

BladeBoot Windows 2008

Software-Based iSCSI Boot For Windows 2008 on IBM Blades

Note

Before using this information and the product it supports, read the information in Notices on page 32.

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1 Windows 2008

1.1 Infrastructure Preparation

You will need:

- 1. IBM BladeCenter (chassis for Blades)
- 2. IBM Blade with BladeBoot Support
 - a. Latest BIOS Firmware Update
 - b. Latest BMC Firmware Update
 - c. Latest NIC Microcode Update
- 3. IBM iSCSI Configuration Manager (software utility)
- 4. iSCSI Target such as an IBM N3700 (storage appliance)

The following link can assist in locating some of the required items:

http://www-03.ibm.com/servers/eserver/bladecenter/storage/iscsi.html

1.1.1 iSCSI Target

- 1. Configure your iSCSI Target to provide a LUN
 - a. Preferably the LUN is cleared out when created (all zeros in the first sector at a minimum)

1.1.2 SAN Configuration

Run the IBM iSCSI Configuration Manager utility to configure the Blade with your SAN boot parameters.

1.2 Blade Configuration

1.2.1 Power On

Power on the Blade and press F1 when prompted.



1.2.2 F1 Setup

1.2.2.1 Load Default Settings

Configuration/Setup Util	ity
 System Summary System Information Devices and I/O Ports Date and Time System Security Start Options Advanced Setup Save Settings Restore Settings Load Default Settings Exit Setup 	
(F1> Help (Esc> Exit	<t>><1> Move <enter> Select</enter></t>

1.2.2.2 Enable iSCSI Initiator

	I
Start O	ptions
Startup Sequence Options	
Planar Ethernet PXE/DHCP Run PXE only on selected Planar NIC ReportUserDisabledPCIDevices PCI Device Boot Priority iSCSI Initiator Disketteless Operation Keyboardless Operation Keyboardless Operation Keyboard NumLock State USB Disk Boot on POST/BIOS Error Boot Fail Count Rehook INT 19h Virus Detection	[Planar Ethernet 1] [Disabled] [Enabled] [Planar SCSI] [Enabled] [Disabled]
<pre><f1> Help <1><↓> Move <→> M <esc> Exit <<+> P</esc></f1></pre>	ext Value <f9> Restore Setting revious Value <f10> Default Setting</f10></f9>

Note: If at some point you encounter an 1801 error you can enable "Run PXE only on selected Planar NIC" and select the NIC you are using for your SAN via the "Planar Ethernet PXE/DHCP" setting. This may eliminate the 1801 error.

Save your settings and exit F1 Setup.

CP: 49

1.2.3 Boot Check

During the boot-up process you must see this panel and "Login succeeded" to proceed. If you do not, check your SAN configuration and restart the operation.

Attempting iSCSI connection

IBM iSCSI Firmware Initiator v1.0.31.A (C) Copyright IBM Corp. 2003, 2006 All Rights Reserved Initiator iqn : iqn.1986-03.com.ibm:kqkhg8y IP : 192.168.70.241 Mask : 255.255.255.0 NIC : 00:14:5e:3d:20:53 Target iqn : iqn.1986-03.com.ibm:sn.84251942 IP : 192.168.70.19 LUN : 0-0-0-0 Port : 3260 Login succeeded

1.3 Windows 2008 DVD Install

Insert the Windows 2008 DVD in the DVD drive; assign the media tray and KVM to your Blade; and power up your Blade. Watch the boot-up process carefully and press a key if prompted to boot from DVD.

1.3.1 Loading Files



1.3.2 Green Bars

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1.3.3 Language and Other Preferences



Select as appropriate and click Next.

1.3.4 Install Now



Click Install now.

1.3.5 Product Key

Enter as appropriate.

N			
	🚝 Install Windows		
	Type your product key for activation		
	You can find your product key on your computer or on the installation disc holder inside the Windows package. Although you are not required to enter your product key now to install, to enter it may result in the loss of data, information, and programs. You may be required to purchase another edition of Windows. We strongly advise that you enter your product ider key now.	he failure to tification	
	Product key (dashes will be added automatically):		
	Automatically activate Windows where I'm online		
	What is activation?		
1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 -	Read our privacy statement	Next	
Contraction of the second seco		<u></u>	/
Collecting inf	formation 2 Installing Windows		

1.3.6 Windows Edition Selection

Select as appropriate.



