your attention on this page.

**Remove System Restore Checkpoints**

Remove the System Restore checkpoints of newly imported source machines to prevent them from reverting to a preconversion state. For other configuration source machines, removing System Restore checkpoints helps you save disk space by deleting unnecessary data.

**Procedure**

- ◆ On the Options page of the Configuration wizard, select **Remove System Restore checkpoints on the destination** and click **Next**.

The System Restore checkpoints are deleted from the configuration source machine.

**What to do next**

You can customize the guest operating system or view the Summary page of the Configuration wizard.

**Reconfiguring a Virtual Machine To Boot Properly**

If a newly converted virtual machine does not start properly in the destination virtual environment, try reconfiguring it with Converter Standalone.

**Problem**

A number of configuration issues might prevent a newly created virtual machine from starting properly. For example, Converter Standalone might need to disable some legacy drivers to allow the virtual machine to operate. If the operating system on the source machine is not on the default drive, the `boot.ini` file or the BCD might need to be modified so that the destination virtual machine can start.

**Solution**

- ◆ On the Options page of the Configuration wizard, select **Reconfigure destination virtual machine** and click **Next**.

Converter Standalone reconfigures the destination virtual machine so it can boot in the virtual environment.

**What to do next**

You can customize the guest operating system or view the Summary page of the Configuration wizard.

**Review and Submit the Configuration Job**

After you review your settings on the Summary page of the Configuration wizard, you can go back and change a setting or submit the job.

**Procedure**

- 1 Review the summary of the settings for the source virtual machine.
- 2 Click **Finish** to submit the configuration job.

The job appears in the jobs list in the Job View list of the main application window. You can view the progress of the current task on the **Task progress** tab in Task View.

### **What to do next**

To view details about the configuration task, click the **Summary** tab.

# Manage Conversion and Configuration Jobs and Tasks

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# 7

Converter Standalone provides a manager for managing conversion and configuration jobs and tasks.

After you create a conversion or configuration job by using the Converter Standalone wizards, you can use the Task View and the Job View of the Converter Standalone manager to monitor and manage the existing jobs and their tasks.

Scheduled synchronized conversion jobs can contain multiple tasks.

This chapter includes the following topics:

- [“Manage Jobs in the Job List,”](#) on page 89
- [“Manage Tasks in the Task List,”](#) on page 93
- [“Verify Jobs and Tasks Progress and the Log Files,”](#) on page 96

## Manage Jobs in the Job List

The Job View of the Converter Standalone manager provides a list of all jobs that are submitted. You can use the main application menus to control the way jobs appear in the job list and to edit them.

### Prerequisites

You must submit a conversion or configuration job to view it in the job list.

You must be in the Job View of the Converter Standalone manager to access the application menus for job managing.

- [Add a Job to the Job List](#) on page 90  
Converter Standalone allows you to create and run conversion and configuration jobs.
- [View the Running Task of a Job](#) on page 90  
You can switch from Job View to Task View to view and edit the currently running task of a job.
- [Deactivate a Job](#) on page 90  
You can deactivate an active job without applying any changes to the destination machine.
- [Delete a Job](#) on page 91  
You can delete a job and all its tasks.
- [Create a Job by Copying an Existing Job](#) on page 91  
You can create a new job by creating a copy of an existing job and modifying its settings in the Conversion or the Configuration wizard. The settings for the original job appear at each step of the wizard so that you can reuse or change them.

- [Filter the Jobs in the Jobs List](#) on page 91  
You can select the jobs that you want the job list to display by filtering them.
- [Add a Synchronization Task to a Conversion Job](#) on page 92  
You can add a synchronization task to an active conversion job and modify the synchronization settings in the Conversion wizard.

## Add a Job to the Job List

Converter Standalone allows you to create and run conversion and configuration jobs.

### Procedure

- ◆ On the Summary page of the Conversion or the Configuration wizard, make sure no settings need adjustment, and click **Finish** to add a conversion or configuration job.

The job appears at the beginning of the job list in the Job View and its tasks appear in the Task View.

### What to do next

In the job list, you can view the job status, which task of the job is currently running, and other details. You can also delete a job, and perform other job operations.

