Introducing the Next Generation of P2V: VMware Converter 3.0

Pang Chen

Consulting Architect,
VMware Professional Services
WW Practice Development

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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

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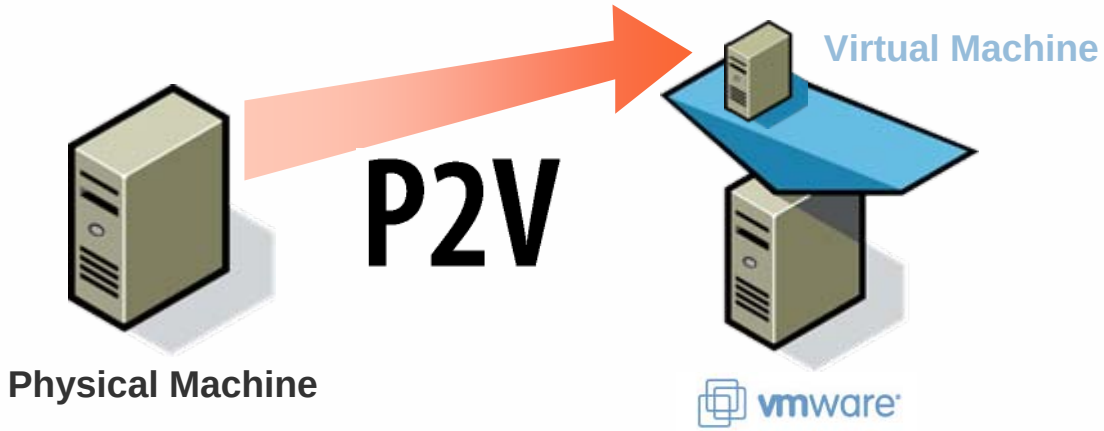
Introduction

- 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



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History of P2V

VMware P2V Assistant

VMware VM Importer

Generation 1 — 2003

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

2005

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

Generation 2 — 2004

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

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

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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

Physical Machine

VMware P2V Assistant

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

VMware VM Importer

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

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Evolution of P2V

VMware P2V Assistant

VMware VM Importer

Generation 2

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

- 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

Generation 3

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

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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

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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

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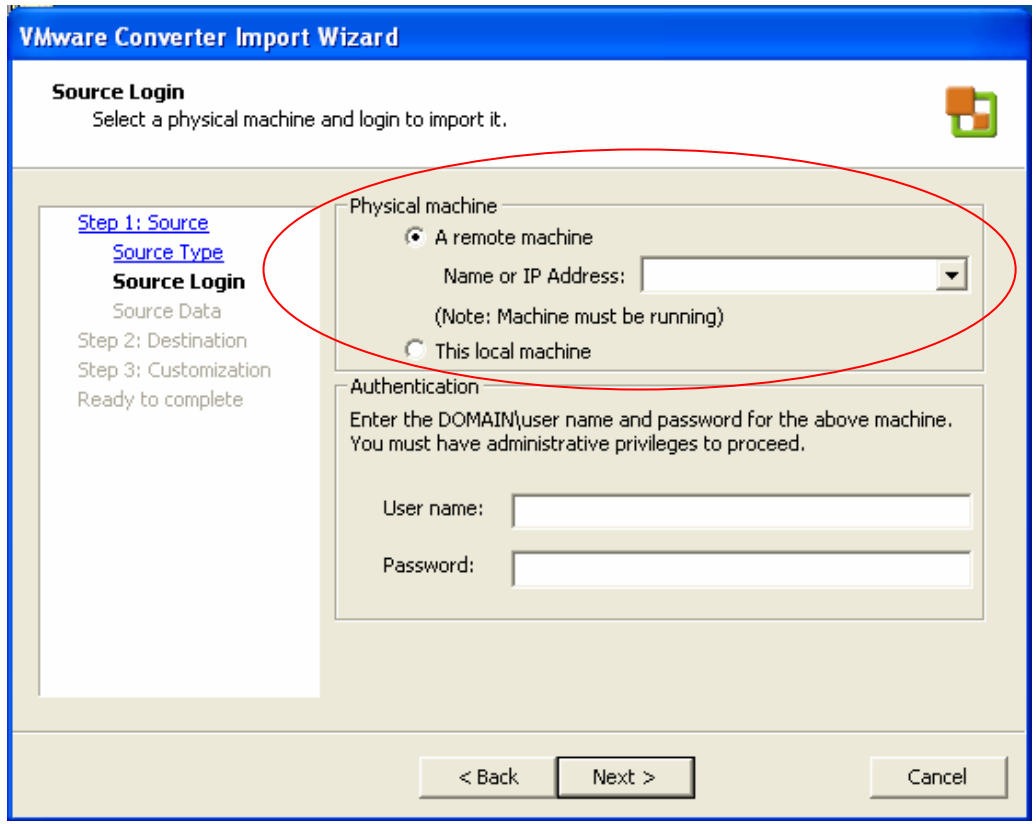
Hot Cloning

