



Using PlateSpin PowerConvert to Perform Windows-to-Virtual Conversions into Virtual Iron Servers

Introduction

PlateSpin PowerConvert can be used to perform physical-to-virtual (P2V) conversions of Windows source systems into Virtual Iron® virtual machines. This can be accomplished today by creating a target virtual machine in the Virtual Iron Virtualization Manager console, booting it up with the PowerConvert Take Control ISO and configuring a “physical-to-physical” conversion to this target virtual machine. The following document provides a step-by-step walkthrough of how to do perform such a conversion. Additional information can be found in the Virtual Iron Administrator’s Guide and the PowerConvert User Guide.

Installing PowerConvert

PowerConvert will need to be installed on a Windows server or on a virtual machine running Windows in your network. Instructions on the installation and configuration of PowerConvert can be found in the PowerConvert User Guide. Before installing PowerConvert, you will need to install several components on the PowerConvert server. These components must be installed in the following order:

1. IIS
2. The ASP.Net component of IIS
3. The .Net 2.0 Framework

Creating a Virtual Machine in Virtual Iron

To enable P2V conversion, you must first create the target Virtual Machine (VM) through the Virtual Iron Virtualization Manager, and boot it up with the PlateSpin ISO image.

Copying the PlateSpin Take Control ISO Image

The first step is to copy the PlateSpin Virtual Iron Target Take Control ISO image to the appropriate directory on the Virtual Iron Virtualization Manager. The ISO image is available from the PlateSpin website at <http://www.platespin.com/downloads>

ISO	Comments
Physical Target Take Control ISO WINPERAMDISK_VIRTUALIRON.ISO	Use for VMs that have greater than 384 MB of RAM assigned
Physical Target Take Control ISO For Low Memory Servers WINPE_VIRTUALIRON.ISO	Use for VMs that have less than 384 MB of RAM assigned

Tip: When creating a VM shell as a target for the conversion, assign at least 384 MB of RAM to the VM. This will provide sufficient resources to the VM during the conversion and will result in better transfer times. Should the virtual machine require less memory after the conversion, simply reduce the assigned memory through the Virtual Iron Virtualization Manager.

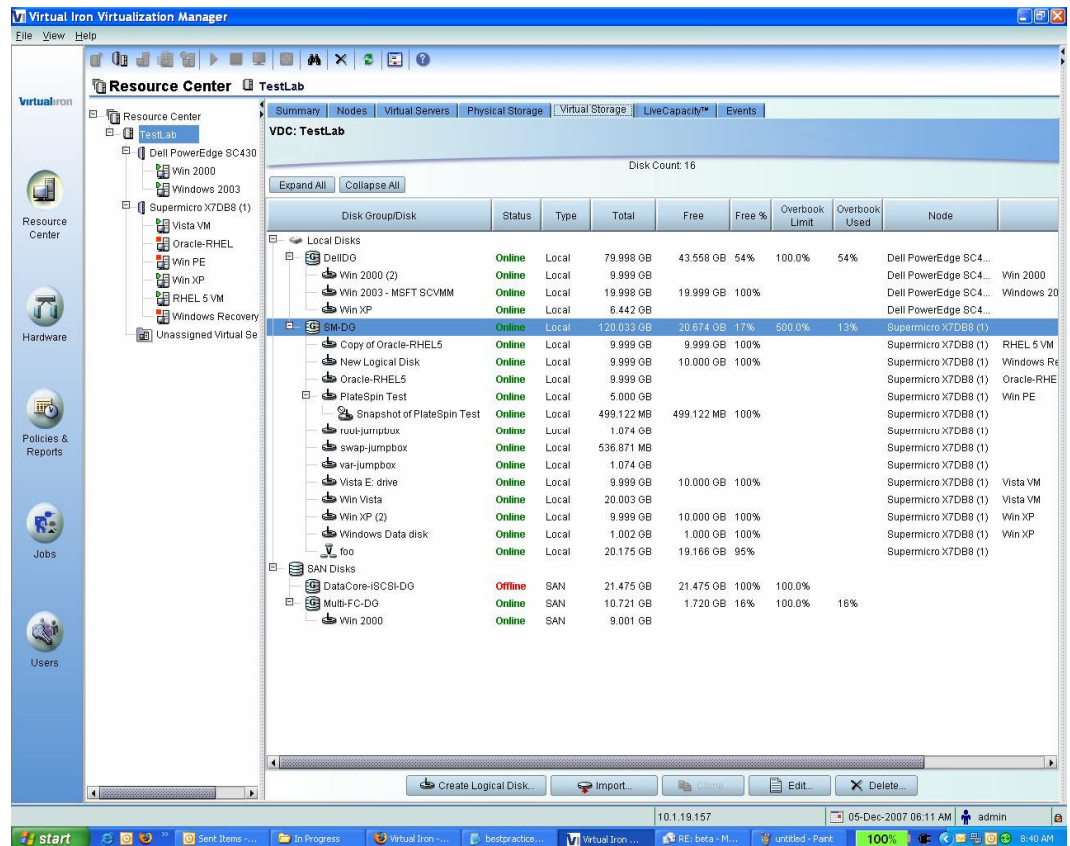
Copy the ISO image into either the /opt/VirtualIron/nbd directory for a Linux Virtualization Manager or the c:\Program Files\nbd directory for a Windows Virtualization Manager, so that this image will be available as an option in the Boot Options section of the “Configure New Virtual Server” menu of the Virtual Iron Virtualization Manager.