## View the Running Task of a Job

You can switch from Job View to Task View to view and edit the currently running task of a job.

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 From the job list, select a job.
- 3 On the main menu, select **Job > Go to running task**.

The Converter Standalone manager switches to Task View and preselects the currently running task of the job you selected in Job View. If none of the job's tasks is running, no selection is made.

## Deactivate a Job

You can deactivate an active job without applying any changes to the destination machine.

### Prerequisites

---

**NOTE** You can deactivate a job only if none of its tasks is currently running.

---

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 From the job list, select the job you want to deactivate.
- 3 From the main menu, select **Job > Deactivate**.

The job state changes to inactive and no changes are applied to the destination.

---

**NOTE** An inactive job cannot be reactivated.

---

## Delete a Job

You can delete a job and all its tasks.

### Prerequisites

You can delete only deactivated jobs.

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 From the job list, select the job you want to delete.
- 3 From the main menu, select **Job > Delete**.

The job is removed from the job list, and all the tasks of the job are removed from the task list.

## Create a Job by Copying an Existing Job

You can create a new job by creating a copy of an existing job and modifying its settings in the Conversion or the Configuration wizard. The settings for the original job appear at each step of the wizard so that you can reuse or change them.

---

**NOTE** You can copy only jobs that were created with the Converter Standalone client.

---

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 From the job list, select the job you want to copy.
- 3 Select **Job > Copy As New**.
- 4 Follow the prompts to modify the job settings.
- 5 Click **Finish** to add the new job to the job list.

## Filter the Jobs in the Jobs List

You can select the jobs that you want the job list to display by filtering them.

You can filter jobs by history, status, or multiple criteria.

- [Filter Jobs by History](#) on page 92  
You can filter the list so that it displays only the last submitted jobs. By default, the job list displays the last twenty jobs.
- [Filter Jobs by Status](#) on page 92  
You can filter the job list to display jobs based on their status: Active, Inactive, and All. Active jobs include all running, scheduled, and not scheduled jobs. By default, the job list displays all jobs.
- [Filter Jobs by Multiple Criteria](#) on page 92  
You can combine filtering criteria to filter jobs in the job list.

## Filter Jobs by History

You can filter the list so that it displays only the last submitted jobs. By default, the job list displays the last twenty jobs.

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 On the main menu, click **View > History Filter** and select a level of filtering.

Only jobs that correspond to selected filtering level remain in the job list.

## Filter Jobs by Status

You can filter the job list to display jobs based on their status: Active, Inactive, and All. Active jobs include all running, scheduled, and not scheduled jobs. By default, the job list displays all jobs.

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 On the main menu, select **View > Filter by**.
- 3 Select a level of display from the drop-down menu.
 

If you are connected to a remote Converter Standalone server, you can select **My own** to view only jobs that you have created.

## Filter Jobs by Multiple Criteria

You can combine filtering criteria to filter jobs in the job list.

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 Use the drop-down menus in the toolbar to select the status and the history criteria.
 

The two filtering conditions combine to show only jobs that comply with both conditions.

## Add a Synchronization Task to a Conversion Job

You can add a synchronization task to an active conversion job and modify the synchronization settings in the Conversion wizard.

---

**NOTE** You can add synchronization tasks only to jobs that were created with the Converter Standalone client.

---

### Prerequisites

The conversion job must be active and allow synchronization.

No synchronization task that belongs to this job must be running.

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 From the job list, select the conversion job to which you want to add a synchronization task.
- 3 From the main menu, select **Job > Synchronize**.
- 4 Follow the prompts to modify the synchronization settings.

- 5 Click **Finish** to save changes.

## Manage Tasks in the Task List

The Task View of the Converter Standalone manager provides a list of all tasks that are submitted. You can use the main application menus to control the way tasks appear in the task list and to edit them.

### Prerequisites

You must submit a conversion or configuration job to view its tasks in the task list.

You must be in the Tasks View of the Converter Standalone manager to access the application menus for managing task.