- 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



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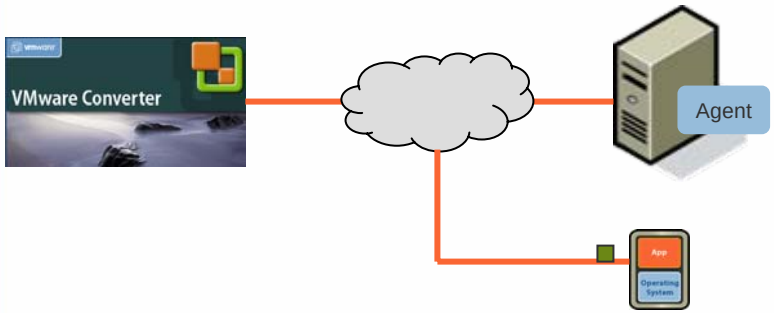
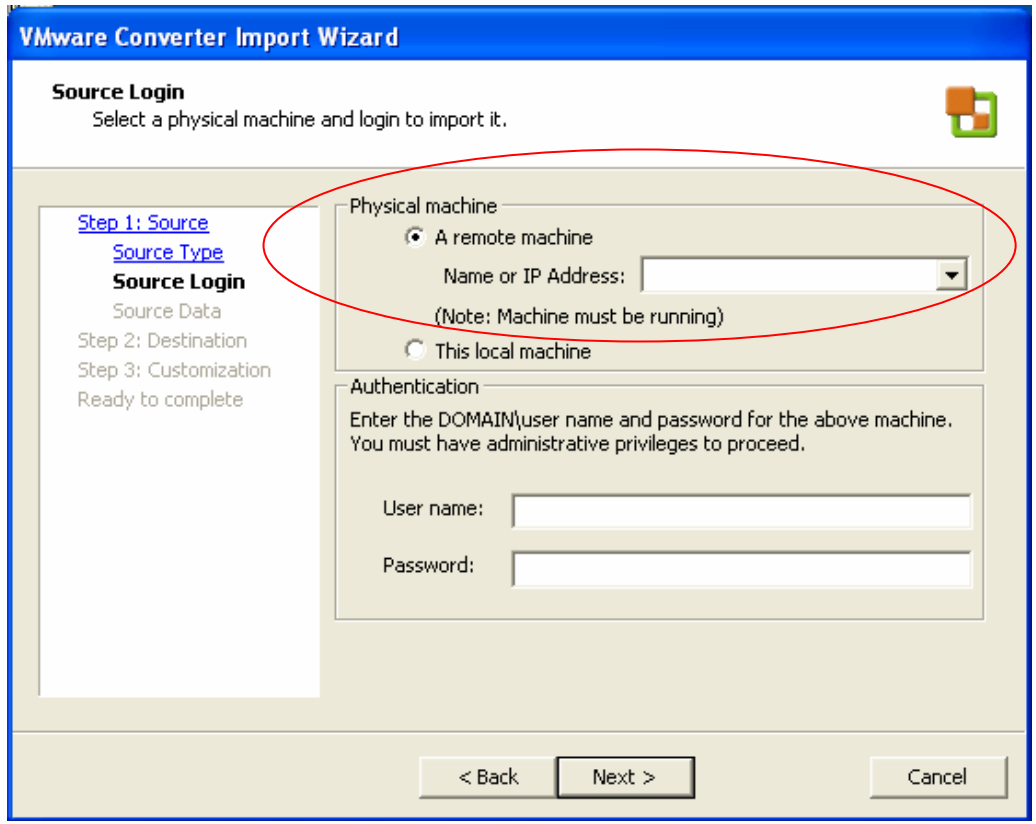
Remote Hot Cloning

