iSCSI Boot from SAN



Windows Guide

Version 1.0

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Note

Before using this information and the product it supports, read the information in "Notices" on page 37.

First Edition (June 2006)

This edition applies to Version 1.0 of IBM iSCSI Boot from SAN (product number 0000-000) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this guide

The purpose of this guide is to provide users of the iSCSI Boot from SAN application information about Windows $^{\tiny(\!R\!)}$ iSCSI boot.

Chapter 1. Overview

A typical computer system has a local disk. The operating system is installed on the local disk and the computer system boots from the local disk. The local disk can be replaced by a Storage Area Network (SAN) adapter and a remote disk. The remote disk can be a physical single disk or a subset of a larger storage subsystem configured to present the equivalent of a disk.

For software-based iSCSI Boot, the SAN adapter is no longer required and a combination of firmware and software accomplish booting over a standard network interface (NIC).

The iSCSI Boot firmware obtains the parameters used to locate the boot disk from either DHCP or from NVRAM storage within the computer system. The firmware initiates the boot sequence, writes a block of information into memory containing the boot parameters, and hands the boot operation off to the operating system. The operating system reads the boot parameters left by the firmware and completes the operating system bootstrap operation.

The configuration process occurs in two phases.

- Phase 1 is the initial setup phase where the SAN is configured with a new LUN. An install is performed to a local disk and the local image is prepared for disk cloning. The disk is cloned to the new LUN. Phase 1 is a one-time step.
- Phase 2 is the deployment phase where the new LUN is duplicated for each new iSCSI Boot system.
- **Note:** The image produced by the following process is valid for a single computer model only. Typically a new and separate image is required for each computer model on which you plan to use image deployment. This is accepted practice for Windows imaging and is not unique to iSCSI Boot.

Chapter 2. Configure SAN for Master Image Creation

Configure your SAN for the initial Master Image creation phase. Refer to the *iSCSI* Boot SAN Configuration Guide.

If you are using CHAP, Windows requires secrets be a minimum of 12 bytes.

Chapter 3. Blade Master install

The imaging process requires that a one time installation be performed on a local disk. The locally installed system in configured as required. Then the local disk is prepared for cloning and then cloned.

Install Windows 2003

Install a version of Windows 2003. The minimum release levels are as follows:

32-bit

- 1. Windows Server 2003 Standard SP1
- 2. Windows Server 2003 Standard R2
- 3. Windows Server 2003 Enterprise SP1
- 4. Windows Server 2003 Enterprise R2

64-bit

- 1. Windows Server 2003 Standard x64
- 2. Windows Server 2003 Standard x64 R2
- 3. Windows Server 2003 Enterprise x64
- 4. Windows Server 2003 Enterprise x64 R2

Windows Server 2003, Standard Edition Setup

Welcome to Setup.

This portion of the Setup program prepares Microsoft(R) Windows(R) to run on your computer.

- To set up Windows now, press ENTER.
- To repair a Windows installation using Recovery Console, press R.
- To quit Setup without installing Windows, press F3.

ENTER=Continue R=Repair F3=Quit

Network drivers

Ensure that your network drivers are current. For the 8843, the network drivers should be from Broadcom's v8.3.9 CD-ROM release or later.



Networking configuration

iSCSI Boot SAN TCP/IP settings

The iSCSI Boot SAN IP address is determined during the boot process by the firmware. The IP address is obtained from either DHCP or from NVRAM. The networking parameters for the iSCSI Boot NIC are passed to the operating system. The operating system retrieves these networking values and uses them for the boot NIC. The settings that you have in the TCP/IP Properties for the boot NIC are overwritten by the operating system.

Non-Boot NIC settings

The non-boot NIC is configured according to your own requirements. If you enter a fixed IP address in the TCP/IP Properties of the non-boot NIC, then this setting will be carried over into your Master Deployment Image. Every system you deploy will pick up this fixed IP address. Thus, if you are entering a fixed IP address for the non-boot NIC, you must enter a new nonconflicting fixed IP address for each system deployed. This will need to be one of your post deployment configuration steps.

