VMware vCenter Converter: P2V and V2V

VMware vCenter Converter is an application developed to migrate systems. The application converts and packages a source system into a new virtual machine that can reside on an ESX/ESXi server.

vCenter Converter performs both physical-to-virtual (P2V) and virtual-to-virtual (V2V) migrations. In a P2V migration, the operating system running on a physical system is copied to a virtual machine. In a V2V migration, an existing virtual machine running on one virtualization platform is copied to a virtual machine running on another virtualization platform. But vCenter Converter is not limited to virtual machines created in VMware platforms; it can also import and convert VMs created in competing software, such as Microsoft Virtual Server and Microsoft Hyper-V.

In part one of this series, you'll learn how to do a P2V migration; in part two, you'll learn how to do V2V.

Hot vs Cold Migrations

VMware vCenter Converter is capable of accomplishing both hot migrations and cold migrations.

Hot migrations are those which occur while the source system is in a running state. Hot migrations are not recommended for certain tasks -- like migrating Active Directory Domain Controllers into a virtual machine (this task should be performed during a cold migration) -- but work well with systems where local data remains static.

Cold migrations, on the other hand, occur while the source system is offline. Cold migrations are ideal for systems like SQL servers and mail servers that have data that is regularly updated or altered. During cold migrations, the physical computer itself is still running, but the operating system that is being cloned is inactive. Cold migrations are initiated by booting VMware Converter from a disc.

In today's article we'll take a look at how to perform a hot P2V migration and a cold P2V migration.

P2V: Hot Migration

2. Select "This Local Machine" if you intend to migrate the physical machine to where VMware vCenter Conversion is installed. Otherwise, click "A Remote Machine" and then enter the IP address and login credentials for the source system. Click "Next."
3. Select "VMware Infrastructure Virtual Machine" from the drop-down menu. Enter the server address and login credentials for the system running VMware ESX/ESXi. Click "Next."
4. Review the system parameters on the Options tab. To make changes to a device, network or service option, select the desired setting from the list.

Click "Advanced Options" to synchronize the source system with the destination system immediately after cloning or at a scheduled date and time. If you're cloning a Windows machine, it's recommended that you check "Install VMware Tools on the Destination Virtual Machine" and "Remove System Restore Checkpoints on Destination" on the Post-Conversion tab.

Click "Next" after making the desired modifications, if applicable.
5. Review your configuration on the Summary tab; then click "Finish" to perform the migration.

P2V: Cold Migration

1. Boot to VMware Converter, and then click "Import Machine" from the toolbar. Click "Next"; then click "Physical Computer." Click "Next" again.

2. Select "A Remote Machine" or "This Local Machine" on the Source Login screen. If selecting "A Remote Machine," enter the name or IP address for the source system; then enter the login credentials. Click "Next."

3. Select "Automatically Uninstall the Files When Import Succeeds" if prompted, and then click "Yes" to continue. On the Source Data screen, select "Convert All Disks and Maintain Size" to import an identical hard disk configuration to the destination machine. To make modifications to the disk configuration, click "Select Volumes and Resize to Save or Add Space."

Uncheck a volume to remove it from the migration. To specify a new volume size for a disk, select the drop-down menu below "New Disk Space." Choose "Maintain Size" to use the original volume size or choose "Min(imum) Size" to import only the part of the disk that has been used. You can also manually specify the size of the disk by typing the desired capacity in GB or MB.

4. Select "VMware Infrastructure Virtual Machine" from the drop-down menu on the Destination Type screen. Click "Next." Enter the server address and the login credentials for the ESX/ESXi server.

5. Name the destination system. Click "Next." Select the preferred host to run the virtual machine from. Click "Next" again.
6. Select a datastore for the virtual machine. The datastores should be large enough to hold the data stored to the source system's hard disks. To assign a datastore to each hard disk, click "Advanced"; then select a datastore for each hard disk and config file. Click "Next."

7. Select the number of network interface cards (NICs) to import. Check "Connect at Power On," if preferred. Click "Next." Check "Install VMware Tools," "Customize the Identity of the Virtual Machine," and "Remove All System Restore Checkpoints." Click "Next."

