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Altiris Preboot Image Driver Injection: Cisco UCS C-Series Rack Servers Firmware Release 1.4.6

What You Will Learn

This document describes the process for locating, extracting, preparing, and then injecting Cisco UCS[®] C-Series Rack Server drivers into the Altiris Microsoft Windows x64 preboot image (based on the Microsoft Windows Preexecution [PE] 2.1 image and Microsoft Windows 2008).

After the Altiris Microsoft Windows x64 preboot image has Cisco UCS C-Series Rack Server drivers injected, this preboot image can be used for scripted OS installation of all supported Microsoft Windows operating systems on Cisco UCS C-Series Rack Servers (this process is not discussed in this document). Examples include:

- Microsoft Windows 2008: See the document titled "Altiris Scripted OS Deployment: Microsoft Windows 2008 and Cisco UCS C-Series Rack Servers Firmware Release 1.4.6."
- Microsoft Windows 2008 R2: See the document titled "Altiris Scripted OS Deployment: Microsoft Windows 2008 R2 and Cisco UCS C-Series Rack Servers Firmware Release 1.4.6."
- **Microsoft Windows 2012:** See the document titled "Altiris Scripted OS Deployment: Microsoft Windows 2012 and Cisco UCS C-Series Rack Servers Firmware Release 1.4.6d."

Note: See the Cisco UCS C-Series Rack Servers hardware and software matrix for the list of all supported operating systems for different server models: http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.html.

This document discusses the following topics:

- Prerequisites for this document
- How to prepare a Microsoft Windows 2008 driver directory for preboot driver injection
- Process for injecting drivers into the Altiris 6.9 SP5 Microsoft Windows x64 preboot image

Prerequisites for This Document

- Altiris Deployment Server version
 - Altiris Deployment Solution 6.9 SP5
 - Altiris Microsoft Windows PE 2.1
- Tested server operating systems
 - Microsoft Windows 2008 SP2 x64
 - Microsoft Windows 2008 R2 x64

Preparing a Microsoft Windows 2008 Driver Directory for Preboot Driver Injection

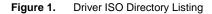
In this section, you will create a folder structure containing Microsoft Windows 2008 device drivers from the Cisco UCS C-Series Rack Server drivers ISO image. This folder structure will be used for driver injection into the Altiris Microsoft Windows PE preboot image.

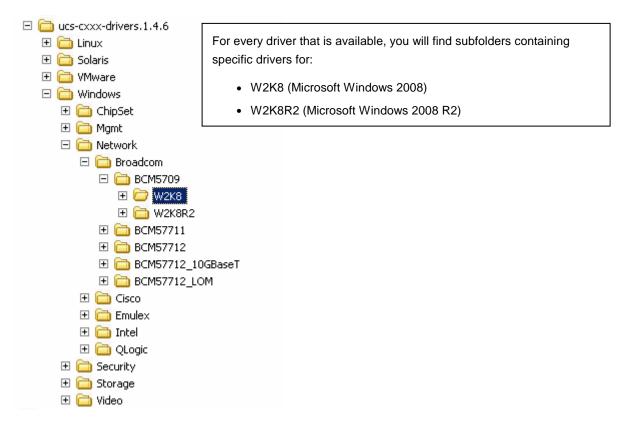
Cisco unifies the OS drivers for Cisco UCS C-Series Servers, packaging certified drivers into a unified ISO image based on the firmware level with which they were certified. This document uses Microsoft Windows OS drivers based on Cisco UCS C-Series Servers Firmware Release 1.4.6.

Here is a direct link to the driver ISO image for Cisco UCS C-Series Servers Firmware Release 1.4.6:

http://download.cisco.com/swc/esd/06/283860950/guest/ucs-cxxx-drivers.1.4.6.iso?

After the ISO image is extracted (for example, using WinZip, WinRAR, or 7-Zip), the drivers are placed into folders based on OS category: Linux, Solaris, Microsoft Windows, or VMware. Only the Microsoft Windows folder is discussed here (Figure 1).





The next steps involve copying device driver folders from the driver ISO image. The goal is to create a folder structure containing all the Microsoft Windows 2008 device drivers that are required for the Altiris preboot image. You should rename the subfolders so that you can easily identify the vendor, device model, and OS and architecture to which the driver applies. For example, for the Intel ICH10 disk controller, you could use Cisco_Intel_ICH10_W2K8_x64.