Enable network connections

While not mandatory, you should enable both network connections prior to the imaging phase. If you image with one of the connections disabled, it is likely you will experience an 8-minute pause during mini-setup (the first boot of the deployed image).

Your Network Connections should look similar to the following illustration:



Windows update

Install updates and drivers as necessary, including running Windows Update.



Install Hotfix KB 902113

A Hotfix is required.

Obtain Hotfix KB 902113 from IBM®.

Read more about the Hotfix at:

http://support.microsoft.com/kb/902113



Ensure that the system reboots after completing the installation of the Hotfix.

Blade Model 8843 hardware revision check

Check your 8843 hardware revision levels. If you have a mix (see Hardware Revision in the Blade Servers rows in the figure below), you need to adapt the image you are creating to support all the revisions you intend for iSCSI Boot deployment. Remove the disk from the current 8843 and move it to a Blade of differing revision. Allow the system to boot. Repeat this step for any other revisions you may have. This allows Windows to discover and configure hardware devices that may vary slightly due to chip manufacturing revisions or other reasons.

192.168.70.125 BladeCenter Mar	nagement /	Aodule - Microsoft	Internet Exp	olorer			
Ele Edit View Favorites Icols He	lp .			5.0 C			
🔇 Back 🔹 🔘 - 💽 😰 🐔	Search	Favorites 🍭	Media 🧭	1 2.3	🗷 · 🔜	-85	
Address 🕘 http://192.168.70.125/private/n	nain.ssi		4	1.72		🗸 🛃 Go	Links » 👸 -
IBM. Blade	eCenter	Managemer	nt Module	e	e	server	
Bay 1: RichBMM1 User: USERID	adeCent	er Hardware VF	D a module na	me to see a de	scription for t	hat module in	a the
▼ Monitors System Status	status bar	of your browser.					
Event Log	Bay(s)	Module Name	Manuf. ID	Machine Type/Model	Machine Serial No.	Hardware Revision	Manuf. Date
Fuel Gauge	Chassi	s and Media Tray					
Hardware VPD		Chassis	IBM	86773XU	KQFWW5L	2	4405
Firmware VPD	1	Media Tray	IBM	n/a	n/a	7	4605
▼ Blade Tasks	Blade	Servers				0	
Powel/Restart	2	Boot Client 1	IBM	884331Z	23A0319	4	3204
Remote Control	3	Boot Client 2	IBM	8843E2U	KQKHG8X	5	4905 🗸
<	Anna		no part auto			~	>
Done		neter sinute a ser				🌒 Intern	et

Perform the disk move or boot operation(s) before proceeding to the next step.

Install Microsoft iSCSI Initiator

Run the iSCSI Initiator installer. You must use the version of the Microsoft[®] iSCSI Initiator that includes Boot Support.

Here is the familiar initial Panel:



Here is the familiar Options Panel:

Microsof	t iSCSI Initiator Installation			
Microsof	t iSCSI Initiator will be installed			
- Installat	ion Options			
I⊽	Virtual Port Driver			
	Initiator Service			
V	Software Initiator			
Г	Microsoft MPIO Multipathing S	upport for iSCSI		
		< Back	Next >	Cancel

Here is the new iSCSI Network Boot Panel:

crosoft iSCSI In	itiator Installation		Ĺ
Configure iSCSI N	letwork Boot Support		
Allow Kernel Pagi	ng, WARNING: only select this if all pagefiles v	vill be on local dis	:ks
elect the network in	nterface driver for the NIC that will be used to b	ioot via iSCSI	
elect the network in	nterface driver for the NIC that will be used to b	oot via iSCSI	
elect the network in IP Address 169.254.248.164	Interface driver for the NIC that will be used to b Description Broadcom NetXtreme Gigabit Ethernet	oot via iSCSI Service Name b57w2k	
elect the network in IP Address 169.254.248.164 169.254.33.47	terface driver for the NIC that will be used to b Description Broadcom NetXtreme Gigabit Ethernet Broadcom NetXtreme Gigabit Ethernet #4	oot via iSCSI Service Name b57w2k b57w2k	
elect the network in IP Address 169.254.248.164 169.254.33.47 139.75.82	terface driver for the NIC that will be used to b Description Broadcom NetXtreme Gigabit Ethernet Broadcom NetXtreme Gigabit Ethernet #4 Broadcom NetXtreme Gigabit Ethernet #2	oot via iSCSI Service Name b57w2k b57w2k b57w2k b57w2k	
elect the network in IP Address 169.254.248.164 169.254.33.47 1.39.75.82 1.39.75.92	Interface driver for the NIC that will be used to b Description Broadcom NetXtreme Gigabit Ethernet Broadcom NetXtreme Gigabit Ethernet #4 Broadcom NetXtreme Gigabit Ethernet #2 Broadcom NetXtreme Gigabit Ethernet #3	oot via iSCSI Service Name b57w2k b57w2k b57w2k b57w2k b57w2k	
elect the network in IP Address 169.254.248.164 169.254.33.47 9.39.75.82 9.39.75.92	Interface driver for the NIC that will be used to b Description Broadcom NetXtreme Gigabit Ethernet Broadcom NetXtreme Gigabit Ethernet #4 Broadcom NetXtreme Gigabit Ethernet #2 Broadcom NetXtreme Gigabit Ethernet #3	oot via iSCSI Service Name b57w2k b57w2k b57w2k b57w2k b57w2k	
elect the network in IP Address 169.254.248.164 169.254.33.47 3.39.75.82 3.39.75.92	Interface driver for the NIC that will be used to b Description Broadcom NetXtreme Gigabit Ethernet Broadcom NetXtreme Gigabit Ethernet #4 Broadcom NetXtreme Gigabit Ethernet #2 Broadcom NetXtreme Gigabit Ethernet #3	oot via iSCSI Service Name 557w2k 557w2k 557w2k 557w2k 557w2k	

Typically there will be only one Service Name. If there is more than one, you need to know which NIC family that you are using for your SAN.

Boot.ini: Debug and Memory Dump (Optional)

Memory Dump is not supported in an iSCSI Boot environment at this time.

On the Blades being booted using iSCSI, turn off automatic reboot.

- 1. Navigate to My Computer -> Properties -> Advanced .
- 2. Navigate to Startup and Recovery -> Settings.
- 3. Make the changes as shown in the diagram below.
- 4. You could also add the debug options to boot.ini during this phase.
 - a. Click Edit.
 - b. Copy the multi line and add the following at the end of the line: /sos /debug /debugport=com1 /baudrate=115200

Startup and Recovery ? 🗙
System startup
Default operating system:
"Windows Server 2003, Standard" /noexecute=optout /fastdetec 💌
✓ Time to display list of operating systems: 5 🗧 seconds
Time to display recovery options when needed: 30 🚔 seconds
To edit the startup options file manually, click Edit.
System failure
₩rite an event to the system log
Send an administrative alert
Automatically restart
Write debugging information
(none)
Dump file:
%SystemRoot%\MEMORY.DMP
verwrite any existing file
OK Cancel

Chapter 4. Sysprep

Unpack sysprep

Explore DEPLOY.CAB on the Windows 2003 CD-ROM.

C:\SUPP	PORT\TOOLS\DEPLOY.	CAB			_ 🗆 ×
<u>Eile E</u> dit	<u>V</u> iew F <u>a</u> vorites <u>T</u> o	ools <u>H</u> elp			
🔇 Back 🝷	🕤 🔹 🍠 🔎 Searc	h 🜔 Folde	rs 🛛 🗟 🗴 🏹		
Address	D:\SUPPORT\TOOLS\D	EPLOY.CAB		•	🔁 Go
Folder ×	Name 🔺	Size	Туре	Date	Path
Des A	cvtarea.exe	27 KB	Application	2/21/2003 6:56 PM	() ()
H A	g deploy.chm	494 KB	Compiled HTML Help	2/21/2003 6:56 PM	
- 🟹 📗	factory.exe	122 KB	Application	3/24/2003 11:16 PM	
T T	oformat.com	49 KB	Application	2/21/2003 6:56 PM	
E E	🔋 <u>readme.txt</u>	22 KB	Text Document	2/21/2003 6:56 PM	
	Ref.chm	980 KB	Compiled HTML Help	2/21/2003 6:56 PM	
	setupcl.exe	25 KB	Application	3/24/2003 11:16 PM	
	setupmgr.exe	517 KB	Application	3/24/2003 11:16 PM	
	sysprep.exe	116 KB	Application	3/24/2003 11:16 PM	
-	ALCORNER AND ADDRESS.				
I	4				•

Copy the files to your local drive, typically to c:\sysprep.

