

Introducing the Next Generation of P2V: VMware Converter 3.0

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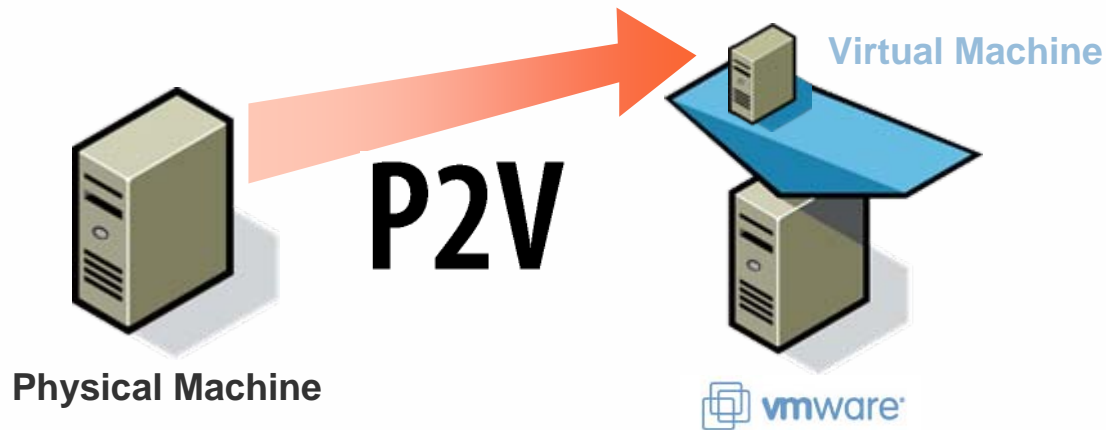


Agenda

- Introduction
- History of P2V and Use Cases
 - VMware P2V Assistant
 - VMware VM Importer
- Evolution of P2V
- VMware Converter: New Capabilities
- VMware Converter: Old Favorites
- VMware Converter Use Cases
- Questions
- Further Resources

Introduction

- P2V, or “Physical to Virtual” is the process of migrating an existing physical machine to run as a new virtual machine
- VMware P2V Assistant takes an existing physical machine and
 - Creates a clone of the physical machine
 - Configures the clone to make it bootable as a VMware virtual machine



History of P2V

VMware P2V Assistant



Generation 1

2003

- Cold clone Windows physical machines and configure as VMware virtual machines
 - > Windows NT 4.0
 - > Windows 2000 Pro and Server

Generation 2

2004

- Expanded OS support
 - > Windows XP
 - > Windows 2003
- SMP support
- Improved System Reconfiguration

VMware VM Importer



2005

- Import third-party formats to VMware virtual machines
 - > Microsoft Virtual PC/Server
 - > Symantec LiveState Recovery (Backup Exec System Recovery)

2006

- Import VMware virtual machines and migrate across VMware platforms
 - > Workstation 4.x and 5.x
 - > VMware Player and Server
 - > GSX Server 3.x
 - > ESX Server 2.5.x* and 3.x

*requires VirtualCenter 2.0

Use Cases

Microsoft
Virtual PC and
Virtual Server
VM



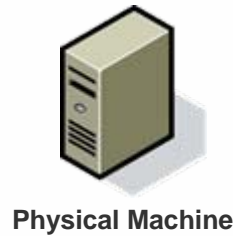
Symantec
Backup Exec
System
Recovery and
Norton Ghost
Image



VMware VM
Generation 5
virtual
hardware



VMware VM
Generation 4
virtual
hardware



VMware
P2V Assistant



VMware
VM Importer



- Migrate from Microsoft Virtual PC/Server
- Import Symantec images
- Move VMs across VMware platforms

- Consolidate legacy systems
- Test existing systems in a VM environment
- Supplement Disaster Recovery plan



Evolution of P2V

VMware P2V Assistant



Generation 2

- Expanded OS support
 - > Windows XP
 - > Windows 2003
- SMP support
- Improved System Reconfiguration