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





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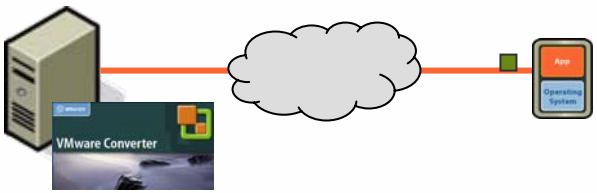
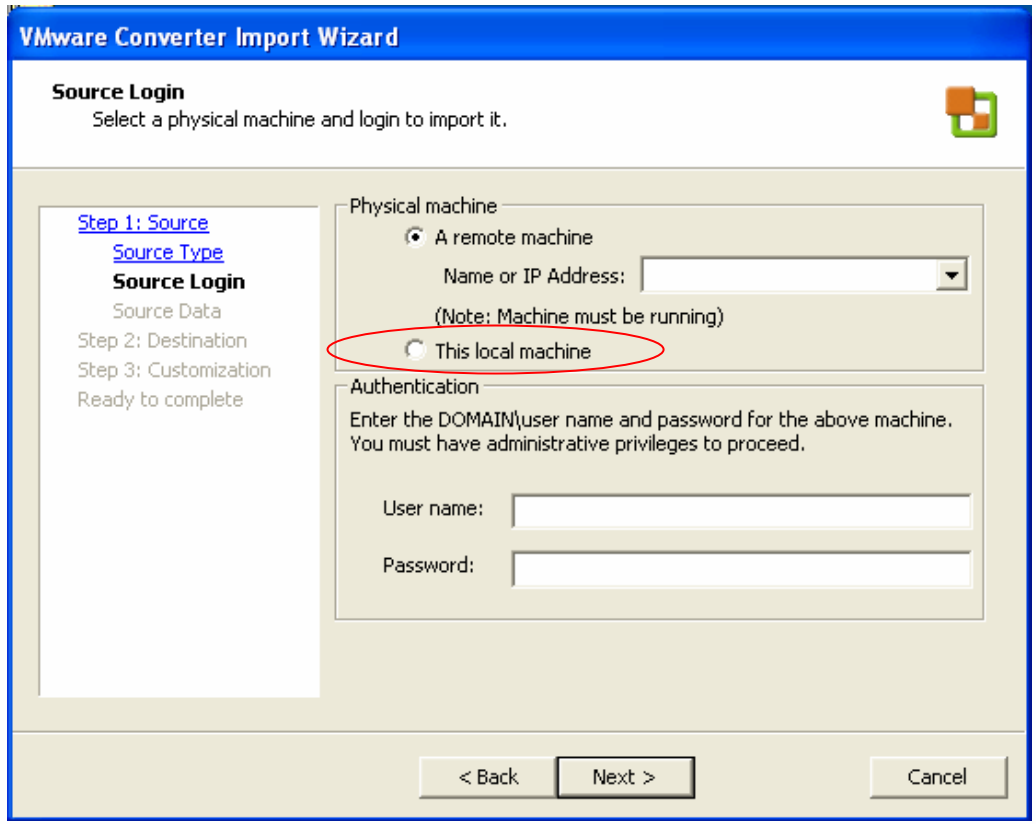
Local Hot Cloning

- Clones local machine running VMware Converter
  - Select a destination
    - Hosted VM using Windows network share
    - ESX Server VM
- Benefits
  - Alternative to remote hot cloning