Run setupmgr

Run setupmgr (c:\sysprep\setupmgr.exe) to generate a sysprep.inf file.

🐻 Setup Manager		X
	Welcome to Setup Manager	
	Setup Manager helps you prepare the configuration set and answer file to automate the preinstallation of Windows on your destination computers.	
	l o continue, click Next.	
	< <u>B</u> ack <u>Next</u> > Cancel	

tup Man	iger				
ew or Ex An ansv	sting Answer File er file tells Setup how to	install and conf	igure Windo	WS.	Ĩ
An ansv during V ''Select	er file is a script that prov 'indows Setup. For exam a time zone'' prompt, that	ides answers to ple, if your ansv page will not b	o the questio ver file provid e shown to t	ns or optior des an ansv he end user	is presented ver to the during Setup.
• Crea	e new				
С <u>М</u> ос	fy existing				
Ente	r the path and file name (of the answer fi	e;		
					Browse
				2	

answer file.	the name and format of the resulting
The answer file you create will either be U	nattend.txt, Sysprep.inf, or a .sif file.
Choose a type of setup:	
Unattended setup	
The answer file for Setup is commonly setup, the answer file must be named ⁵	called Unattend.txt, but for a CD-based Winnt.sif.
Sysprep setup	
Sysprep.inf is an optional answer file th called Mini-Setup.	hat can be used to automate a setup mode
C <u>Remote Installation Services (RIS)</u>	
This type of setup allows the end user Server. Setup Manager creates a .sif f	to set up Windows from a Remote Installation ile.

Setup Manager			×
Product Which Windows product will be installed u	sing this answer file	2	Ŕ
Select a Windows product:			
C Windows XP Home Edition			
C Windows XP Professional			
• Windows Server 2003, <u>S</u> tandard Editio	ŋ		
C Windows Server 2003, <u>E</u> nterprise Editio	on		
C Windows Server 2003, <u>W</u> eb Edition			
	L .n [News 1	Coursel
		<u>IN</u> ext >	Lancel

icense Agreement	
Do you accept the terms of the Licen	se Agreement for Windows?
Using Sysprep, you can fully automate required.	e a Windows installation so that no user input is
To use this option, you must accept th (EULA) and any Microsoft license agre want to install. For more information at your Microsoft license agreement.	ne terms of the End User License Agreement eements you have for the version of Windows you bout the EULA, consult your documentation or
Do you want to fully automate the inst	allation?
Yes, fully automate the installation	
C No, do not fully automate the insta	allation
If you choose No, the end user must a	accept the End User License Agreement.

⊟- General Settings — Name and Organization Display Sattings	Name and Organization You can customize Windows Setup by providing a default name and organization.
Time Zone Product Key Product Key Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String	Type the default name and organization you want to use. If you leave these boxes blank, the name and organization will not be specified in the answer file, and the end user will be prompted to enter the information during Windows Setup. Name: ISCSI Boot Organization: IBM On the left side of this page, the steps of Setup Manager are shown for your information. The highlighted step is your current position. You can move to any step in Setup Manager by clicking that step in the list.

Display Settings Windows will be set u Select display setting Colors: Screen area: Betresh frequency: To select custom disp Custom Display Settin in the list boxes abov	p with the display settings you sp s for the destination computers. Use Windows default Use Windows default Use Windows default slay settings, click Custom. Add v ngs dialog box, and then select the	ecity.	ustom
	Display Settings Windows will be set u Select display setting Colors: Screen area: Betresh frequency: To select custom disp Custom Display Settin in the list boxes abov	Display Settings Windows will be set up with the display settings you sp Select display settings for the destination computers. Colors: Use Windows default Screen area: Use Windows default Betresh frequency: Use Windows default To select custom display settings, click Custom. Add v Custom Display Settings dialog box, and then select the in the list boxes above.	Display Settings Windows will be set up with the display settings you specify. Select display settings for the destination computers. Colors: Use Windows default Screen area: Use Windows default Betresh frequency: Use Windows default To select custom display settings, click Custom. Add values in the Custom Display Settings dialog box, and then select those values in the list boxes above.