The drivers in the ISO are not all in a consistent format. The best approach is to extract the drivers for a specific device into a single folder that includes all required device driver files (.cat, .inf, and .sys). Some drivers are simplified, but others require some manipulation (for example, you may need to extract drivers from an executable installation file or identify the specific driver folder that is required for Microsoft Windows plug-and-play support).

Note: If a small ISO file is included in the driver directory, this ISO contains the exact drivers needed for this exercise.

All the drivers required are documented in the Altiris Support Matrix spreadsheet (on the Driver Injection Matrix tab). They are divided into four categories: disk controllers, network adapters, SAN host bus adapters (HBAs), and converged network adapters (CNAs).

Tables 1 through 4 provide matrices of the four categories of devices that are supported with the Cisco UCS C-Series Rack Servers, with any additional instructions required for extracting the drivers. Figure 2 provides an example of driver extraction using the WinRAR right-click context menu.

Disk Controllers	Driver Path	Special Instructions
Onboard ICH10	\Windows\Storage\Intel\ICH10R\W2K8\x64	Extract and use the contents of ICH10R_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI 1064E	\Windows\Storage\LSI\106xE\W2K8\x64	Extract and use the contents of 106xE_W2K8_x64.iso, Extract with WinZip, WinRAR, or 7-Zip,
LSI 1068E	\Windows\Storage\LSI\106xE\W2K8\x64	Extract and use the contents of 106xE_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI 9260-4i	\Windows\Storage\LSI\92xx\W2K8\x64	Extract and use the contents of 92xx_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI 9260-8i	\Windows\Storage\LSI\92xx\W2K8\x64	Extract and use the contents of 92xx_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI 9261-8i	\Windows\Storage\LSI\92xx\W2K8\x64	Extract and use the contents of 92xx_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI 9280-4i4e	\Windows\Storage\LSI\92xx\W2K8\x64	Extract and use the contents of 92xx_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI SAS3081E-R	\Windows\Storage\LSI\3081E-R\W2K8\x64	Extract and use the contents of 3081E-R_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI SAS 2008-8i	\Windows\Storage\LSI\2008M\W2K8\x64	Extract and use the contents of 2008M_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI SAS 8708EM2	\Windows\Storage\LSI\8708EM2\W2K8\x64	Extract and use the contents of 8708EM2_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.
LSI 9201 Mass Storage	\Windows\Storage\LSI\9201\W2K8\x64	Extract and use the contents of 9201_W2K8_x64.iso. Extract with WinZip, WinRAR, or 7-Zip.