VMware VM Importer



- Import VMware virtual machines and migrate across VMware platforms
 - > Workstation 4.x and 5.x
 - > VMware Player and Server
 - > GSX Server 3.x
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*requires VirtualCenter 2.0

Generation 3



- One application
- Unified functionality
 - > P2V + VM Importer
- New functionality
- Easier to use

Evolution of P2V: VMware Converter

- Third Generation P2V combines VMware P2V Assistant 2.x and VMware VM Importer 2.x into one unified application for
 - P2V conversion of physical machines running Windows
 - Import of Microsoft virtual machines
 - Migration/conversion of virtual machines across VMware products

P2V

Clone
Physical
Machine to
VMware
Virtual Machine



Import
Symantec
Backup Exec
System
Recovery and
Norton Ghost
Image



VM Importer

Import
Microsoft
Virtual PC and
Virtual Server
Virtual Machine



Migrate/Convert
VMware
Virtual Machine

Hosted to/from
VI3

Gen 4 to/from
Gen 5
Virtual Hardware



Evolution of P2V: VMware Converter

- VMware Converter 3.0 has new capabilities
 - Hot cloning and remote cloning
 - All-in-one Boot CD for cold cloning
 - Concurrent conversions
 - Task management
 - Virtual Machine Guest configuration



Hot Cloning

- Clone a physical machine while it is running
 - Utilizes an agent that is installed
 - Can be local or remote
 - Windows NT 4.0 and 2000 will require a reboot
- Benefits
 - Avoid downtime
 - Better hardware support
 - No boot CD or floppy needed

VMware Converter Import Wizard

Source Login
Select a physical machine and login to import it.

[Step 1: Source](#)
[Source Type](#)
Source Login
Source Data
Step 2: Destination
Step 3: Customization
Ready to complete

Physical machine

A remote machine
Name or IP Address:
(Note: Machine must be running)

This local machine

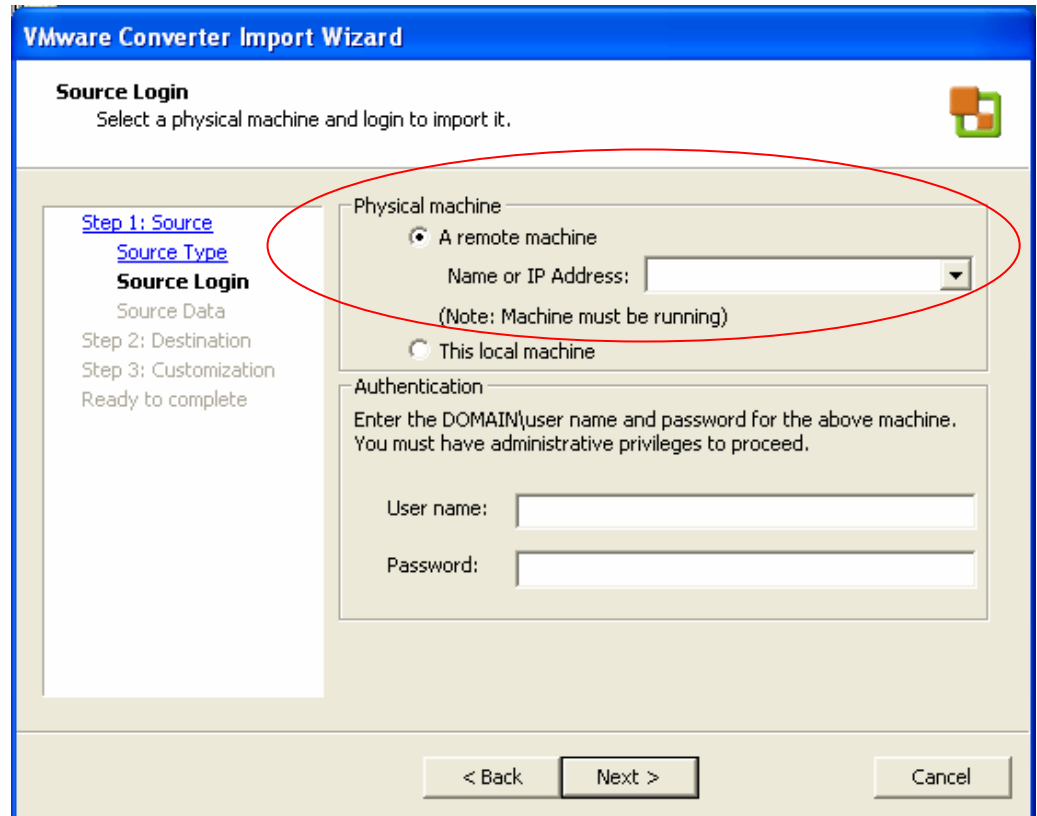
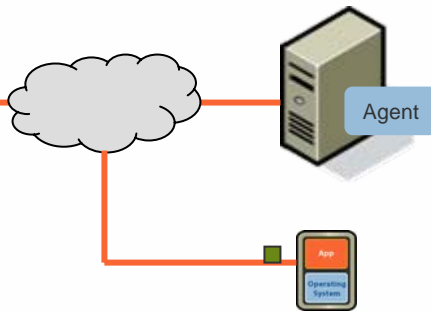
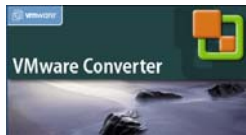
Authentication
Enter the DOMAIN\user name and password for the above machine.
You must have administrative privileges to proceed.