Pick your time zone.

e Help	
General Settings Name and Organization Display Settings Time Zone Product Key Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String	Time Zone Windows will be set up with the time zone setting you specify. Select a time zone for the destination computers. If you do not select a specific time zone setting, the following default time zone is used: (GMT -08:00) Pacific Time (US & Canada): Tijuana Time zone: (GMT -08:00) Pacific Time (US & Canada): Tijuana Time zone:
	< <u>Back</u> Next> Cancel

Enter your license information.





Setup Manager		_ 🗆 🗙
ile Help		
General Settings Marne and Organization Display Settings	Computer Name Assign a name to the destination computer.	
- Time Zone	Automatically generate computer name	
- Product Key	C Use the following computer name:	
Licensing Mode	Computer name.	
Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Languages		
- Install Printers - Run Once - Additional Commands - Identification String		
	< <u>B</u> ack N	ext> Cancel

 General Settings Name and Organization Display Settings 	Administrator Password You can specify a password for the Administrator account on all destination computers.
Time Zone Product Key Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String	If you keep a record of the password you choose, help desk technicians or network administrators can change settings when needed. Prompt the end user for an Administrator password Use the following Administrator password (127 characters maximum; case-sensitive) Password: Password: Confirm p

In the Networking components section:

- 1. Select Custom settings
- 2. Highlight Client for Microsoft Networks
- 3. click **Remove**

.

Setup Manager	
e Help	
General Settings Name and Organization Display Settings Time Zone Product Key Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String	Networking Components To add a custom component, click Add.
	 Lypical settings Installs TCP/IP, enables DHCP, and installs the Client for Microsoft Networks service on each destination computer. ① Lustom settings
	Clent for Microsoft Networks
	Add Bemove Properties Description Allows your computer to access resources on a Microsoft network.
	< <u>B</u> ack <u>N</u> ext> Cancel

Here is the same panel after clicking **Remove**.

General Settings Name and Organization Display Settings Time Zone Product Key Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String	Networking Components To add a custom component, click Add.
	 Lypical settings Installs TCP/IP, enables DHCP, and installs the Client for Microsoft Networks service on each destination computer. Lustom settings
	Add Bemove Broperties

General Settings Mame and Organization Display Settings	Workgroup or Domain The destination compute	ers may belong to either a workgroup or a domain.
- Time Zone	How will the destination	computers participate in a network?
- Product Key - Network Settings		WORKGROUP
 Licensing Mode Computer Name 	C Domain:	DOMAIN
Administrator Password	🔲 Create a compu	ter account in the domain
Workgroup or Domain	Specify a user a	account that has permission to add a computer to the domain
- Advanced Settings - Telephony	<u>U</u> sername	
Regional Settings	Password	
- Install Printers	C <u>o</u> nfirm passivo	rd.
 Run Unce Additional Commands Identification String 	If you specify a domain for a valid user name ar after Windows Setup.	but don't set up a user account, the end user will be prompted ad password the first time the computer logs on to the domain

For Telephony, select the values that are appropriate.

le <u>H</u> elp	
 General Settings Name and Organization Display Settings Time Zone 	Telephony You can provide telephony information for the end user. Provide information about the location of the destination computers so that calls can be
Product Key ⊜-Network Settings	dialed correctly. This information is optional. To skip this page, click Next. Country or region:
 Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String 	United States of America Area code or city code: 425 Number to dial for access to an outside line: 9 The phone system at this location uses: I one
	< <u>B</u> ack <u>N</u> ext> Cancel

Help General Settings Name and Organization Display Settings Time Zone Product Key Network Settings Licensing Mode C Sp Computer Name Administrate Resourced	Settings an customize Windows for different regions and languages. se the default regional settings for the Windows version you are installing ow the user to select regional settings during Setup sectly regional settings in the answer file
Administration Password Networking Components Workgroup or Domain Advanced Settings To	e the default values for the following language inglish (United States)
Advanced Settings To To Advanced Settings To nut Regional Settings bos Languages Install Printers Run Once	specify the language separately for menus and messages; the locale for mbers, time, currency, and dates; or the input locale; select the following check x, and then click Custom. Customize the default regional settings Custom.