 Table 1.
 Disk Controller Drivers

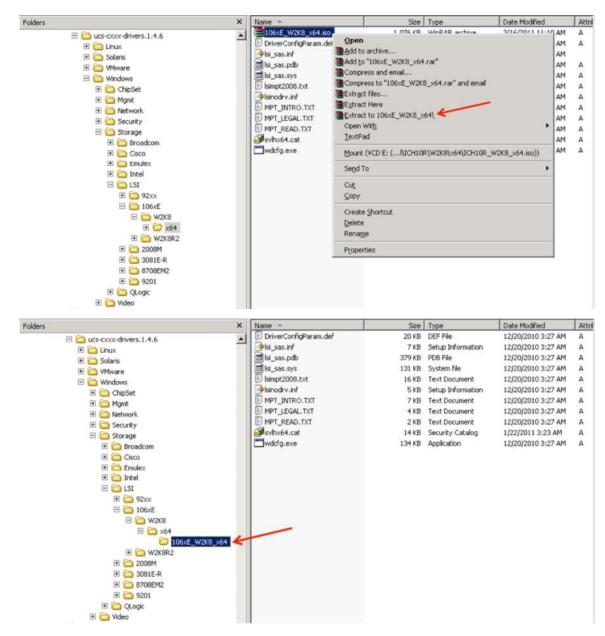


Figure 2. Example of Driver Extraction (LSI 1064E Driver) Using WinRAR

Table 2.Network Adapter Drivers

Network Adapters	Driver Path	Special Instructions
Intel 82576NS (LAN on Motherboard [LOM])	\Windows\Network\Intel\82576\W2K8\x64	Extract PROWinx64.exe. Use the contents of \PROWinx64\PRO1000\Winx64\NDIS61\.
Intel Quad E1G44ETG1P20	\Windows\Network\Intel\82576\W2K8\x64	Extract PROWinx64.exe. Use the contents of \PROWinx64\PRO1000\Winx64\NDIS61\.
Intel X520	\Windows\Network\Intel\X520\W2K8\x64	Extract PROWinx64.exe. Use the contents of \PROWinx64\PROXGB\Winx64\NDIS61\.
Intel 1350	\Windows\Network\Intel\I350\W2K8\x64	Extract PROWinx64.exe. Use the contents of \PROWinx64\PRO1000\Winx64\NDIS61\.

Network Adapters	Driver Path	Special Instructions
Broadcom 5709 (Small Computer System Interface over IP [iSCSI])	\Windows\Network\Broadcom\ BCM5709\W2K8\x64\ois	None
Broadcom 5709 (Network Interface Card [NIC])	\Windows\Network\Broadcom\ BCM5709\W2K8\x64\nic	None
Broadcom 57711 (iSCSI)	\Windows\Network\Broadcom\ BCM57711\W2K8\x64\ois	None
Broadcom 57711 (NIC)	\Windows\Network\Broadcom\ BCM57711\W2K8\x64\nic	None
Broadcom 57712 (iSCSI)	\Windows\Network\Broadcom\ BCM57712\W2K8\x64\ois	None
Broadcom 57712 (NIC)	\Windows\Network\Broadcom\ BCM57712\W2K8\x64\nic	None
Broadcom 57712_10GBASE-T (iSCSI)	\Windows\Network\Broadcom\ BCM57712_10GBaseT\W2K8\x64\ois	None
Broadcom 57712_10GBASE-T (NIC)	\Windows\Network\Broadcom\ BCM57712_10GBaseT\W2K8\x64\nic	None
Broadcom 57712_LOM (iSCSI)	\Windows\Network\Broadcom\ BCM57712_LOM\W2K8\x64\ois	None
Broadcom 57712_LOM (NIC)	\Windows\Network\Broadcom\ BCM57712_LOM\W2K8\x64\nic	None
Mellanox ConnectX-2 EN	Not certified by Cisco for Microsoft Windows	-

Table 3.SAN HBA Drivers

SAN HBAs	Driver Path	Special Instructions
Emulex LPe 11002 (4 Gb)	\Windows\Storage\Emulex\LPe1x002\W2K8\x64	None
Emulex LPe 12002 (8 Gb)	\Windows\Storage\Emulex\LPe1x002\W2K8\x64	None
QLogic QLE2462 (4 Gb)	\Windows\Storage\QLogic\QLE2x62\W2K8\x64	None
QLogic QLE2562 (8 Gb)	\Windows\Storage\QLogic\QLE2x62\W2K8\x64	None

Table 4.CNA Drivers

CNAs	Driver Path	Special Instructions
Cisco UCS P81E Virtual Interface Card (VIC) (Ethernet-enic)	\Windows\Network\Cisco\P81E\W2K8\x64	None
Cisco UCS P81E VIC (Fibre Channel over Ethernet [FCoE]–fnic)	\Windows\Storage\Cisco\P81E\W2K8\x64	None
Cisco UCS VIC 1225 (Ethernet-enic)	\Windows\Network\Cisco\1225\W2K8\x64	None
Cisco UCS VIC 1225 (FCoE-fnic)	\Windows\Storage\Cisco\1225\W2K8\x64	None
Emulex OCe10102-F (Ethernet)	\Windows\Network\Emulex\OCe10102\W2K8\x64	None
Emulex OCe10102-F (FCoE)	\Windows\Storage\Emulex\OCe10102\W2K8\x64	None
Emulex OCe11102-F (Ethernet)	\Windows\Network\Emulex\OCe11102\W2K8\x64	None
Emulex OCe11102-F (FCoE)	\Windows\Storage\Emulex\OCe11102\W2K8\x64	None
QLogic QLE8152 (Ethernet)	\Windows\Network\QLogic\QLE8152\W2K8\x64	None
QLogic QLE8152 (FCoE)	\Windows\Storage\QLogic\QLE8152\W2K8\x64	None
QLogic QLE8242 (Ethernet)	\Windows\Network\QLogic\QLE8242\W2K8\x64	None

CNAs	Driver Path	Special Instructions
QLogic QLE8242 (FCoE)	\Windows\Storage\QLogic\QLE8242\W2K8\x64	None
Broadcom 57712 (FCoE)	\Windows\Storage\Broadcom\BCM57712\W2K8\x64\FCoE	None
Broadcom 57712_LOM (FCoE)	\Windows\Storage\Broadcom\BCM57712_LOM\W2K8\x64\FCoE	None

When you are finished, you should have a folder structure containing all the driver folders referenced in Tables 1 through 4, renamed according to their functions (Figure 3).