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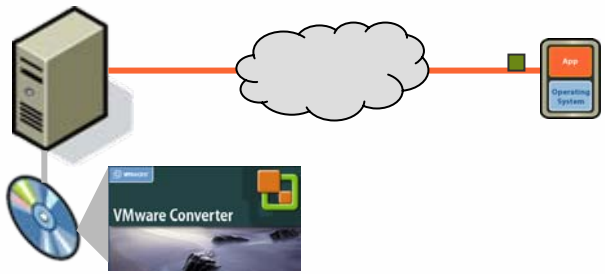
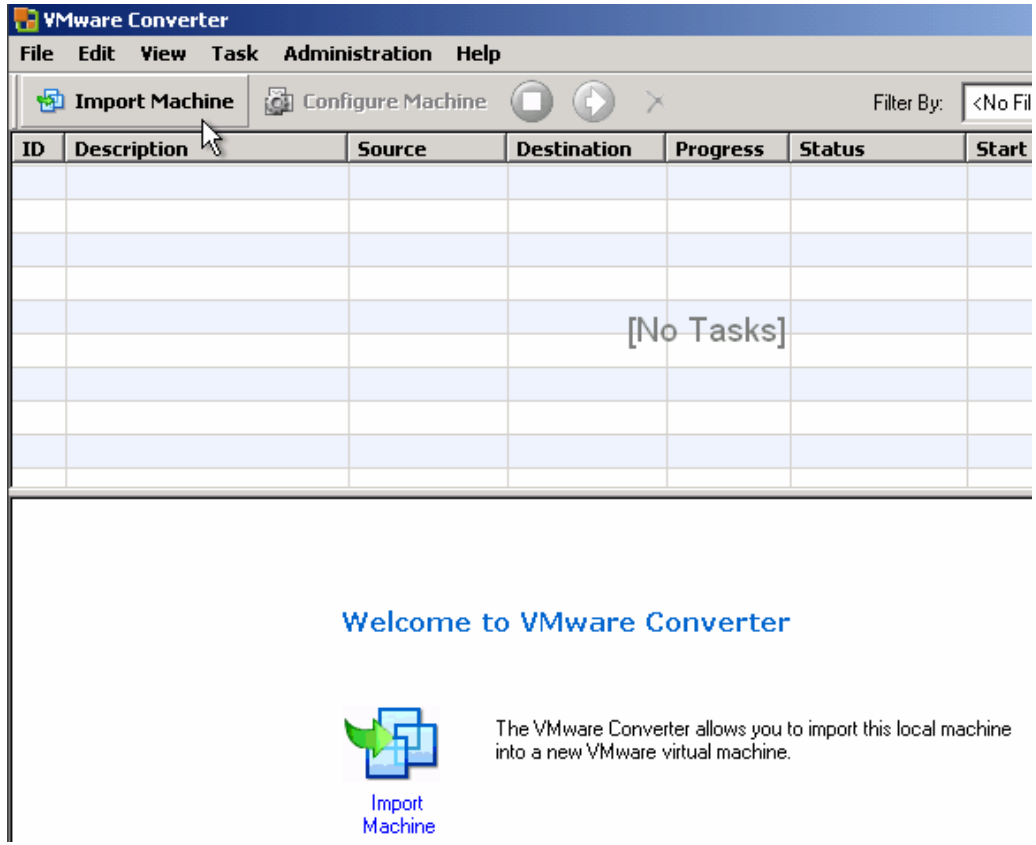
All-in-One Boot CD for Cold Cloning