- [Control the Number of Tasks Running Concurrently](#) on page 93  
You can set the number of tasks that can run concurrently to improve the conversion speed. Limiting the number of concurrent tasks helps you reduce the network resources required for the conversion tasks. Limiting the number of concurrent tasks also helps to limit the CPU load on the machine where the Converter Standalone server runs.
- [Set the Number of Data Connections per Task](#) on page 94  
If you are converting sources with multiple disks and volumes, you can decrease the conversion time by cloning multiple disks and volumes concurrently. This option is supported for conversions of Windows sources and Linux virtual sources.
- [View the Job to Which a Task Belongs](#) on page 94  
You can switch from Task View to Job View to view and edit the job to which a selected task belongs.
- [Cancel a Task](#) on page 95  
You can cancel a task that is in the queue or in progress.
- [Filter the Tasks in the Task List](#) on page 95  
The number of archived tasks can grow to be very large. To minimize clutter in the task list, you can lower the number of tasks that appear. You can select the tasks that you want the task list to display by filtering them.

## Control the Number of Tasks Running Concurrently

You can set the number of tasks that can run concurrently to improve the conversion speed. Limiting the number of concurrent tasks helps you reduce the network resources required for the conversion tasks. Limiting the number of concurrent tasks also helps to limit the CPU load on the machine where the Converter Standalone server runs.

You can set the number of concurrent tasks to any number from 1 to 12. The default number of concurrent tasks is set to **Maximum**.

### Procedure

- 1 On the main menu, select **Administration > Maximum Concurrent Tasks**.
- 2 In the **Custom** spin-box, specify a number.
- 3 Click **OK**.

The setting takes effect immediately for all newly added tasks. See [“Example: Limiting the Number of Concurrent Tasks,”](#) on page 94.

### Example: Limiting the Number of Concurrent Tasks

Assume that Converter Standalone is running 12 tasks. If you change the number of concurrent tasks to 6, these 12 tasks continue running, but all newly added tasks remain pending in the task list.

When the number of running tasks drops to 5, a new task from the wait list starts.

### Set the Number of Data Connections per Task

If you are converting sources with multiple disks and volumes, you can decrease the conversion time by cloning multiple disks and volumes concurrently. This option is supported for conversions of Windows sources and Linux virtual sources.

When you clone multiple disks and volumes in parallel, each data transfer uses a separate TCP connection.

---

**NOTE** For managed sources and destinations, the number of the concurrent data connections within a conversion task must not exceed the TCP connections limit of the corresponding ESXi host. Otherwise, the conversion task might not complete successfully.

---

The source conversion completes and the task of configuring the destination starts only when all data transfers are complete.

#### Procedure

- 1 On the main menu, select **Administration > Data Connections per Task**.
- 2 Select the number of concurrent data connections.

Option	Description
<b>Select the Maximum check-box .</b>	All disks and volumes of the source are cloned simultaneously.
<b>In the Custom spin-box, select a number between 1 and 12.</b>	Only a specific number of disks and volumes are cloned simultaneously. The default number of concurrent data connections per task is set to 1.

- 3 Click **OK**.

The setting takes effect immediately for all newly added tasks.

### View the Job to Which a Task Belongs

You can switch from Task View to Job View to view and edit the job to which a selected task belongs.

#### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Tasks**.
- 2 From the task list, select a task.
- 3 On the main menu, select **Task > Go to job**.

The Converter Standalone manager switches to Job View. The job that contains the task you selected in Task View is preselected in the list and complies with the current filter of the Job View.

## Cancel a Task

You can cancel a task that is in the queue or in progress.

When you cancel a conversion task that is running, the task is stopped. When you cancel a conversion task that is queued, the task is removed from the queue. When you cancel a task that is not a synchronization task, the job to which the task belongs is deactivated. Canceled tasks cannot be restarted.

---

**NOTE** You cannot cancel configuration tasks.

---

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Tasks**.
- 2 From the task list, select the task you want to cancel.
- 3 Click **Cancel**.

The task is now stopped or removed from the queue, and the time of cancellation appears in the End Time column.

## Filter the Tasks in the Task List

The number of archived tasks can grow to be very large. To minimize clutter in the task list, you can lower the number of tasks that appear. You can select the tasks that you want the task list to display by filtering them.

You can filter tasks by history, status, or multiple criteria.