8. On the Computer Info screen, enter the computer, owner and organization names. Generate a new security identity (SID), if desired, then type the location where the Sysprep files are stored, if applicable. Click "Next." If you're importing a Windows system, enter the licensing information for the machine. Click "Next."

9. Select a time zone from the drop-down menu. Click "Next." Select a NIC and then click "Customize," to alter the network parameters, if preferred; otherwise, use the default settings. Click "Next."

10. Enter the workgroup or Windows server domain information on the Workgroup or Domain screen. Input the necessary login credentials; then click "Next."

11. Review your settings on the Summary screen. To power on the destination VM after completing the conversion, check "Power on the New Virtual Machine After Creation." Click "Finish" to begin importing the source system to the ESX/ESXi server machine.

Part 2: V2V Migration

I hope this article will help you learn how to perform a hot and cold P2V migration using the VMware vCenter Converter. In my next article we'll go over a V2V migration.

I described cold and hot migrations, the difference between physical-to-virtual (P2V) and virtual-to-virtual (V2V) migrations, and how to perform a P2V migration using VMware vCenter Converter. In the second half of this two-part series, I'll explain how to import an existing virtual machine (VM) into an ESX/ESXi Server.

VMware vCenter Converter supports several different kinds of virtual machines. It can import into ESX/ESXi virtual machines created in a VMware application or in a competing product. It's important to note, however, that not all virtualization products use the same virtualization method when running guest machines. VMware Workstation, VMware Player, VMware Server, VMware Fusion, Parallels Desktop, Microsoft Virtual PC and Microsoft Virtual Server -- all of which are compatible with vCenter Converter -- use hosted virtualization. VMware ESX/ESXi Server and Microsoft Hyper-V Server, on the other hand, use bare-metal virtualization to run VMs. The former group of software runs on top of an existing operating system, while the latter group runs on top of the host hardware.

These differences mean little once vCenter Converter has completed the conversion process, but virtual machines created in hosted virtualization software require different migration steps from virtual machines created in bare-metal virtualization platforms.

Just about all V2V migrations are cold migrations, which require that the source system be powered off during the conversion process. It is, however, possible to perform a hot
migration of a virtual machine using the hot migration method as described in How to Import a Virtual Machine into ESXi: Part 1. After installing vCenter Converter Standalone to the virtual machine, launch the Conversion wizard. Select "Powered-On Machine" from the drop-down menu, click "Local Machine," and then follow the same steps as described in the section P2V: Hot Migration.

One thing to keep in mind before performing a hot migration, however, is that, in some instances, vCenter Server can interfere with the migration process. If the source system is inside a Distributed Resource Schedule (DRS) cluster that vCenter Server controls, DRS Power Management (DPM) will turn off the ESX/ESXi host that vCenter Converter is working with. Change DPM to Manual via the cluster's Settings screen before performing the hot migration. Once the migration is complete, revert Power Management to its previous configuration.

Although hot migrations have their purpose, they're only needed when a virtual machine is too important to be taken offline. In all other instances, you should perform a cold migration. The following steps detail the offline conversion process.

**V2V: Cold Migration**

1. Power down the source machine before proceeding. Select "Convert Machine" from the toolbar to launch the Conversion wizard.

See steps 2a and 2b to import a VM from a hosted virtualization platform; See steps 3a and 3b to import a VM from a bare-metal virtualization platform.

2a. *Hosted Virtualization:* Choose "VMware Workstation or Other VMware Virtual Machine" or "Backup Image or Third-Party Virtual Machine" from the Source Type drop-down menu, depending on which platform the source machine is using.
2b. Hosted Virtualization: Enter the full file or network path linking to the virtual machine. Supported third-party platforms include Microsoft Virtual PC and Microsoft Virtual Server (.vmc), and Parallels Desktop (.pvs). Use .vmx for virtual machines created in VMware. Note that if you're importing a VM from Microsoft Virtual PC, you should remove the Virtual PC Additions from the machine, as they can interfere with the conversion process.

Enter the login credentials for the server if accessing a network share, and then click "Next." Skip to step 4.