Setup Manager Help	
General Settings Name and Organization Display Settings	Languages Language support allows end users to view Web pages and other content encoded in a different language and character set.
- Time Zone - Product Key - Network Settings	Select the language groups you want to use from the following list. Language groups:
Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String	Arabic Armenian Ballic Central Europe Cyrilic Georgian Greek Hebrew Indic Adding languages does not guarantee that your computer has all of the fonts required to display content in your preferred languages. When accessing such content, the end user might be prompted to download additional language components.
	< <u>B</u> ack Next> Cancel

Setup Manager	
ile <u>H</u> elp	
General Settings Name and Organization Display Settings Time Zone Product Key Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Install Printers Displayses	Install Printers You can automatically install network printers on the destination computers.
	To automatically install a network printer the first time a user logs on after Setup, type the printer name in the following box, and then click Add. The user must have appropriate network permissions to access the printer. Network printer name: Add
	Install these printers:
- Hun Unce Additional Commands Identification String	< <u>Back</u> Cancel

Setup Manager	-
e Help	
General Settings Name and Organization Display Settings Time Zone Product Key Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Instal Printers Run Once Additional Commands Identification String	Run Once You can configure Windows to automatically run a command the first time a user logs on.
	To automatically run a command the first time a user logs on, type the command in the following box, and then click Add.
	Add
	Run these commands:
	<u>∄</u> emove
	<u>M</u> ove Up
	Move Down
	To specify commands to run at the end of unattended Setup, use the Additional Commands page of Setup Manager.
	< Back Next> Cance

Help	
General Settings Name and Organization Display Settings Time Zone Product Key Network Settings	Additional Commands You can add commands that will automatically run at the end of unattended Setup.
	You can run any command that does not require you to be logged on. Type the command in the box below, and then click Add. Command to add:
 Licensing Mode Computer Name 	
Administrator Password	Run these commands:
 Networking Components Workgroup or Domain 	Eemove
Advanced Settings Telephony Begional Settings	Move Up
- Languages	Move Down
Install Printers Run Once Additional Commands Identification String	To specify commands to run the first time an end user logs on, use the Run Once page of Setup Manager.

🖥 Setup Manager	X
Ele Help	Identification String You can add a string to the registry on the duplicated computers to help identify the Sysprep image.
Time Zone Product Key Product Key Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain Advanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String	Type information you would like to include in the registry about this Sysprep installation. Later, this information can help you determine which Sysprep image is installed on a particular computer.
	< <u>B</u> ack Finish Cancel

Path and file name: C:\Sysprep\sysprep.inf f multiple computer names were specified, Setup Manager also create Depending upon the type of answer file created, Setup Manager might created a sample .bat script.	
C:\Sysprep\sysprep.inf f multiple computer names were specified, Setup Manager also create Depending upon the type of answer file created, Setup Manager might created a sample .bat script.	
f multiple computer names were specified, Setup Manager also create Depending upon the type of answer file created, Setup Manager might created a sample .bat script.	B <u>r</u> owse
	it also have

Click Cancel to exit.

Network Settings Licensing Mode Computer Name Administrator Password Networking Components Workgroup or Domain SetAdvanced Settings Telephony Regional Settings Languages Install Printers Run Once Additional Commands Identification String	Created the following files: C:\Sysprep\sysprep.inf
---	--

Edit sysprep.inf

You must make an addition to the sysprep.inf file as indicated in bold below.

Add LegacyNic=1 to the [Unattended] section of the file.

```
;SetupMgrTag
[Unattended]
OemSkipEula=Yes
InstallFilesPath=C:\sysprep\i386
LegacyNic=1
```

Run sysprep

Run c:\sysprep\sysprep.exe

Here is the first screen you get.

Click OK if appropriate.



Next, click Reseal.