- [Filter Tasks by History](#) on page 95  
You can use the date on which a task is created to filter the task list.
- [Filter Tasks by Status](#) on page 95  
You can change which tasks appear in the task list based on their running status.
- [Filter Tasks by Multiple Criteria](#) on page 96  
You can combine filtering criteria to filter tasks in the task list. Tasks that are currently running are displayed regardless of the filtering criteria you apply.

### Filter Tasks by History

You can use the date on which a task is created to filter the task list.

This option does not affect tasks in progress. Tasks in progress always appear in the task list.

#### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Tasks**.
- 2 On the main menu, click **View > History Filter** and select a level of filtering.

Only tasks that correspond to the selected filtering level remain in the task list.

### Filter Tasks by Status

You can change which tasks appear in the task list based on their running status.

#### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Tasks**.
- 2 On the main menu, select **View > Filter by**.

- 3 Select a level of display from the drop-down menu.

If you are connected to a remote Converter Standalone server, you can select **My own** to view only tasks of jobs that you create.

### Filter Tasks by Multiple Criteria

You can combine filtering criteria to filter tasks in the task list. Tasks that are currently running are displayed regardless of the filtering criteria you apply.

#### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Tasks**.
- 2 Use the drop-down menus to select the status and history criteria.

The two filtering conditions combine to show only tasks that comply with both conditions.

## Verify Jobs and Tasks Progress and the Log Files

The Task View and Job View of the Converter Standalone manager allows you to observe the progress and the state of the listed jobs and tasks.

If certain problems cause a job or task to fail, you can also review information in the log files.

- [View Task Progress](#) on page 96

The Task view and the Details view show the progress of tasks. You can view the estimated time left to the completion of a conversion task in the End Time column.

- [Export the Log Files for a Job](#) on page 97

You can review the log files for information about the jobs, or send a copy of log files to VMware technical support. You can export the log files for all jobs in the job list.

- [Export the Log Files for a Task](#) on page 97

If any problems cause a task to fail, you can review information about the task in the log files or send a copy of the log files to VMware technical support. You can export the log files for a specific task in the task list.

- [Back-End and Client Log Files Locations](#) on page 97

Converter Standalone saves log files as it operates.

### View Task Progress

The Task view and the Details view show the progress of tasks. You can view the estimated time left to the completion of a conversion task in the End Time column.

You can obtain a general indication of a task's progress by looking at its row in the task list of the Task view. You can view the **Task progress** tab in the Details view for more information.

#### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Tasks**.
- 2 Select the row in the task list for the task to view.

The information for that task appears in the Details pane below the tasks list.

- 3 Click the **Task progress** tab to view the task status and log highlights.

## Export the Log Files for a Job

You can review the log files for information about the jobs, or send a copy of log files to VMware technical support. You can export the log files for all jobs in the job list.

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Jobs**.
- 2 Select a job in the job list.
- 3 On the main menu, select **Job > Export Logs**.
- 4 Select a location to which you want to save the files and click **Save**.

The log files for all tasks of the selected job are saved to the selected location.

## Export the Log Files for a Task

If any problems cause a task to fail, you can review information about the task in the log files or send a copy of the log files to VMware technical support. You can export the log files for a specific task in the task list.

### Procedure

- 1 From the **View by** drop-down menu on the toolbar, select **Tasks**.
- 2 Select the task in the task list.
- 3 In the Details pane, click the **Task Progress** tab.
- 4 Click **Export Logs**.
- 5 Select a location to which you want to save the files and click **Save**.

The log files for this task are saved to the selected location.

## Back-End and Client Log Files Locations

Converter Standalone saves log files as it operates.

[Table 7-1](#) lists the default locations where log files are saved. You can view the log files or send them to VMware support, if necessary.

These file locations are also the file locations on the remote machine if you are running a remote hot clone. To send these log files from a remote machine to VMware support, you must manually compress and send them.