3a. Bare-Metal Virtualization: Select "VMware Infrastructure Virtual Machine" or "Hyper-V Server" from the drop-down menu on the Source System screen. If vCenter Converter is not installed to Hyper-V Server, a prompt will appear requesting permission to install the application to the system. Confirm the installation of the software to proceed with the conversion.

Enter the server address and login credentials for the ESX/ESXi or Hyper-V Server. Click "Next" to go to the Source Machine screen.
3b. **Bare-Metal Virtualization**: Search through the inventory to locate the source system. If you're accessing ESX/ESXi through vCenter Server, choose "Hosts and Clusters" or "VMs and Templates," depending on where the source machine is housed. Select the virtual machine to import into the ESX/ESXi Server, and then click "Next."

4. Select "VMware Infrastructure Virtual Machine" from the Select Destination Type drop-down menu. Enter the address, user name, and password for ESX/ESXi Server into the required fields. Click "Next" to go to the Destination Virtual Machine screen.

5. Enter a new name for the destination machine or use the default name. Select a destination location for the VM if managing ESX/ESXi through vCenter Server. Click "Next" to go to the Destination Location screen.

6. Select a host, resource pool, or cluster to accommodate the virtual machine; select a datastore where the files associated with the virtual machine should be stored (optional); and then select the virtual hardware version from the drop-down menu (optional). Use Version 4
for machines running ESX/ESXi 3.x, Version 7 for machines running ESX/ESXi 4.x, and Version 8 for machines running ESX/ESXi 5.x. Click "Next" to go to the Options screen.

7. Click "Edit" to make changes to a hardware device. If you're importing a virtual machine based on the Microsoft Windows operating system, select "Advanced" from the middle pane to view the Post-Conversion tab. Uncheck "Remove System Restore Checkpoints on Destination." Check "Reconfigure Destination Virtual Machine" to personalize the OS (e.g., create a unique name and password, enter a new product license, or change the workgroup or domain settings). Click "Next" after making the desired changes.

8. Review your selections on the Summary screen; then click "Finish" to begin importing the VM.

Overview of ports:
139, 443, 445, 902

Details of ports and direction:
Converter --> Physical 445 + 139
Converter --> VirtualCenter 443 (If Converter on same server as VirtualCenter N/A)
Converter --> ESX 443
Physical --> VirtualCenter 443
Physical --> ESX 443 (902 for converter 3.0.1)

Required VMware vCenter Converter ports (1010056)

**Symptoms**
You may receive these errors, which can indicate blocked ports:

- Unable to contact the specified host
- The host is not available, there is a network configuration problem, or the management services on the host are not responding
- Failed to connect to peer
- Error: Failed to connect to server
- The operation failed
- Incorrect user credentials
- Unable to SSH to the source machine
- Please check if a firewall is blocking access to the SSH daemon on the source machine
- Failed to clone the volume
- Unable to connect
- FAILED: The request refers to an unexpected or unknown type
- Failed to connect ISO image to remote VM
- FAILED: unable to obtain the IP address of the helper virtual machine
- ssh: Could not resolve hostname
- Name or service not known
- FAILED: An error occurred during the conversion
- Unable to obtain IP addresses of helper virtual machine
- A general system error occurred: unknown internal error

**Purpose**
This article describes the ports required to be open for VMware vCenter Converter.

Following the article and ensuring the ports are open ensures that common firewall configurations in your environment are compatible with Converter.

**Resolution**
VMware vCenter Converter fails if one or more required ports are blocked. Follow the section that matches your conversion scenario.

In this article, these terms are used:

<table>
<thead>
<tr>
<th>Source computer</th>
<th>The physical or virtual machine that is being converted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Converter server</td>
<td>The server portion of VMware vCenter Converter. In a typical installation, both the Converter server and Converter client are</td>
</tr>
</tbody>
</table>
installed at the same location. By default, this is the installation method that is used.