User name:
Password:

< Back Next > Cancel

Remote Hot Cloning

- Connects to physical machine via a network
 - Agent is installed over a network
- Benefits
 - Saves time
 - Avoids having to walk to the physical machine

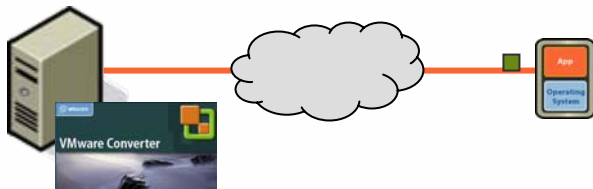


Local Hot Cloning

- Clones local machine running VMware Converter
 - Select a destination
 - Hosted VM using Windows network share
 - ESX Server VM

■ Benefits

- Alternative to remote hot cloning



VMware Converter Import Wizard

Source Login
Select a physical machine and login to import it.

[Step 1: Source](#)
[Source Type](#)
Source Login
Source Data
Step 2: Destination
Step 3: Customization
Ready to complete

Physical machine

A remote machine
Name or IP Address:

(Note: Machine must be running)

This local machine

Authentication
Enter the DOMAIN\user name and password for the above machine.
You must have administrative privileges to proceed.

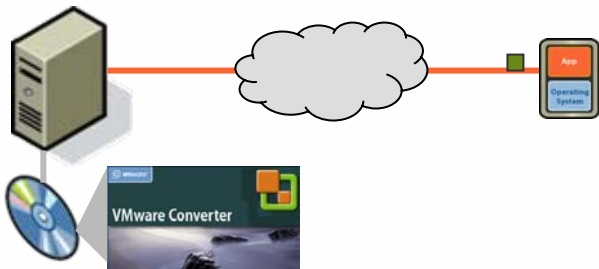
User name:

Password:

< Back Next > Cancel

All-in-One Boot CD for Cold Cloning

- Use the optional VMware Converter Boot CD and select a remote destination
 - Hosted VM using Windows network share
 - ESX Server VM
- Benefits
 - No need for Helper VM
 - Create VM, not vmdk



VMware Converter

File Edit View Task Administration Help

Import Machine Configure Machine Filter By: <No Fil

ID	Description	Source	Destination	Progress	Status	Start
[No Tasks]						