Create VM

In the Virtual Iron Virtualization Manager, click on the “Create New Virtual Server” button to create a new virtual machine. Click on the “Edit” button in the configuration screen to modify options for this VM. In the “Configuration Options” section, enter an amount of virtual memory for your VM (in Megabytes). At least 384 MB is recommended.

In the “Boot Options” section, select either Windows Server 2003 or Windows XP from the Operating System pull-down menu, depending on what source operating system you are converting. Select “Network (Image) Boot” and in the drop-down, select the name of the PlateSpin Target Take Control ISO.

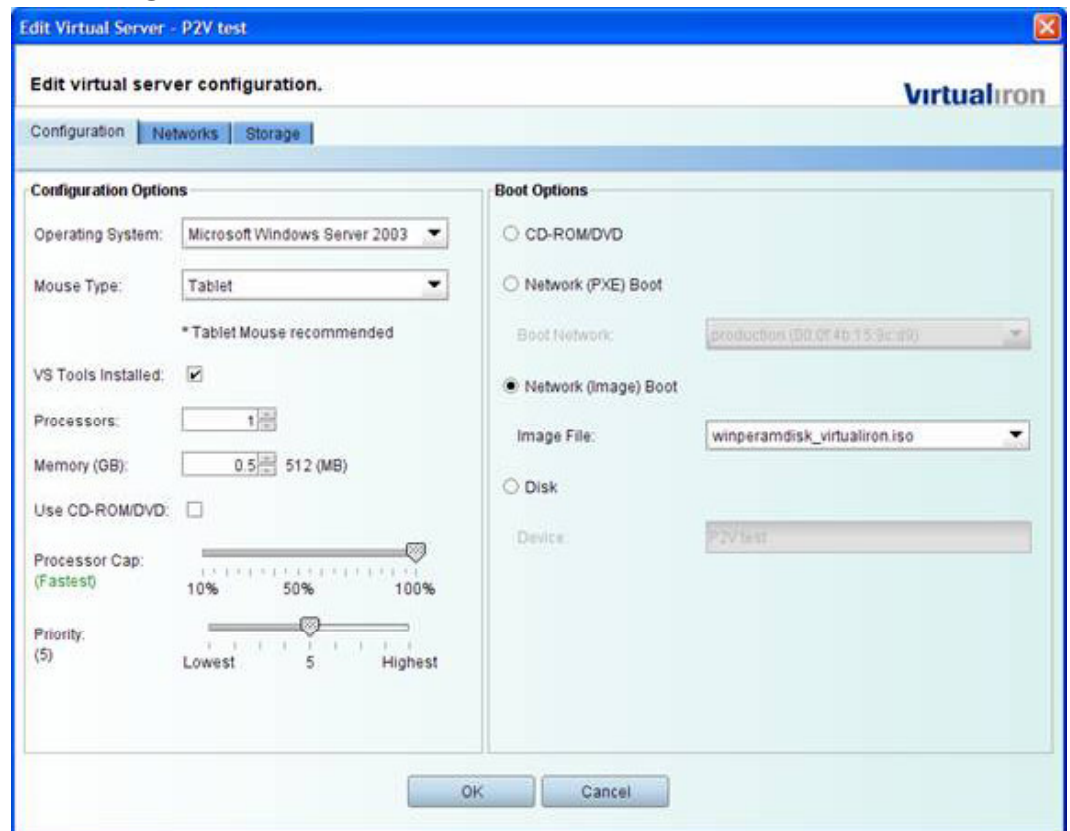
Next, assign storage to the VM. The storage can be either a raw SAN LUN or a virtual disk. Assign one or more disks, depending on how many drives your source server requires.