<table>
<thead>
<tr>
<th>Converter client</th>
<th>The client portion of VMware vCenter Converter. In a custom installation, the Converter client can be installed to a different computer than the Converter server.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VirtualCenter</td>
<td>The VirtualCenter computer that is being used as the conversion destination, if such was chosen.</td>
</tr>
<tr>
<td>ESX</td>
<td>The VMware ESX host that is being used as the conversion destination, if one is chosen, or the ESX host that is hosting the target virtual machine.</td>
</tr>
<tr>
<td>Fileshare path</td>
<td>The path to a virtual machine's .vmx file, if the source is an existing or standalone virtual machine, or the path to a directory if the destination is to be a standalone virtual machine.</td>
</tr>
<tr>
<td>Standalone virtual machine</td>
<td>A virtual machine that is being managed by a VMware product other than VMware ESX.</td>
</tr>
<tr>
<td>Helper virtual machine</td>
<td>When converting a powered on Linux operating system (P2V), this is the target virtual machine that is being used temporarily for the purpose of copying files from the source computer. It uses the TCP/IP information that is entered in the Converter wizard for the target virtual machine. Ensure that this IP address can communicate directly with the source computer.</td>
</tr>
</tbody>
</table>

**Notes:**

- If you perform a corrective action, determine if the problems initially encountered are still being experienced.
- To test port connectivity, do so from a command or shell prompt. For more information, see [Opening a command or shell prompt](1003892).
- To test TCP port connectivity use the telnet command. For more information, see [Testing port connectivity with Telnet](1003487).
- To test UDP port connectivity from Linux or MacOS use the traceroute command. For more information, see a [traceroute man page](traceroute man page).
- To test UDP port connectivity from Windows use the Portqry utility. For more information, see the Microsoft Knowledge Base article [310099](310099).
- For powered-on Windows conversions to vCenter destinations, **Proxy Mode** feature in Converter 6.0 is introduced. By selecting this option, no
direct connectivity is required from the source machine to the destination ESX host.

**Note:** The preceding links were correct as of March 15, 2009. If you find a link is broken, provide feedback and a VMware employee will update the link.

Converting a powered on Windows operating system (P2V)

<table>
<thead>
<tr>
<th>Source</th>
<th>Destination</th>
<th>TCP Ports</th>
<th>UDP Ports</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Converter server</td>
<td>Source computer</td>
<td>445, 139, 9089 or 9090</td>
<td>137, 138</td>
<td>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. If in doubt, ensure that none of the ports are blocked. Port 9089 is used for Converter Standalone versions, and 9090 is used for the Converter plugin.</td>
</tr>
<tr>
<td>Converter server</td>
<td>VirtualCenter</td>
<td>443</td>
<td></td>
<td>Only required if the conversion target is VirtualCenter.</td>
</tr>
<tr>
<td>Converter client</td>
<td>Converter server</td>
<td>443</td>
<td></td>
<td>Only required if a custom installation was performed and the Converter server and client portions are on different computers.</td>
</tr>
<tr>
<td>Source computer</td>
<td>ESX/ESXi</td>
<td>443, 902</td>
<td></td>
<td>If the conversion destination is vCenter Server, only port 902 is required from the source to the ESX/ESXi hosts.</td>
</tr>
</tbody>
</table>

Converting a powered on Linux operating system (P2V)

**Note:** These are the default ports. If custom ports were used when installing vCenter Server, these will need to be changed to match your environment.
<table>
<thead>
<tr>
<th>Source</th>
<th>Destination</th>
<th>TCP Port</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Converter server</td>
<td>Source computer</td>
<td>22</td>
<td>The Converter server must be able to establish an SSH connection with the source computer.</td>
</tr>
<tr>
<td>Converter client</td>
<td>Converter server</td>
<td>443</td>
<td>Only required if a custom installation was performed and the Converter server and client portions are on different computers.</td>
</tr>
<tr>
<td>Converter server</td>
<td>VirtualCenter</td>
<td>443</td>
<td>Only required if the conversion target is VirtualCenter.</td>
</tr>
<tr>
<td>Converter server</td>
<td>ESX/ESXi</td>
<td>443, 902, 903</td>
<td>If the conversion destination is vCenter Server, only port 902 is required from the source to the ESX/ESXi hosts.</td>
</tr>
<tr>
<td>Converter server</td>
<td>Helper virtual machine</td>
<td>443</td>
<td></td>
</tr>
<tr>
<td>Helper virtual machine</td>
<td>Source computer</td>
<td>22</td>
<td>The helper virtual machine must be able to establish an SSH connection with the source computer. By default the helper virtual machine gets its IP address assigned by DHCP. If there is no DHCP server available on the network chosen for the target virtual machine you must manually assign it an IP address.</td>
</tr>
</tbody>
</table>

Converting an existing virtual machine (V2V)

**Note**: These are the default ports. If custom ports were used when installing vCenter Server, these will need to be changed to match your environment.