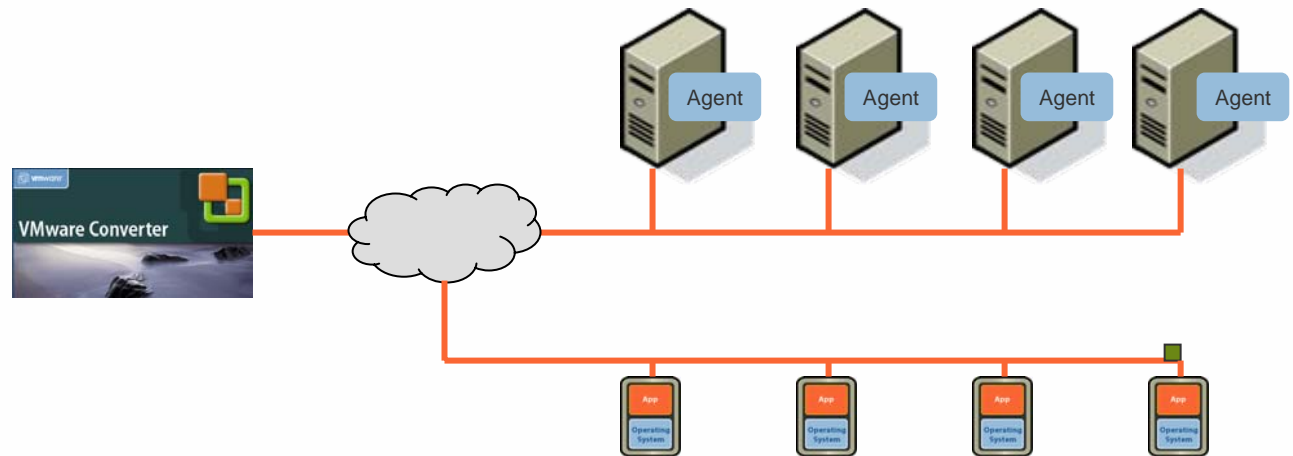
Welcome to VMware Converter

The VMware Converter allows you to import this local machine into a new VMware virtual machine.

Import Machine

Concurrent Conversions

- Run concurrent P2V conversions in parallel
 - Concurrent sessions supported by one application instance
 - Concurrent sessions can scale
- Benefits
 - Perform volume migrations
 - No need for multiple copies of application



Task Management

- Task-centric UI for centralized management
 - Edit and restart task jobs
 - View history of task jobs
 - View start and start times

- Benefits

- Audit log
- Save time when repeating

The screenshot displays the VMware Converter application window. At the top, there are menu options: File, Edit, View, Task, Administration, Help. Below the menu is a toolbar with icons for 'Import Machine', 'Configure Machine', a stop button, a play button, and a close button. A 'Filter By' dropdown is set to '<No Filter>' and a 'Run Order...' button is visible.

ID	Description	Source	Destination	Progress	Status	Start Time	End Time
11	Import a physical machine	local machine	\\10.16.48.11...	14 %	In Progress	09/25/2006 04:00...	---
7	Configure standalone VM	\\10.16.48.11...		0 %	Completed	09/21/2006 03:11...	09/21/2006 03:11...
10	Configure standalone VM	\\10.16.48.11...		0 %	Completed	09/25/2006 03:58...	09/25/2006 03:59...

Below the table, the 'Task Progress' tab is selected, showing details for Task ID 11: 'Import a physical machine'. The task is from 'local machine' to 'To: \\10.16.48.111\vmshare'. An 'Edit' button is present.

Source System Information

Machine Type:	Physical Machine
Name/IP Address:	local machine
Authentication:	Successful

Destination System Information


Virtual Machine Name:	PC1
Location:	\\10.16.48.111\vmshare

Destination Customization

Not customized

Virtual Machine Guest Configuration

- Using Microsoft Sysprep, customize the target VM's Guest identity
 - Computer, owner, and organization name
 - Security ID (SID)
 - Product ID license
 - Network properties
- Install VMware Tools
- Benefits
 - Save time
 - Avoid duplicate machines on the same network when cloning rather than migrating