1.3.7 License Terms

If you agree to the license select the checkbox.

	Please read the license terms		
	MICROSOFT SOFTWARE LICENSE TERMS	=	
	These license terms are an agreement between Microsoft Corporation (or based o where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any, terms also apply to any Microsoft	n The	
	D updates,		
	D supplements,		
	Internet-based services, and		49 A.
	0 support services	•	
	I accept the license terms		
		Next	
20 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -		U	

1.3.8 Installation Type

For this example we are doing a clean copy.



Click Custom (advanced).

1.3.9 Where to Install Windows

If your SAN LUN is displayed then proceed to SAN LUN on page 24.

1.3.9.1 Installing Drivers

If no drives are found you need to load the appropriate network drivers. See Broadcom NetXtreme II Windows 2008 Drivers on page 31 for instructions. Insert the USB memory device you set up with the network drivers into the USB connector on the front of the BladeCenter.

	Notall Windows					×
	Where do you want to	install Windows?				
	Name		Total Size	Free Space	Туре	
	∜∌ <u>R</u> efresh			Drive options	(<u>a</u> dvanced)	
1	🚷 Load Driver					
	🗼 No drives were found. C	Click Load Driver to prov	ide a mass storag	e driver for instal	llation.	
					Next	
and a second					×.,	
Collecting info	rmation 2 Installing	Windows				

Click Load Driver.

	A Constall Windows	1 March 1
	Select the driver to be installed.	
	Load Driver	
	media containing the driver files, and then click OK. Note: The installation media can be a floppy disk, CD, DVD, or USB flash drive.	
	Browse OK Can	cel
	 Eide onvers that are not compatible with hardware on this computer. 	
	Br <u>o</u> wse <u>R</u> escan	Next
Collecting inf	analian	
	2 ^{Installing windows}	

Click Browse.

Select your USB memory device. Expand the folder list and select the driver folder appropriate to the version of Windows you are installing (e.g. 32-bit or 64-bit).

	Mindows	
	Select the driver to be installed. Browse for Folder	
	Browse to the driver(s), and then click OK	
	✓ Hide drivers that i OK Cancel Browse Rescan	<u>N</u> ext
Collecting info	rmation 2 Installing Windows	

Select 'b06bdrv' and click OK.

In the case of Broadcom NetXtreme II select the 'vbd' driver.

		. 154
	🥂 Install Windows	
	Select the driver to be installed.	
	Broadcom BCM5708S NetXtreme II GigE (C:\W2K3_W2K8\b06bdrv\bxvbd.inf)	
and the second sec		
	Hide drivers that are not compatible with hardware on this computer.	
	BIOWSE <u>K</u> escan	<u>N</u> ext
1 Collecting in	formation 2 Installing Windows	

The list does remain empty.

	Where do you want to install V	Vindows?	
	Name	Total Size Free Space Type	
1 Seguis	€ A Refrech	Drive ontions (advanced)	
	Load Driver	bive options (<u>a</u> uvanceu)	
ž	🗼 No drives were found. Click Load D	Priver to provide a mass storage driver for installation.	
1999 - 1999 1999 - 1999 1999 - 1999			ext
1000 C			

Click Load Driver again.

Click Browse and expand the folder list as before.

Selec	t the driver to be installed.	
₩ Hic Br <u>c</u>	Browse for Folder > Browse to the driver(s), and then click OK Computer Removable Disk (C:) W2K3_W2K8 b06bdrv W2K3_W2K8 W2K3_W2K8 W2K3_W2K8_64 CD Drive (D:) KRMSFRE_EN_DVD CD Drive (D:) KRMSFRE_EN_DVD Boot (X:) Msee drivers that	S Next

Select 'l2nd_w2k8' and click OK.

This time select 'ndis'.

	Notall Windows	
V	Select the driver to be installed.	
	Broadcom BCM5708S NetXtreme II GigE (NDIS VBD Client) (C:\W2K3_W2K8\I2nd_w2k8\bxnd.i	
	✓ Hide drivers that are not compatible with hardware on this computer. Browse Rescan	Next
Collecting info	rmation 2 Installing Windows	

Click Next.