<table>
<thead>
<tr>
<th>Source</th>
<th>Destination</th>
<th>TCP Port</th>
<th>UDP Port</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Converter server</td>
<td>Fileshare path</td>
<td>445, 139</td>
<td>137, 138</td>
<td>This is only required 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. If in doubt, ensure that none of the ports are blocked.</td>
</tr>
<tr>
<td>Converter client</td>
<td>Converter server</td>
<td>443</td>
<td>Only required if a custom installation was performed and the Converter server and client portions are on different computers.</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>-----</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Converter server</td>
<td>VirtualCenter</td>
<td>443</td>
<td>Only required if the target is VirtualCenter.</td>
<td></td>
</tr>
<tr>
<td>Converter server</td>
<td>ESX/ESXi</td>
<td>443,902</td>
<td>If the conversion destination is vCenter Server, only port 902 is required from the source to the ESX/ESXi hosts.</td>
<td></td>
</tr>
</tbody>
</table>

**HOW TO: Synchronize changes when completing a P2V or V2V with VMware vCenter Converter Standalone 5.1**

**HOW TO: Improve the transfer rate of a Physical to Virtual (P2V), Virtual to Virtual Conversion (V2V) using VMware vCenter Converter Standalone 5.0**

Whether you are a VMware vSphere Beginner, Intermediate, Advanced or Expert, Physical to Virtual conversions sometimes are not easy, and many issues can arise, a successful conversion requires 50% technical knowledge, 25% patience and 25% luck to get a successful conversion. Sometimes it is not as simple, as install VMware vCenter Converter Standalone, and click next to obtain a successful conversion.

**Physical to Virtual Conversion Process Background**
A Physical to Virtual Conversion Process consists of two processes
1. Clone the operating system disk with the data.
2. Modifies the operating system registry and injects correct virtual hardware drivers.

VMware did sell a commercial product called the VMware P2V Assistant, it was licensed on a per physical machine conversion count. It was popular within larger organizations, but the SMBs turned to a home brew product called Ultimate-P2V, which was a process which could complete Physical to Virtual Conversions, which can still be applied today, to older operating systems. A competitor Platespin, also launched a commercial P2V, V2V and V2P software tool called Platespin Convert, at the same time as VMware P2V Assistant, Platespin Convert was a more powerful product with more features, and could create unattended Migration Tasks for many virtual machines, it's still available today, it's called Platespin Migrate by NetIQ

The V-Index report published in November 2011, stated 38.9% of all servers within all of the enterprises surveyed were virtual. Therefore 61% of servers are maybe still physical, so we will be converting for a while yet, but in the future, all servers maybe virtual, and therefore no P2V conversions will be required, as all new servers, will be virtual.

**Frequently Asked Questions**

1. **What is a P2V?**
A P2V or Physical To Virtual Conversion, is the term used to migrate the operating system and data from a physical computer to a virtual computer.
2. What is a V2V?
A V2V or Virtual To Virtual Conversion, is the term used to migrate the operating system and data from a virtual computer to a virtual computer.

The conversion process for a P2V or V2V is exactly the same, the software used to complete the conversion is not aware if the computer is physical or virtual.

3. How do I create a VMware P2V or V2V?
Download and Install VMware vCenter Converter Standalone.

4. Is VMware VM Converter FREE?
Often referred to as VMware VM Converter, it's official name is VMware vCenter Converter Standalone.

The software product is a FREE download upon registration. The latest version is available to download here. The software is not crippled in anyway.