The screenshot shows the 'VMware Converter Configure Wizard' dialog box. The title bar is blue with the text 'VMware Converter Configure Wizard'. Below the title bar, the section is titled 'Computer Name' with a small VMware logo icon on the right. The text below the title reads: 'Specify a computer name for identifying this virtual machine on a network. On some guest operating systems, this is sometimes called the host name.' On the left side, there is a navigation pane with a tree view containing the following items: 'Source Type', 'Virtual Machine', 'Customization', 'Computer Name' (which is highlighted with a blue background), 'Windows License', 'Time Zone', 'Workgroup Settings', and 'Ready to Complete'. On the right side, there are four text input fields: 'Computer Name:', 'Owner Name:', 'Organization:', and 'Generate New Security ID (SID)'. Below the 'Generate New Security ID (SID)' field, there is a checked checkbox with the text 'Select this item to generate a new security identity.'. Below that is a 'Location of Sysprep Files:' label followed by a text input field and a 'Browse...' button. At the bottom of the dialog, there are three buttons: '< Back', 'Next >', and 'Cancel'.

VMware Converter: Old Favorites

- VMware Converter 3.0 retains popular features from VMware P2V Assistant 2.x and VMware VM Importer 2.x and improves upon them
 - Cold cloning
 - Disk cloning
 - Import
 - Use with third-party imaging and formats
 - Automatic virtual machine creation
 - Supported Operating Systems

Cold Cloning

- Same
 - Use Boot CD to avoid installing agent on source physical machine
- Improved
 - Windows PE environment for greater hardware support
 - Option to add drivers to Boot CD
 - VMware Converter application on Boot CD – just point to a destination

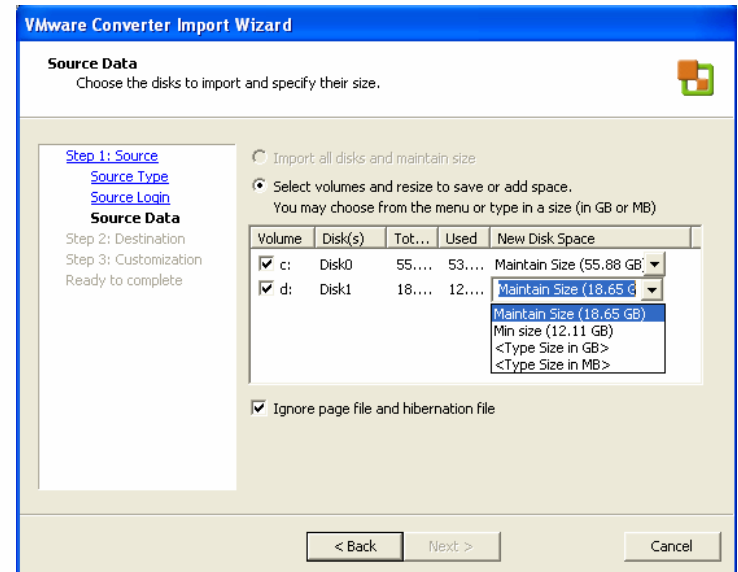


Disk Cloning

- Same
 - Volume-based cloning allows
 - Option to skip partitions
 - Option to resize partitions