Your SAN LUN should now show up. If your SAN LUN does not show up try clicking on *Refresh*.

1.3.9.2 SAN LUN

Click *Drive options (advanced)*. If your LUN is not completely clean then select the SAN disk and click *Delete*.

	🦉 Install Windows					
	Where do you w	ant to install Wir	ndows?			
	Name		Total Size	Free Space Ty	pe	
	Disk 1 Unall	ocated Space	20.0 GB	20.0 GB		
	∜_{≫ R}efresh toad Driver	Delete	✓ Eormat	<mark>⊭</mark> Ne <u>w</u>		
	<u>e.</u>				<u>N</u> ext	
Collecting inf	formation 2 In	stalling Windows				

Select the SAN disk and click Next.

1.3.10 Installing Windows...

Installation proceeds.



The system will reboot.

1.3.11 Install Complete

You may see the following screen.



Set up your password if required.



Enter your password and log on.

1.3.12 Desktop

Set up your server as appropriate.

nitial Con	figuration Tasks						
Pe	rform the following tasks to ini	tially configure this se	rver	Windows Server Standard			
0	Provide Computer Information			Specifying computer information			
	Set time zone	Time Zone:	(GMT-08:00) Pacific Time (US	Ganada)			
	Configure networking	Network Adapters:	Multiple detected				
	Provide computer name and domain	Full Computer Name: Workgroup:	WIN-GNVIR3RVSS5 WORKGROUP				
2	Update This Server		2	Updating your Windows server			
	Enable automatic updating and feedback	Updates: Feedback:	Not configured Windows Error Reporting off Not participating in Customer B	Experience Improvement Program			
	Download and install updates	Checked for Updates: Installed Updates:	Never Never				
3	Customize This Server		2	Customizing your server			
	Add roles	Roles:	Loading				
	Add features	Features:	Loading				
D	o not show this window at logon			Close			
tart 🚡 📼 🔢 📑 Initial Configuration T							

Your installation is complete.

1.3.13 Done

If you are doing a single install then you are done.



If you are going to do many installs across a set of Servers of similar Type (many 7995's for example) then you might want to consider Imaging.

1.4 Imaging (sysprep)

Imaging can be an efficient means of deployment. In this example install Windows 2008 and set things up per your preferences. Next the image is prepared via sysprep. The SAN LUN can now be cloned as a means to deploy Windows 2008.

Imaging is a powerful tool. Consult Microsoft's deployment literature for additional information.

1.4.1 Sysprep

Once the system is installed and configured per your preferences run sysprep.

Command prompt:

c:\windows\system32\sysprep\sysprep.exe /quiet /generalize /shutdown /oobe

GUI:

c:\windows\system32\sysprep\sysprep.exe

System Preparation Tool 3.14	×						
System Preparation Tool (Sysprep) prepares the machine for hardware independence and cleanup.							
System Cleanup <u>A</u> ction Enter System Out-of-Box Experience (OOBE)							
Shutdown Options							
OK Cancel							

The system shuts down.

1.4.2 SAN Storage

On your SAN storage device you can now clone the LUN that has been sysprep'd to a 'master image'. This master image can then be cloned for each system of similar Type as a means of deployment. Consult your Storage documentation for the commands specific to your device.

1.5 Appendix

1.5.1 Broadcom NetXtreme II Windows 2008 Drivers

Obtain the Windows 2008 drivers version T4.4.8 or later from:

- Broadcom NetXtreme II Gigabit Ethernet Software CD
- Broadcom NetXtreme II Device Drivers for Windows

On a USB memory device copy the appropriate files from the driver package to the USB memory device. Note: preserve the folder hierarchy when performing the copy operation.

If you are using the Windows 2008 32-bit (x86) version:

- 1. W2K3_W2K8\b06bdrv
- 2. W2K3_W2K8\l2nd_w2k8

If you are using the Windows 2008 64-bit (x64) version:

- 1. W2K3_W2K8_64\b06bdrv
- 2. W2K3_W2K8_64\l2nd_w2k8

Note on 64-bit drivers: You must be using "signed drivers". If you are testing with non-signed drivers you must press 'F8' when the DVD starts to boot. You will be presented with a menu. You can then select 'Disable Driver Signature Enforcement'. You will need to do the 'F8' step on every subsequent boot as well.

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