5. Where is the VMware vSphere vCenter Converter plugin for VMware vSphere vCenter Server 5.x.
With the release of VMware vSphere vCenter 5.x, VMware have discontinued the VMware vSphere vCenter Converter plugin. You will need to use VMware vCenter Converter Standalone. The latest version is available to download here

6. What is the COLDCLONE.iso, I've read I need it to do P2V conversions?
COLDCLONE is a method of completing a P2V while the physical server is powered OFF. VMware provided the software as an CDROM ISO Image, which was available exclusively to VMware vSphere Enterprise License holders. The software was written to a CDROM, the server was BOOTED from this CDROM, and the P2V process was completed. The COLDCLONE software was based on VMware vCenter Converter Standalone 3.0.3, and was discontinued by VMware, and has since been removed from the VMware site for download. It was very handy to use to P2V - Active Directory Domain Controllers and Microsoft Exchange Servers. You can create and "roll your own" COLDCLONE CDROM here - http://sanbarrow.com/converter4.html. The same process can now be completed using VMware vCenter Converter Standalone, and the SYNC option. See my Experts Exchange Article below

HOW TO: Synchronize changes when completing a P2V or V2V with VMware vCenter Converter Standalone 5.1

7. How do I schedule a P2V conversion?
I'm afraid VMware vCenter Converter Standalone does not support scheduling a P2V. You could consider using the Sync option or a commercial P2V software product.

HOW TO: Synchronize changes when completing a P2V or V2V with VMware vCenter Converter Standalone 5.1

8. Can I use VMware vCenter Converter Standalone, to P2V an Active Directory Domain Controller, Exchange Server or DFS server?
Yes, you can use VMware vCenter Converter Standalone to P2V any physical or virtual
computer (V2V). It's Best Practice and Recommended to create new servers for a Domain Controller, use DCPROMO, and transfer FSMO roles; create a new Exchange Server, and transfer and migrate mailboxes, create a new DFS server, sync and retired the old servers but in some situations this may not be practical, and you can use VMware vCenter Converter Standalone.

9. What is happening during the P2V (V2V) conversion process?
This is the % indicator of a conversion:

0%-5% Creation of the target virtual machine (VM)
5%-6% Preparing to Clone the Disk
6%-95% Cloning
95%-97% Post-cloning
97%-99% Customization/Reconfig
99%-100% Install Tools/Powern On

10. Can I P2V my physical server installed with an OEM version of the operating system?
The answer to this question, is Yes - technically, but you could be in breach of the license agreement. The P2V conversion process will still operate and the function will complete if used to convert a physical server which is installed with an OEM version of the operating system. However, when trying to start the virtual machine, you may find that the operating system requires re-activation, and you may need to supply a Retail or Volume License Product Key, to activate the virtual machine. Microsoft OEM License Policy varies from Country to Country, we would recommend checking with Microsoft Licensing in your country of origin.

Original Equipment Manufacturers (OEM) versions

Note: Physical-to-virtual hard drive migration of a Windows installation is a valid function for customers with Software Assurance and full retail copies of Windows XP, Windows Vista, and Windows 7. Software Assurance provides users valuable benefits—please contact Microsoft Corporation for further information. Windows XP, Windows Vista and Windows 7 installed by Original Equipment Manufacturers (OEM) using OEM versions of these products may not be transferred to a virtual hard drive in accordance with Microsoft licensing terms.

Source

Please also read an article by fellow Exchange Experts MASQUERAID - Can I transfer my OEM version of Windows to another PC?

11. How do I backup my virtual machine for FREE?
VMware vCenter Converter Standalone can be used to create a copy of your virtual machine to your local hard disk. Some organizations use this for backup.

12. I have read, I can use VMware vCenter Converter Standalone to mirror my virtual machines to another server, how do I do this?
The trick is to use the Sync option, often referred to as "Poor Man's DR" as shown here in my
HOW TO: Synchronize changes when completing a P2V or V2V with VMware vCenter Converter Standalone 5.1

13. I have read that it can get me out of "Snapshot Hell"?
If you find you have many snapshots attached to a virtual machine, you can use VMware vCenter Converter Standalone to complete a V2V, the new virtual machine, will have no snapshots attached, VMware Support recommends this procedure, to get you our of "Snapshot Hell".

see my Experts Exchange Article and check if your virtual machine is running on a snapshot disk.