- 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





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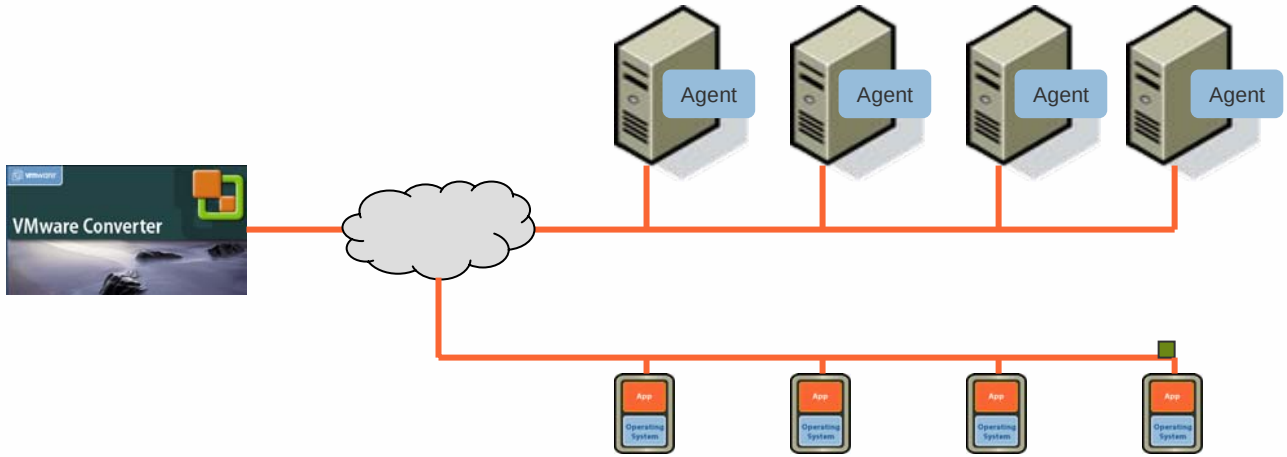
Concurrent Conversions

- 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



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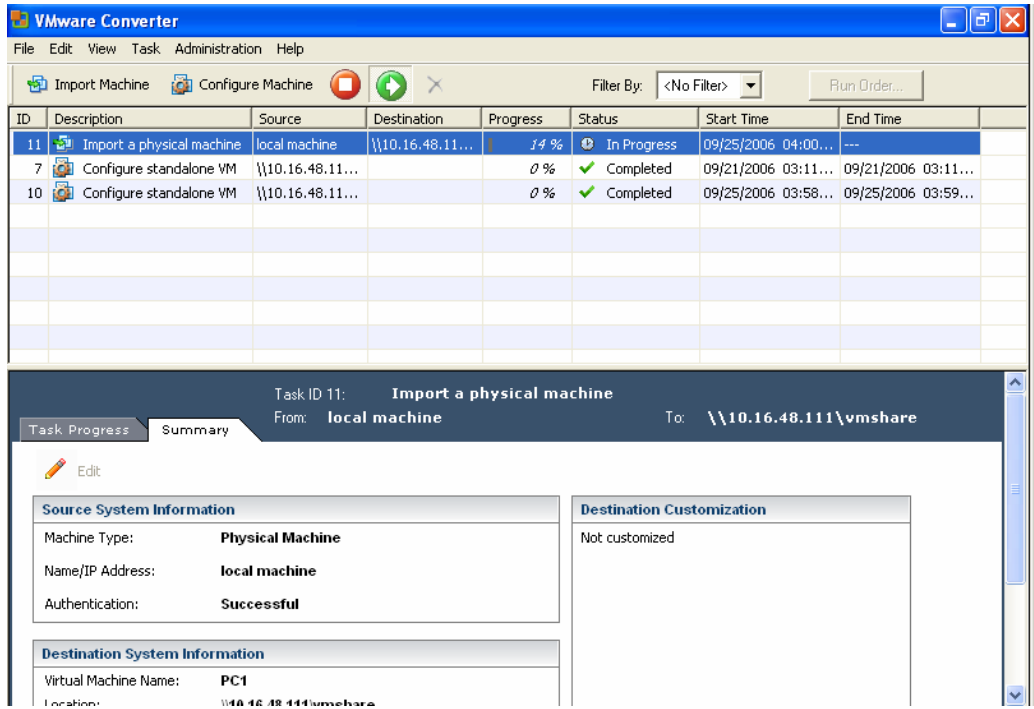
Task Management