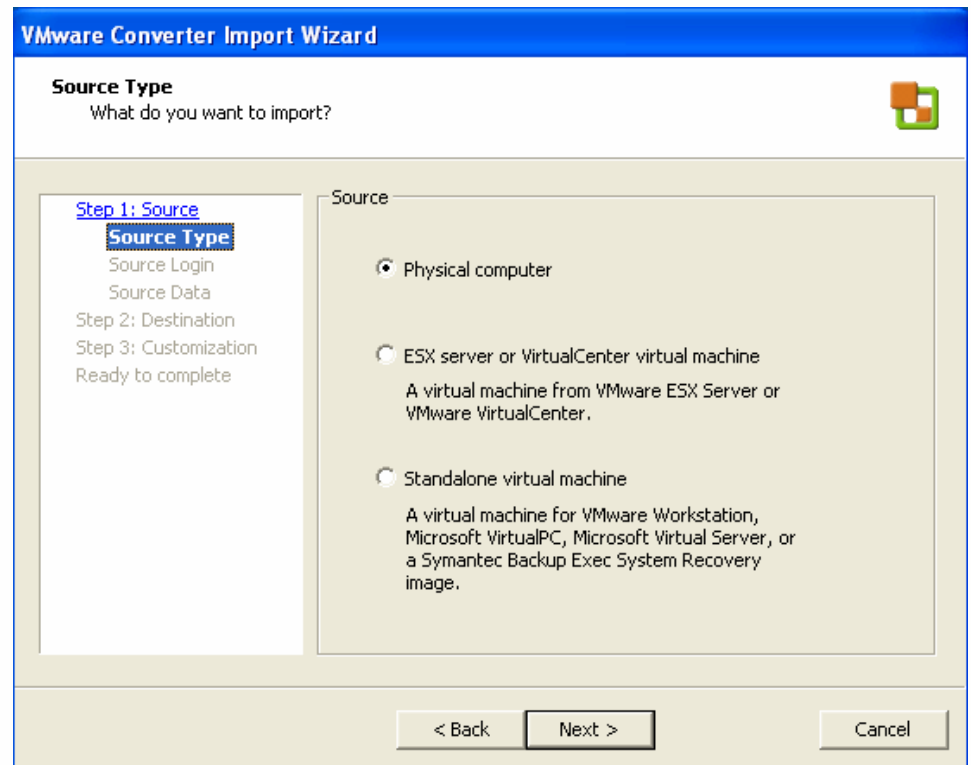
- Improved
 - New block-based cloning (vs. file-based) improves performance
 - New disk-based cloning clones entire disk contents
 - Can clone MS-DOS, Windows 9x and Linux systems*
 - Volume resizing is cleaner – no more blank partitions

* may need to manually configure to boot



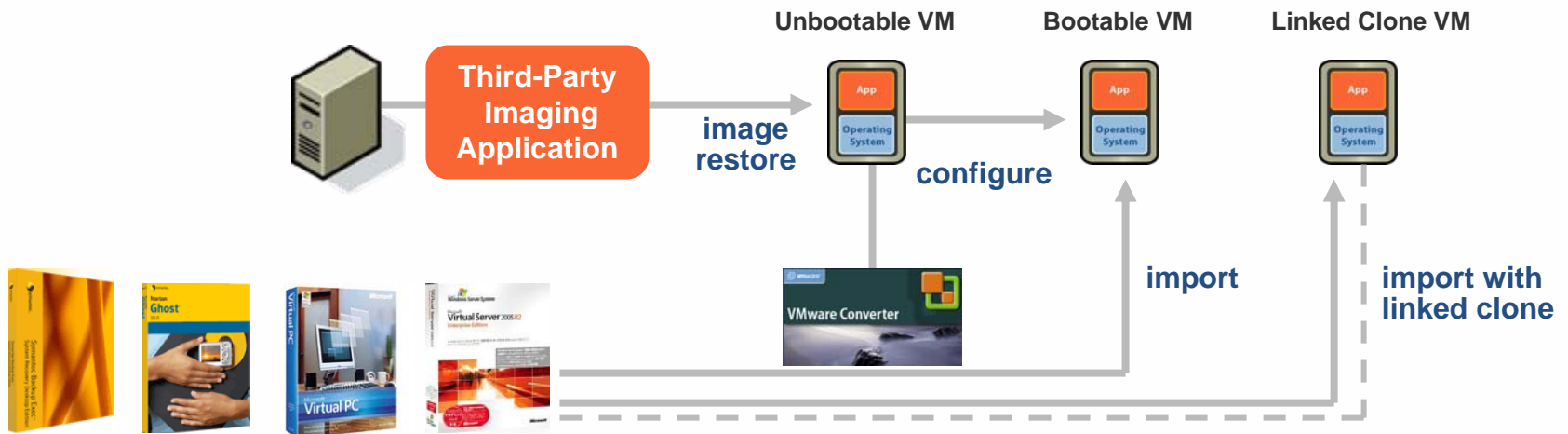
Import

- Same
 - Import VMware virtual machines
 - From local virtual machines
 - From network share
 - From VirtualCenter 2.0-managed ESX Server 2.5.x/3.x or ESX Server 3.x
 - Import Microsoft Virtual PC/Server virtual machines
 - Import Symantec images
- Improved
 - Seamless process to import physical machines