HOW TO: VMware Snapshots :- Be Patient

14. I've created a virtual machine, but I've made the virtual disk too large, how do I shrink it, when I select edit settings on the virtual disk, I cannot seem to shrink it?
The only supported method of shrinking a virtual machine disk and partition, is to create a V2V using VMware vCenter Converter Standalone, when completing the wizard, select the required (smaller) virtual disk size, and then delete the original VM when completed.

15. I've created a virtual machine, but I've made the virtual disk, thin, and I need to recover the disk space. How do I do it?
The only supported method of recovering a virtual machine disk space, is to create a V2V using VMware vCenter Converter Standalone, when completing the wizard, select the required (smaller) virtual disk type e.g. thick or thin, and then delete the original VM when completed.

16. How do I convert a virtual disk from thick to thin, or thin to thick?
VMware vCenter Converter Standalone can be used to complete a V2V. Select thin or tick when converting.

17. How do I re-size my virtual machine disk?
One of the many methods is to use VMware vCenter Converter Standalone to complete a V2V. Specify the new size at conversion.

also see my Experts Exchange article for other methods

HOW TO: Resize a VMware (VMDK) Virtual Disk

18. I'm trying to convert my physical computer, why does it not detect the operating system, or states operating system not found?
Check the VMware vCenter Converter 5.5 Supported Guest Operating Systems list.

19. I'm trying to P2V a Windows NT Server 4.0, but it fails?
To P2V a Windows NT Server 4.0 you will need to use VMware Converter 3.0.3. Support for Windows NT Server 4.0 has been removed from VMware vCenter Converter Standalone 4.x
and 5.x.

**VMware vCenter Converter 3.0.3 Supported Guest Operating Systems**

20. I'm trying to P2V a Windows Server 2003, but it fails?
To P2V a Windows Server 2003 you will need to use VMware vCenter Converter Standalone 5.0. Support for Windows Server 2003 has been removed from VMware vCenter Converter Standalone 5.1 and 5.5.

**VMware vCenter Converter 5.0 Supported Guest Operating Systems**

21. I'm trying to P2V a Linux Slackware workstation, but it fails?
The latest version of VMware vCenter Converter Standalone supports these versions of Linux only

- Red Hat Enterprise Linux 3.x (32-bit and 64-bit)
- Red Hat Enterprise Linux 4.x (32-bit and 64-bit)
- Red Hat Enterprise Linux 5.x (32-bit and 64-bit)
- Red Hat Enterprise Linux 6.x (32-bit and 64-bit)
- SUSE Linux Enterprise Server 9.x (32-bit and 64-bit)
- SUSE Linux Enterprise Server 10.x (32-bit and 64-bit)
- SUSE Linux Enterprise Server 11.x (32-bit and 64-bit)
- Ubuntu 10.04 LTS (32-bit and 64-bit)
- Ubuntu 12.x (32-bit and 64-bit)
- Ubuntu 13.04 (32-bit and 64-bit)

**VMware vCenter Converter 5.5 Supported Guest Operating Systems**

22. I've completed the P2V, but there is no network interface in the converted virtual machine?
Once you have completed the P2V process, and have started the converted virtual machine, wait 5 to 10 minutes for the plug and play process to start and install drivers for the new virtual hardware, restart the converted virtual machine, and then install **VMware Tools**, this will provide the drivers for the new virtual hardware.

see my Experts Exchange Articles

- [Part 8: HOW TO: Install VMware Tools for Windows on a VMware Windows virtual machine on a VMware vSphere Hypervisor 5.1 (ESXi 5.1) Host Server](#)
- [Part 9: HOW TO: Install VMware Tools for Linux on a VMware Linux virtual machine on a VMware vSphere Hypervisor 5.1 (ESXi 5.1) Host Server](#)

23. VMware vCenter Converter Standalone reports General Exception Error?
Always use the latest version of VMware vCenter Converter Standalone 5.5, available to download [here](#).