- 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



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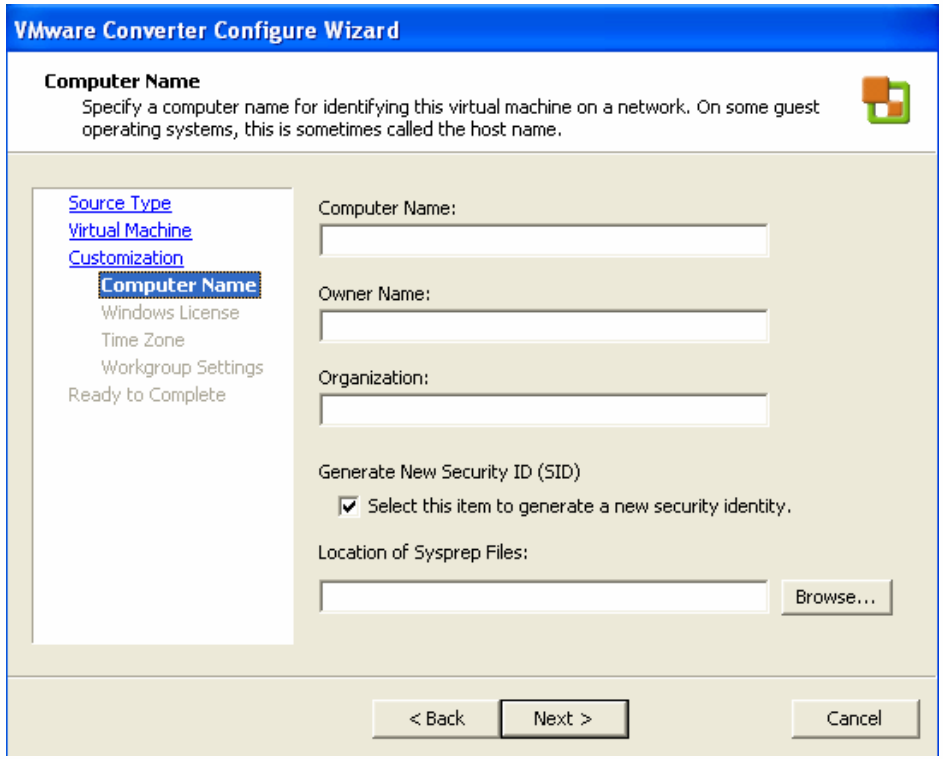
Virtual Machine Guest Configuration

- 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



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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

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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

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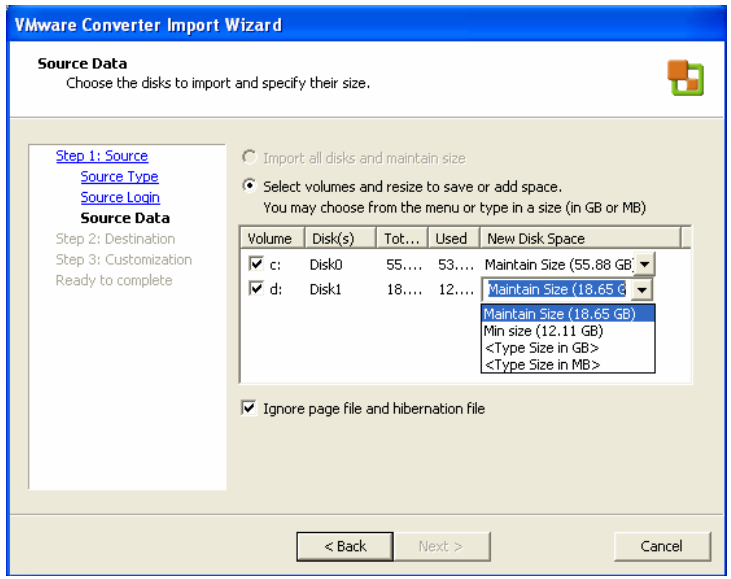
Disk Cloning