**Table 7-1.** Log Files Locations

Log Files	File Path
Converter Standalone server and agent log files	%ALLUSERSPROFILE%\Application Data\VMware\VMware vCenter Converter Standalone\logs*
Converter Standalone client log files	%USERPROFILE%\Local Settings\Application Data\VMware\VMware vCenter Converter Standalone\Logs*



# Index

## A

- Acronis True Image, source **21**
- add a disk **56, 57**
- adding jobs **90**
- advanced customization
  - guest operating system **66**
  - installing VMware Tools **70**
  - removing system restore checkpoints **70**
  - synchronizing source and destination **73**
- agent **10**
- allocate memory **63**
- audience **7**

## C

- changing the number of tasks displayed **95**
- client **10**
- cloning
  - disk based **14**
  - disk-based cloning **15**
  - full clones **15**
  - hot, defined **11**
  - linked clones **15**
  - volume based **14**
  - volume-based cloning **14**
- cloning modes **14**
- command-line commands **38**
- components **10**
- concurrent disk conversions **94**
- configuration options **83**
- configuration, submitting job **87**
- configure the conversion job **71**
- configure the hardware
  - allocate memory **63**
  - configure the Helper VM network **65**
  - configure the network settings **65**
  - edit the number of processors **63**
  - edit the number of processors cores **63**
  - edit the number of processors sockets **63**
  - select a disk controller **64**
- configure the hardware of the destination machine **53**
- configure the network settings **65**
- configure the software **66**
- configuring
  - domain details **86**

- guest operating system **83**
- install VMware tools **83**
- prepare for booting **87**
- removing system restore checkpoints **87**
- selecting a source **80**
- selecting VMware Fusion source **80**
- selecting VMware Player source **80**
- selecting Workstation source **80**
- sysprep files locations **29**
- Sysprep files locations **79**
- time zone **85**
- workgroup **86**
- configuring permissions for vCenter users **26**
- connect to a remote Converter Standalone server **41**
- controlling the number of concurrent tasks **93**
- conversion **92**
- conversion jobs
  - submitting **76**
  - viewing summary **76**
- conversion limitations
  - configuration limitations **31**
  - Linux guest limitations **31**
  - powered on machine limitations **31**
  - third-party images limitations **31**
  - third-party virtual machines or system images **32**
  - virtual machines **31**
  - VSS snapshots **33**
  - Windows guest limitations **31**
- conversion tasks
  - managing **89**
  - maximum running **93**
  - starting **44**
- conversion throttling **75**
- Conversion wizard, starting **44**
- conversion, viewing job summary **76**
- Converter Standalone
  - installing client in Windows **35**
  - installing in Windows **35**
  - installing server and agent in Windows **35**
  - modifying installation in Windows **39**
  - repairing in Windows **40**

- converting
  - existing system images **15**
  - existing virtual machines **15**
- converting machines **43**
- converting, powered on machines **73**
- copy all disks **61**
- copy disks or volumes
  - copy all disks **61**
  - create an expandable disk on a hosted destination **59**
  - create an expandable disk on a managed destination **59**
  - delete a disk **60**
  - move a disk to a different datastore **58**
  - move a volume to a different datastore **57**
  - move a volume to a different virtual disk **56**
  - resize a volume **54**
  - skip a volume **55**
- create an expandable disk on a hosted destination **59**
- create an expandable disk on a managed destination **59**
- customization **29**
- customize the location **51**
- customizing
  - computing resources **75**
  - tasks throttling **75**
- customizing the guest operating system **66**

## D

- data connections per task **94**
- data to copy **53, 61**
- delete a disk **60**
- delete job **91**
- destination
  - cluster **51**
  - datastore **51**
  - ESX **51**
  - ESX host **22**
  - ESXi **51**
  - vCenter Server **51**
  - virtual hardware version **51**
  - VMware Fusion **22**
  - VMware Player **22**
  - vSphere **51**
  - Workstation **22**
- destination machine
  - folder **51**
  - naming **51**
  - power on **75**
- destination services, startup mode **72**
- destination setup
  - computer information **67**

- DNS **69**
- domain details **69**
- guest operating system **66**
- network adapters **69**
- SID **67**
- time zone **68**
- Windows license **68**
- WINS **69**
- workgroup **69**
- disk
  - not pre-allocated **24, 59**
  - split **24**
  - thick **24**
  - thin-provisioned **24, 59**
- disk cloning modes
  - disk-based cloning, defined **15**
  - full clones, defined **15**
  - linked clones, defined **15**
  - volume-based cloning, defined **14**
- disk controller **64**
- disk types **24**
- disk-based cloning **14, 15, 58, 59, 61**
- disks, adding **57**
- dual boot systems **11**
- duplicate ID **16**