24. When I try to connect to a computer to complete a P2V, I get "Unable to connect to the network share 'xxxx\ADMIN$' "?
This is a network permission, issue to avoid ALL network, permissions issues, install VMware vCenter Converter 5.5 Standalone on the computer to be P2Ved. This is Best Practice as recommended by VMware.

**25. Why is my P2V taking so long, it's very slow?**
Many factors can affect the speed of a P2V

a). network speed
b). physical computer storage speed
c). destination datastore storage speed
d). SSL encryption which is used in the transfer

in item d) above, you can use my EE Article to Disable SSL, which may increase transfer performance.

**HOW TO: Improve the transfer rate of a Physical to Virtual (P2V), Virtual to Virtual Conversion (V2V) using VMware vCenter Converter Standalone 5.0**

if you have a schedule or downtime window to complete the P2V, you may want to consider the Sync option, it then does not matter how long the P2V takes, because it can sit in the background completing the transfer, until you are ready to "cut-over" to the virtual machine, and complete the final sync.

**HOW TO: Synchronize changes when completing a P2V or V2V with VMware vCenter Converter Standalone 5.1**

**26. At 98% - VMware vCenter Converter Standalone states re-configuration has failed?**
This can occur, if you have selected items to reconfigure the VM, after conversion. e.g. Install VMware Tools, Change Processors, Change Network Interfaces.

If this occurs, repeat the P2V, but do not configure anything, just complete a basic conversion, (e.g. Next, Next, Next etc) you can then configure the virtual machine, when it has been successfully converted.

**27. I have created a P2V, started the virtual machine, added the IP address information, but why is the Default Gateway not accepting my IP Address, or why is the Default Gateway not sticking?**

This is because there is still a "hidden network adapter" with an IP Address and the same Default Gateway present. Remove the hidden network devices.

see this VMware Knowledge base Article - [http://kb.vmware.com/kb/1179](http://kb.vmware.com/kb/1179)

**28. After a successful P2V, when I try to add the IP Address to the network interface it complains about the same IP Address allocated to a network interface?**
This occurs because the original network interface driver is still present in the virtual machine, and the hidden device drivers need removing.

see this VMware Knowledge base Article - http://kb.vmware.com/kb/1179

29. I've completed a P2V, the P2V was successful, why can I not edit the virtual machine settings using the vSphere Client?
VMware vCenter Converter Standalone 5.5 can create virtual machine version 10 virtual machines, these can only be edited using the VMware vSphere Web Client when connected to VMware vSphere vCenter Server. If you are not using the VMware vSphere Web Client, re-do the P2V, but select virtual machine version 4.0, 7.0 or 8.0.

30. Where can I find the logs for VMware vCenter Converter 5.5 Standalone?

C:\ProgramData\VMware\VMware vCenter Converter Standalone\logs

%ALLUSERSPROFILE%\Application Data\VMware\VMware vCenter Converter Standalone Client\logs

Sometimes information in the log files can be helpful.

31. I've tried all your suggestions, read this FAQ and my P2V still does not work?
Sometimes the FREE VMware vCenter Converter Standalone fails to convert a physical or virtual computer. On these occasions, it's time to try and alternative software package. I can recommend the following software tools.

a). Paragon Virtualization Manager

b). Acronis Backup and Recovery with Universal Restore

c). NetIQ Platespin Migrate

d). Shadow Protect Server Edition

Thank you for reading my Frequently Asked Questions on VMware P2V Troubleshooting, if
your issue is not highlighted above, please post a Question to the VMware Zone, for myself or other Experts to answer.

***************************************************************************
*Thank you for reading my article, please leave valuable feedback. If you liked my VMware article and would like to see more Articles from me, please click the Yes button near the: Was this article helpful? at the bottom of this article just below and to the right of this information. Thank You. Do not forget if you have a question about this article or another VMware, Virtualisation, Windows Server 2012 question, why not post a Question for me and the other Experts Exchange Experts in the VMware, Virtualisation, Windows 2008, Windows 2012 Zones. I look forward to hearing from you. - Andy :- twitter @einsteinagogo
***************************************************************************