Figure 3.	Folder Structure for All Drivers
-----------	----------------------------------

 New folder 					
Preboot_OS_Deployment-1.4.6	-	Name *	Date modified	Туре	Size
 Preudoc_95_pepsymetric 1:1:10 2008 Cisco_Broadcom_5709_W2K8_EVED Cisco_Broadcom_5709_W2K8_NIC Cisco_Broadcom_5709_W2K8_OIS Cisco_Broadcom_57711_W2K8_EVBD Cisco_Broadcom_57711_W2K8_EVBD Cisco_Broadcom_57711_W2K8_NIC Cisco_Broadcom_57711_W2K8_NIC Cisco_Broadcom_57712_10GBaseT_W2K8_EVBD Cisco_Broadcom_57712_10GBaseT_W2K8_NIC Cisco_Broadcom_57712_10GBaseT_W2K8_EVBD Cisco_Broadcom_57712_10GBaseT_W2K8_NIC Cisco_Broadcom_57712_10GBaseT_W2K8_NIC Cisco_Broadcom_57712_L0M_W2K8_EVBD Cisco_Broadcom_57712_L0M_W2K8_FCOE Cisco_Broadcom_57712_L0M_W2K8_FCOE Cisco_Broadcom_57712_W2K8_FCOE Cisco_Broadcom_57712_W2K8_FCOE Cisco_Broadcom_57712_W2K8_FCOE Cisco_Broadcom_57712_W2K8_FCOE Cisco_Broadcom_57712_W2K8_FCOE Cisco_Broadcom_57712_UM_W2K8_FCOE Cisco_Broadcom_57712_L0M_W2K8_FCOE Cisco_Broadcom_57712_UM_W2K8_FCOE Cisco_Emulex_OCe10102_W2K8_FCOE_x64 Cisco_Emulex_OCe10102_W2K8_NIC_x64 Cisco_Emulex_OCe11102_W2K8_ND1561 Cisco_Intel_62576-1350_W2K8_ND1561 Cisco_Intel_1CH10R_W2K8_x64 		Varine	6/5/2011 5:14 PM 6/5/2011 5:14 PM 6/5/2011 5:14 PM 6/5/2011 5:14 PM	Security Catalog Setup Information System file Text Document Application exten	9 KJ 23 KJ 516 KJ 355 KJ 1,456 KJ

Injecting Drivers into Altiris 6.9 SP5 Microsoft Windows x64 Preboot Image

This section describes how to inject OS drivers in the (default) Altiris Microsoft Windows x64 preboot image.

Injecting the drivers for local disk controllers, network interfaces, and storage HBA interfaces allows a server to be discovered and managed by Altiris (for example, it provides the capability to run jobs that deploy the OS to these servers).

Note: Because the Altiris Microsoft Windows x64 preboot image is based on Microsoft Windows PE 2.1 (which is based on Microsoft Windows 2008), only the Microsoft Windows 2008 drivers are required for injection into Microsoft Windows PE.

Note: The chip set drivers are not required for injection into the Altiris Microsoft Windows PE preboot image.

As part of the Altiris 6.9 SP5 installation, the default Microsoft Windows x64 preboot image should already be installed (the process is not discussed in this document). In this section, this preboot image will be edited to inject all the Cisco UCS C-Series Rack Server drivers required.

 On the Altiris deployment console, choose Tools > PXE Configuration. Select the x64-based Microsoft Windows PE image and click edit.