Use with Third-Party Imaging and Formats

- Same
 - “Configure” option to convert VMware virtual machines whose disks have been overlaid with a physical machine’s image using a third-party imaging application
 - Import directly from Symantec Recovery image or Microsoft virtual machine format – import includes configure step
 - Linked clone for faster P2V conversion



Automatic Virtual Machine Creation

- Same
 - Virtual machine files created on specified target destination
 - No need to import/export between VMware hosted products and VMware ESX Server
 - All virtual machine files created, not just virtual disk files
 - Simplified wizard-based process

The screenshot displays the 'VMware Converter Import Wizard' interface. The title bar is blue with the text 'VMware Converter Import Wizard'. Below the title bar, the 'Destination' step is active, with the question 'Where would you like to import the new virtual machine?'. A navigation pane on the left lists steps: 'Step 1: Source' (with sub-items 'Source Type', 'Source Login', 'Source Data'), 'Step 2: Destination' (with sub-items 'Destination Type', 'Destination Login', 'VM Name & Folder', 'Host', 'Datastore', 'Networks'), and 'Step 3: Customization' (with sub-item 'Ready to complete'). The main area shows two radio button options: 'VMware ESX server or VirtualCenter virtual machine' (selected) and 'VMware standalone virtual machine (Workstation or VMware Server)'. At the bottom of this window are buttons for '< Back', 'Next >', and 'Cancel'. Below this is another window for 'Log in to the ESX or VirtualCenter server where you would like your imported virtual machine to be stored.' It contains a dropdown for 'ESX / VC Server', and text boxes for 'Username:' and 'Password:'. To the right, there are text boxes for 'Virtual machine name: (maximum 80 characters)' and 'Location:' with a 'Browse...' button. An 'Important!' warning icon and text state: 'The destination must be network mountable. It must also be accessible to both the source machine and to this VMware Converter application.' Below this, there are radio buttons for 'Type of virtual machine to create:': 'Workstation 5.x, VMware Server, VMware Player' (selected) and 'Workstation 4.x, VMware Ace 1.x, GSX Server 3.x'.

Supported Operating Systems

- Same
 - Cloning and configure to bootable VMware VM
 - Windows NT 4.0
 - Windows 2000
 - Windows 2003 and XP 32-bit

- Improved
 - Cloning and configure to bootable VMware VM
 - Windows 2003 and XP 64-bit
 - Cloning only
 - MS-DOS, Windows 9x, Linux

VMware Converter Use Cases

- From VMware P2V Assistant 2.x and VM Importer 2.x
 - Consolidate legacy systems
 - Test existing systems in a VM environment
 - Supplement Disaster Recovery plan
 - Migrate from Microsoft Virtual PC/Server
 - Move VMs across VMware platforms

- New with VMware Converter 3.0
 - Convert physical systems with minimal downtime
 - Perform volume, concurrent conversions
 - Clone and configure VMs using streamlined processes
 - Convert remote systems

Getting Started with VMware Converter

- Licensing
 - Starter Edition
 - Enterprise Edition
 - Cold cloning Boot CD
 - Concurrent tasks
 - Remote hot clone directly to ESX Server, not just hosted products
- Availability
 - <http://www.vmware.com/whatsnew/converter.html>
- Requirements
 - Application and optional Boot CD
 - Supported import sources and export destinations

Getting Started with VMware Converter

- VMware P2V Jumpstart service
 - Current Consulting service will be updated to help customers with VMware Converter
 - Leverage the capabilities of VMware Converter quickly
 - Fully realize all capabilities through understanding and employing best practices
 - Leverage deep field experience with P2V
 - Offered by VMware Professional Services and VMware Authorized Consulting (VAC) Partners



Questions?



Further Resources

- VMware Converter Booth at the Solutions Exchange
 - Demonstrations
 - Q&A

- VMware P2V Assistant Best Practices
 - TAC9886
 - Session presented by Joe Christie and Brian Perry

- VMware P2V Assistant and VM Importer Lab
 - LAB3809
 - Self-paced lab

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