System Preparation To delivery to the end use command line.	ol (Sysprep) prepares a compu r. Additional options are availal	ter's hard disk for ble from the
To skip Windows Welc configure the installatio click Factory.	come or Mini-Setup and n as scripted in Winbom.ini,	<u> </u>
To reboot this compute installation, click Audit mode).	er and manually test the (available only in Factory	Audit
To prepare the comput Reseal.	er for the end user, click	<u>R</u> eseal
Options		
Do <u>n</u> 't reset grace	period for activation	
🔽 🗓se Mini-Setup		
Don't regenerate :	security identifiers	
Detect non-plug a	nd play hardware	
Chuddaum madai - I		

You see the following screen.

Click OK.

System I	Preparation Tool 2.0
4	You chose to regenerate security identifiers (SIDs) on the next reboot. You only need to regenerate SIDs if you plan to make an image of the installation after shutdown. To regenerate SIDs, click OK. To go back and change this setting, click Cancel.
	OK Cancel

Chapter 5. Image creation

Prepare the LUN

Some cloning tools may require you to have already partitioned the destination LUN. If so, perform the following steps from the Console computer:

- 1. Set up your Target LUN to accept a connection from the Console computer
- 2. Use the Microsoft iSCSI Initiator to connect to the Target LUN
- 3. Use Disk Management to:
 - a. Partition the iSCSI LUN
 - b. Mark the Partition Active
 - c. Format the iSCSI LUN NTFS

Image the LUN

This step creates a Master Image that will be used for deployments.

- 1. Boot DOS
- 2. Run your favorite Disk Cloning tool, for example Ghost 2003
- 3. Clone the local image to a LUN on the iSCSI SAN
 - a. For Ghost 2003 you can perform a disk-to-disk copy.
 - b. For Ghost 2003, if you have already partitioned, formatted, and marked active the iSCSI LUN, you can perform a partition-to-partition copy.

Progress Indicator				
0%	25%	50%	75%	100%
		Clone Complete (1912	0	
Statistics Percent complete Speed (HB/min) 19 copied 19 censining filme slapsed	100 364 1361 0 3:44	Clone Completed	Successfully	
Rime remaining	0:00	Continu	Bese	t Computer:
Details Connection type Source Jestination Current partition Current file	Local Local drive [1] Local drive [2] 1/1 Type? (NTFS 10793 isosilogidi	, 70006 MB , 14999 MB D, Size: 69994 MB, No name		
		Symantec.		

Chapter 6. Image management

Copy or save the newly cloned image to a Master Deployment Image. The Master Deployment Image will be used for all subsequent deployments.

For example, if you run both x86 and x64 versions of the operating system you might set up the following Master Deployment Images (the naming that is used is just an example):

8843-Windows-2003-SP1-x86 8843-Windows-2003-x64

At this point, basic iSCSI Boot is up and running. For basic booting you are done.

Chapter 7. Advanced topics

Cluster

You will need to set a registry key if you want to have your boot drive and your cluster drive(s) all connected via the Microsoft iSCSI Initiator.

Setup failure

If you set up a new server cluster in Microsoft Windows Server 2003, and the system boot disk, the pagefile disks, and the cluster disks are on the same storage area network (SAN) fabric, a setup failure can occur. In this scenario, the ClusSvc registry subkey might be re-created. Therefore, the ManageDisksOnSystemBuses registry value is removed, and the server cluster is formed by using a local quorum resource.

In Windows Server 2003, you can use the ManageDisksOnSystemBuses registry DWORD value to enable the system boot disk, the pagefile disks, and the cluster disks to be on the same bus.

See the following knowledge-base article:

http://support.microsoft.com/Default.aspx?kbid=888160

Moving or resizing a LUN

Use the following process to move or resize a Windows iSCSI Boot LUN.

- 1. On a system running Windows, attach both the source and destination LUNs via iSCSI.
- 2. Prepare the destination LUN as usual.
- 3. Run Ghost32 to clone the Source to the Destination.
- 4. Log out of the Source and Destination LUNs.

Windows hotfixes to review

There are some post-SP1 hotfixes that might prove helpful with some or all iSCSI Targets.

- KB 891957
- KB 898790
- KB 902837
- KB 903081

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