Make sure to allocate enough virtual disk space on the target VM to allow for all of the data (and free space) that you want to move from your source machine. Note that the

amount of free space associated with a source volume can be resized during the server migration process when you configure the PowerConvert conversion job, but the overall amount of virtual machine disk space cannot be resized. For example, if you allocate 4 GB of virtual disk space for the target VM, and your source system has 3 GB of used space, the maximum amount of free space that you will be able to allocate for the target VM in the PowerConvert job will be 1 GB. Please see Step 3 (Drive Configuration) of the section of the PowerConvert User Guide entitled “Converting to Physical Servers (P2P, V2P)” for more information.

Installing the VM



When you have configured the virtual server, please edit it, and select the “VS Tools installed” checkbox.

Once you have finished configuring your new virtual server, right-click on the virtual server name, and select “Start”. The VM will boot from the PlateSpin ISO image automatically. Right-click on the virtual server name and select “Launch Console” to see the image boot up.

Booting the VM from the PlateSpin Take Control ISO

```

C:\X:\i386\system32\cmd.exe - startnet.cmd
Registering the .NET Framework
Calling DriverUpdate to force install devices
Detecting devices..
Setting up randisk (33554432 bytes)
The operation completed successfully.
Would you like to prepare for block transfer? [Y,N]?
    
```

When the ISO image has finished booting, you will be prompted for:

- **Block transfer:** Enter Y only if you are intending to use the block-based data transfer option for this conversion job. (Please see the PowerConvert User Guide for more information on block-based vs file-based data transfer). Otherwise, enter N.
- **The URL of the PowerConvert server:** Use `http://<servername>/powerconvert`, where <servername> is the hostname or IP address of the server where PowerConvert is installed.
- **Username:** This will be the name of a user that has admin privileges on the PowerConvert server, including domain or machine name. (e.g., domain\username).
- **Password:** Password for the above user.
- **Network card:** Select the network card that is active and enter a temporary static IP address for this card or just hit Enter to use DHCP to generate a temporary IP address.
- **Temporary hostname:** This hostname will show up in the PowerConvert interface as the temporary name for the hostname of this VM. It will be over-written with the name you choose in the PowerConvert job.
- **Number of processors:** This prompt may occur if the WinPE image cannot determine the number of processors available. If you see this prompt, enter the number of virtual processors you have assigned to this virtual machine.
- **SSL encryption:** If you have installed PowerConvert on server where SSL encryption is enabled, enter Yes. Otherwise, enter No.
- **PowerConvert network:** Unless you have defined your own network in the PowerConvert client, just hit Enter here.

At this point, the PlateSpin controller application will communicate with the PowerConvert server and register the target machine as a physical target for conversion.