## E

- edit the number of processors **63**
- errors, viewing in the log files **97**
- ESX host
  - destination **22**
  - source **21**
  - support **21**
- ESX VM, source **46**
- exporting
  - to hosted formats **50, 52**
  - to managed formats **50**
- exporting a single task log file **97**
- exporting jobs logs **97**

## F

- feedback **7**
- filtering jobs **92**
- filtering jobs by history **92**
- firmware interfaces, support **20**
- full clones, defined **15**

## G

- glossary **7**
- go to job **94**
- go to running task **90**

- guest operating system configuration
  - computer information **84**
  - DNS **86**
  - domain **86**
  - network adapters **86**
  - SID **84**
  - time zone **85**
  - Windows license **85**
  - WINS **86**
  - workgroup **86**
- guest operating system customization
  - computer information **67**
  - DNS **69**
  - network adapters **69**
  - SID **67**
  - time zone **68**
  - Windows license **68**
  - WINS **69**
  - workgroup and domain page **69**
- guest operating system, configuration **83**
- guest operating system, customization **66**
- guest operating system, customizing **66**
- GUID partition table (GPT) disks **23**

## H

- Helper VM **65**
- hosted destinations
  - converting to **52**
  - Fusion **52**
  - VMware Server **52**
  - Workstation **52**
- hosted VM, source **48**
- hot cloning
  - defined **11**
  - Linux sources **13**
  - Windows sources **11**
- hot cloning, synchronization **73**
- Hyper-V
  - source **21**
  - specify machine **50**
- Hyper-V Server VM, source **49**

## I

- importing machines
  - configure the hardware **53**
  - customize the location **51**
  - select a source machine **44**
- install VMware Tools **70, 83**
- installation space requirements **25**
- installing **35**
- installing Converter Standalone, in Windows **35**

- installing VMware vCenter Converter
  - Standalone, Windows command-line installation **38**
- introduction **9**
- IPng support **25**
- IPv6 support **25**

## J

- job **91**
- job copy **91**
- job create **91**
- job manager, checking tasks progress **96**
- jobs **92**
- jobs list **90**
- jobs, adding **90**

## L

- linked clones **14**
- linked clones, defined **15**
- live cloning, *See* hot cloning
- log files, exporting and viewing **97**
- logical volume **58**
- logical volume group **58**
- logs, location **97**
- LVM **58**

## M

- managing jobs, job view **89**
- managing tasks
  - canceling **95**
  - changing the number of tasks displayed **95**
  - checking task progress **96**
  - filtering tasks by status **95**
  - filtering tasks by history **95**
  - multiple-criteria filtering **96**
  - task view **89**
- master boot record (MBR) disks **23**
- maximum number of tasks **93**
- Microsoft Virtual PC, source **21**
- Microsoft Virtual Server, source **21**
- modes of cloning **14**
- modifying **39**
- move a disk to a different datastore **58**
- move a volume to a different datastore **57**
- move a volume to a different virtual disk **56**