- 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



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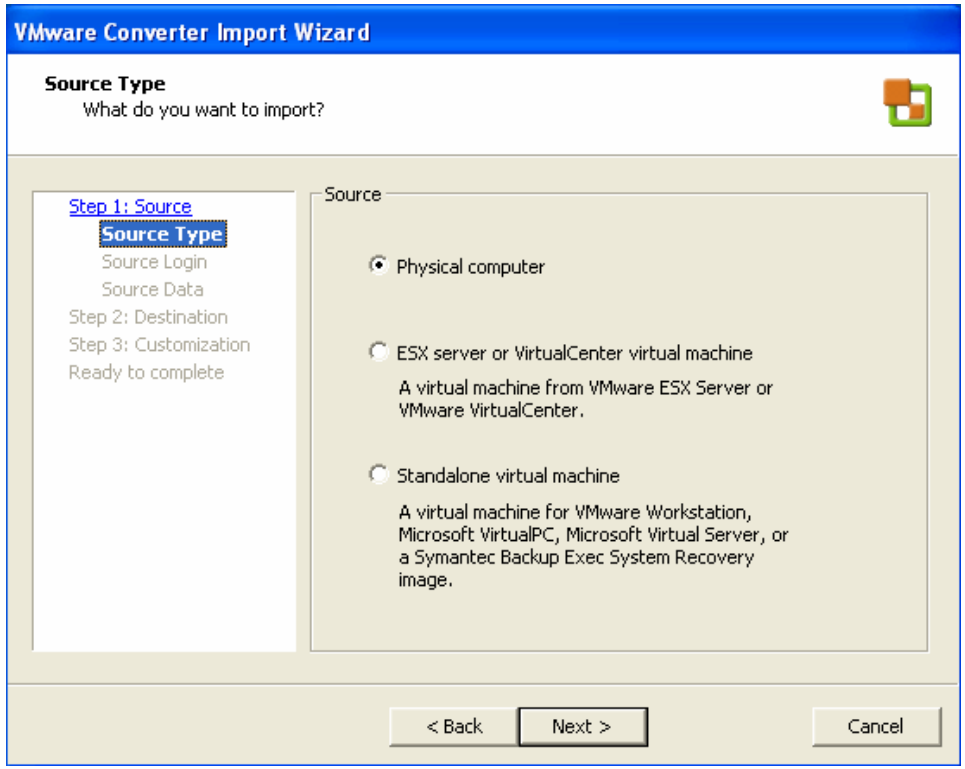
Import

- 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



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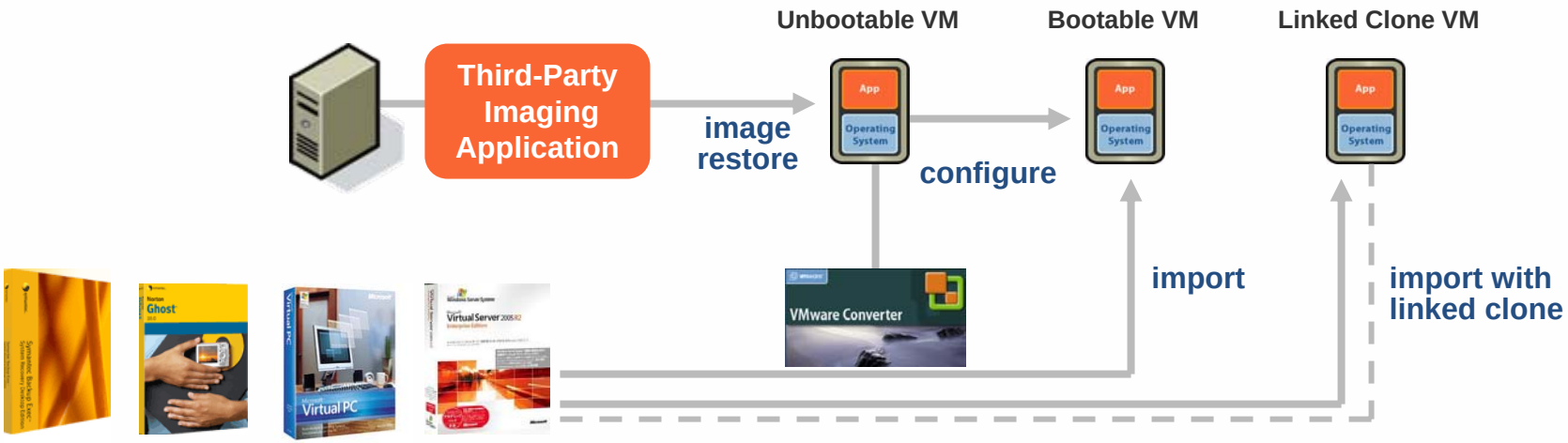
Use with Third-Party Imaging and Formats