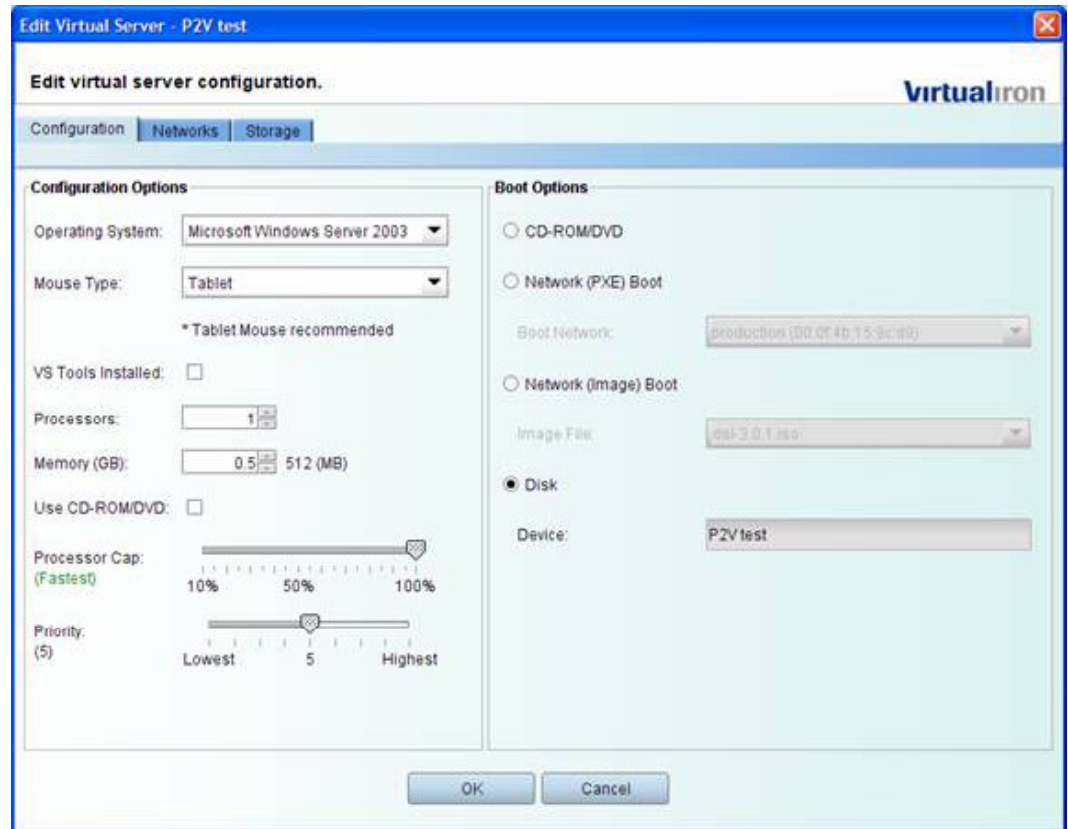
P2V Migration with PowerConvert

Once the ISO image has fully booted up and the target server appears in the PowerConvert client interface (labeled with the temporary hostname and an Operating System of “Unknown OS”), you will be able to drag-and-drop a source server onto this target to create and initiate a PowerConvert job.

For more details on configuring a PowerConvert job, please see the PowerConvert User Guide. In particular, the type of job that needs to be run in order to populate a VM in Virtual Iron is covered in the chapter entitled “Converting to Physical Servers.”

Monitor the conversion job through the PowerConvert interface. Once it reaches step 10: “Configure Target Machine”, if the console for the virtual server is up, and has returned to the PlateSpin ISO image prompt, shut the virtual server down at this point. You will need to go back to the Virtual Iron Virtualization Manager interface, and modify the virtual server configuration, in order to make the virtual server boot from disk, rather than from the ISO image. You should also now uncheck the “VS Tools Installed” option. {may want to make this point more strong, otherwise they’ll get a blue screen b/c of wrong drivers in use}

Power the Virtual Machine on. The PowerConvert job will continue on from this point, rebooting the virtual server, and finishing the configuration. It is possible that the conversion job may display a “recoverable error” message at this point, if the virtual server has still booted from the ISO image, rather than from the disk.



Post-migration Steps

Virtual Iron provides a set of software tools called VSTools for use by VMs. These tools provide a set of enhanced capabilities including:

- Accelerated network and storage drivers
- Collection of virtual server statistics
- Control of virtual servers (shutdown/restart)
- LiveMigration™ of virtual servers

To make use of these capabilities, you must install the appropriate VSTool kit to the disk on which the guest OS is booted. Further information on VSTools installation is provided in Chapter 5 of the Virtual Iron Administrator's Guide.

About PlateSpin Ltd.

PlateSpin provides the most advanced data center automation software designed to optimize the use of server resources across the enterprise to improve business service levels and lower costs. PlateSpin's conversion and optimization technology liberates software from hardware platforms, allowing servers to be streamed over the enterprise network from any source to any destination. This freedom of movement ensures the best fit between server resource supply and application workload demands.

Global 2000 companies use PlateSpin solutions to lower costs and solve today's most pressing data center initiatives such as server consolidation, disaster recovery, hardware migration and test lab automation.

For more information please visit www.platespin.com



About Virtual Iron

Virtual Iron provides enterprise-class software solutions for creating and managing virtual infrastructure. Its software enables companies to dramatically reduce the complexity and cost of managing and operating their enterprise data center. Virtual Iron delivers advanced virtualization capabilities that exploit industry standards, open source economics and built-in hardware-assisted acceleration. Organizations use Virtual Iron's software for server consolidation, rapid provisioning, business continuity, capacity management and policy-based automation to deliver significant improvements in utilization, manageability and agility. Virtual Iron is privately held and based in Lowell, Massachusetts.

For more information, visit <http://www.virtualiron.com> or email info@virtualiron.com.

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