## N

- network settings **65**
- not pre-allocated disks **59**

## O

- online cloning, *See* hot cloning
- operating systems, support **19**

optimized partition alignment **61**

## **P**

Parallels Desktop, source **21**

permissions, configuring for vCenter users **26**

port requirements **26**

power off source machine **74**

power on destination machine **75**

powered on machine conversion limitations **31**

powered on machine, source **45, 46**

progress viewing **96**

## **R**

reconfiguring, starting the wizard **80**

remote Converter Standalone server **41**

repairing **39**

## **S**

screen resolution requirements **26**

select a disk controller **64**

selecting configuration sources

VMware Desktop VMs **82**

VMware Infrastructure VMs **81**

selecting sources

ESX virtual machine **46**

hosted virtual machine **48**

Hyper-V Server VM **49**

Linux powered on machine **46**

powered on machine **45**

third-party VM **48**

vCenter Server VM **46**

Windows powered on machine **45**

server **10**

services

on destination **72**

on source **73**

setting up destination

computer information **67**

DNS **69**

domain details **69**

guest operating system **66**

network adapters **69**

SID **67**

time zone **68**

Windows license **68**

WINS **69**

workgroup **69**

setting up SID **84**

skip a volume **55**

snapshots, limitations **33**

source machine

power off **74**

uninstall Converter Standalone agent **76**

source services, stop **73**

starting

conversion **44**

Conversion wizard **44**

starting the Reconfiguration wizard **80**

stop source services **73**

StorageCraft ShadowProtect, source **21**

support **7**

supported destination types

ESX host **22**

vCenter Server **22**

virtual appliances **22**

VMware Fusion **22**

VMware Player **22**

Workstation **22**

supported firmware interfaces **20**

supported operating systems **19**

supported source types

Acronis True Image **21**

ESX support **21**

Hyper-V **21**

Microsoft Virtual PC support **21**

Microsoft Virtual Server support **21**

Parallels Desktop **21**

powered-on machines **21**

StorageCraft ShadowProtect **21**

Symantec LiveState Recovery **21**

vCenter Server **21**

VirtualCenter support **21**

VMware Fusion support **21**

VMware virtual machines **21**

Workstation support **21**

Xen **21**

switch to jobs view **90, 94**

Symantec LiveState Recovery, source **21**

synchronize conversion **92**

synchronizing source with destination **73**

sysprep **29**

system images, converting existing **15**

system reconfiguration **10**

system requirements

installation space requirements **25**

supported destination disk types **24**

supported firmware interfaces **20**

supported operating systems **19**

supported source disk types **23**

TCP/IP and UDP port requirements **26**

Windows operating systems **28**

**T**

task, canceling **95**  
 task manager  
   combined filtering **96**  
   filtering by multiple criteria **96**  
   filtering tasks by status **95**  
   filtering tasks by history **95**  
   number of concurrent tasks **93**  
   viewing task progress **96**  
 tasks, filtering **95**  
 tasks, managing **93**  
 tasks, submitting configuration **87**  
 TCP/IP and UDP port requirements **26**  
 thin-provisioned destination disks **9**  
 thin-provisioned disk **59**  
 third-party VM, source **48**  
 throttling conversion tasks **75**  
 time zone configuration **85**

**U**

uninstall Converter Standalone agent **76**  
 uninstalling **35**  
 uninstalling VMware vCenter Converter Standalone, in Windows **41**

**V**

vCenter Converter  
   migration with **9**  
   tasks **9**  
 vCenter permissions **26**  
 vCenter Server, destination **22**  
 vCenter Server support **21**  
 vCenter Server virtual machines **47**  
 vCenter Server VM, source **46**  
 version support **21**  
 viewing a task's progress **96**  
 viewing conversion job summary **76**  
 viewing the log files **97**  
 virtual hardware  
   CPU **16**  
   disk device issues **16**  
   Ethernet adapter issues **16**  
   graphics card issues **16**  
 virtual hardware version **51**  
 virtual disk **56, 57**  
 virtual disk, adding **57**  
 virtual machines  
   conversion limitations **31**  
   converting existing **15**  
   destination on same network as source **15**  
 VirtualCenter, destination **22**  
 VMware Fusion  
   destination **22**

source **21**

support **21**

VMware Player  
 destination **22**

source **21**

support **21**

VMware hosted products support **21**

VMware managed products support **21**

VMware Tools **70**

VMware vCenter Converter Standalone  
 command-line installation in Windows **38**  
 installing remote access in Windows **36**

uninstalling in Windows **41**

volume, supported types **23**

volume cluster size **55**

volume-based cloning **14, 54–57, 59, 60**

volume-based cloning, defined **14**

volume, supported types **14**

volumes, excluding **55**

volumes, moving **57**

volumes, resizing **54**

VSS snapshots limitations **33**

**W**

Windows virtual machines, configuring **79**

Windows, checking Windows Firewall blocks **28**

worker **10**

Workstation  
 destination **22**

source **21**

support **21**

**X**

Xen, source **21**