- 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



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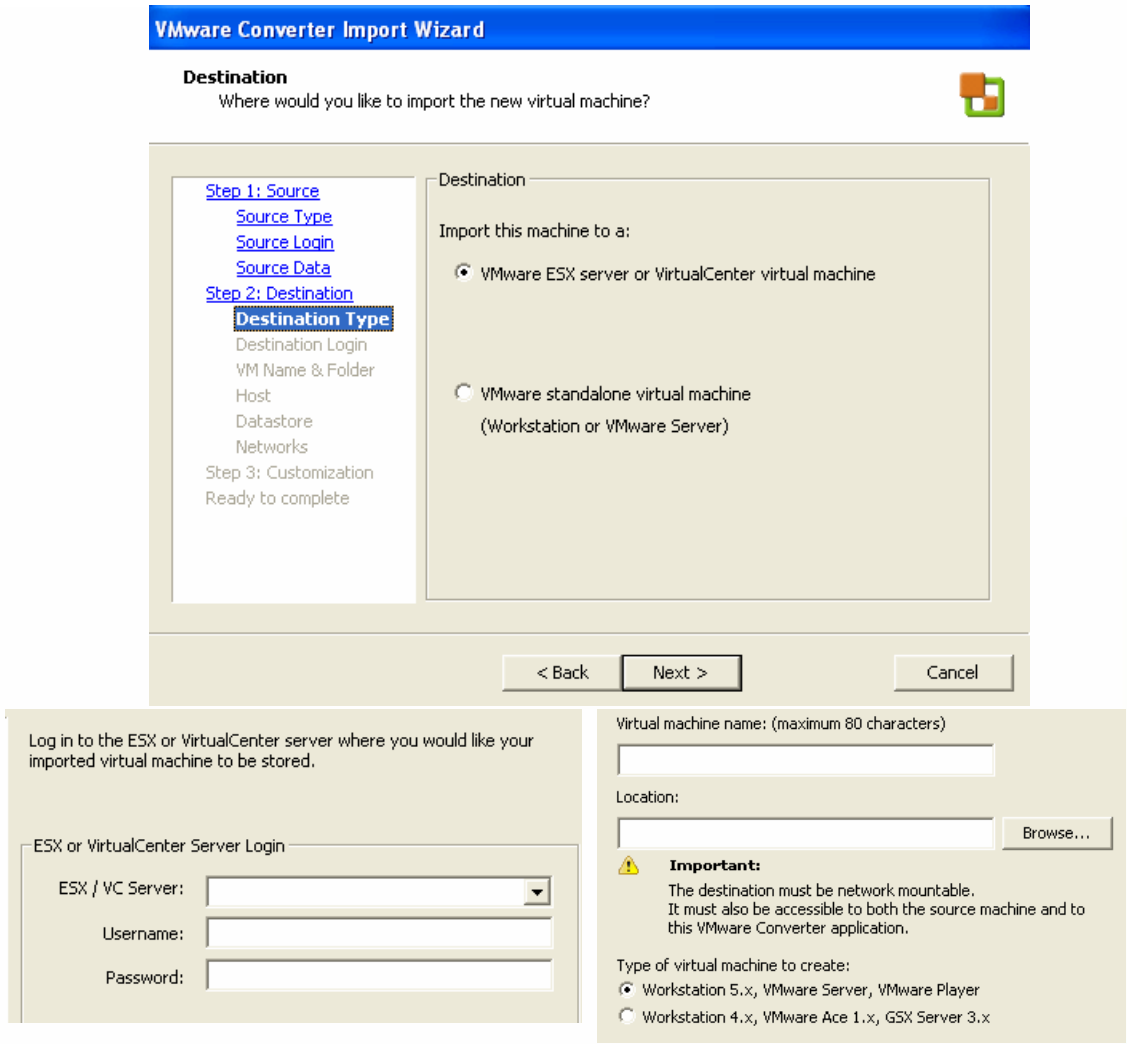
Automatic Virtual Machine Creation

- 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



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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

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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

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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

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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

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Questions?

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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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