Name	rev	Scope	OS	Redirected	In use by DS	x86	x64	
Next Device (BIOS/EFI)	0	Shared	-	10				Ug Down
DOS Managed	0	Shared	FreeDOS LinuxPE		Yes	Yes	Q.,	
Linux Managed WinPE Managed	3	Shared Shared	WinPE 2.1		Yes	Yes No	Yes	
								<u>N</u> ew
								6
								<u>E</u> dit
								Edit Dgiete
•]							1.1	
د [11	
• [T	Regener		Dgiete
	. c	Gustomize	PXE Server	: Shared Con	figuration		ate Bool	Dgiete
oot Menu Properties						Regener	ate Bool	Dgiete
oot Menu Properties	s C			: Shared Con			ate Bool	Dgiete
oot Menu Properties	to Select a l	boot option	ə		ver name		ate Bool S	Dglete

2. On the next screen, deselect x86 (if it is selected). Under Image Creation Method, select Boot Disk Creator; then click Edit Boot Image.

ame: WinPE Manage		
Allow as default PXE	boot option	
re-boot Image Propertie	s	
Operating System & Pr	ocessor Options -	Image Creation Method
C <u>p</u> as	□ x <u>8</u> 6	Boot Disk Creator
C Linux *	▼ x <u>6</u> 4	C Direct from floppy
	□ ia6 <u>4</u> *	C User supplied
C Other		
Add pre-boot		Edit Boot Image
* more pre-boot optio	ns are available	
inal Location on PXE S	erver	
\PXE\Images\Menu0)ption131	

3. The wizard will move by default to the Step 9 of 12: Edit Configuration screen. Click the Edit button to go back to Step1 and then click Next to go to the Step 2 of 12: Windows PE Hardware Device Drivers screen. Add each Cisco device driver (one at a time) by clicking Have Disk and browsing to an .inf file in the target driver folder (as listed in the matrices in Tables 1 through 4 earlier in this document).

🗟 Boot Disk Creator - Edit WinPE 2.x Configuration 🛛 🔀	Boot Disk Creator - Create Windows PE Configuration
Step 9 of 12: Edit Configuration Customize this configuration, by adding and editing lifes. To modily a test life, click on the file in the configuration life list and edit the contents in the test viewer.	Step 2 of 12: Windows PE Hardware Device Drivers Select the hardware device drivers that are in the client computers.
Configurations	Windows PE will attempt to auto-detect initialed device drives. Multiple device drives may be selected to initiact Windows PE to load those drives before attempting to auto-detect. Hardware drives drives
No Description]	Hardgeer driver driver: One 0/2700 At Description / Vendor Device Driver •
prefat gradus windows water.tpp deminit_poid water.tp water.tp water.tput water.tput	MOBILE ASSIST/Readek RTL0139/01104 Family Fa. Doc. 0120 February 10130 JCom XC000 T Gogdet LM Ethernet Adapter 1027 1700 pk35046 rd JCom XC000 T Gogdet LM Ethernet Adapter 1027 1700 pk35046 rd JCom XC000 T Gogdet LM Ethernet Adapter 1027 1700 pk35046 rd JCom XC000 T Gogdet LM Ethernet Adapter 1027 1700 pk35046 rd JCom Dual Pot 1001000 PCIX Server NIC 1448 1648 9570400 rd JCom Dual Pot 10000 SCPC0X Server NIC 1448 1648 9570400 rd JCom Dual Pot 1000 SCPC0X Server NIC 1448 1648 9570400 rd JCom Quad Pot 1000 SCPC0X Server NIC 1448 1648 9570400 rd JCom Quad Pot 1000 SCPC0X Server NIC 1448 1648 9570400 rd JCom Quad Pot 1001000 PCD SC Server NIC 1448 1648 9570400 rd JCom Quad Pot 1001000 PCD SC Server NIC 1448 1648 9570400 rd JCom Quad Pot 10100 SC PCD SC PCX Server NIC 1448 1648 9570400 rd JCom Quad Pot 10100 SC PCD SC PCX Server NIC 1448 1648
CEditCancelHelp	(gack. Next > Cancel Help

Note: If the driver folder contains multiple .inf files, you will need to run this process for each file.

The Add WinPE Hardware Device Drivers screen will simply list what was found in the .inf file and then import what is required automatically after you click OK (the example in the screen image shows drivers for the Broadcom 5709).

ackag	isk Creator cannot extr ges. This must be done ed driver modules resid	e manually. Bro				C
lote:	Files must reside in th System files must be				d).	
) river .	INF file path:					
		work \ Drondoo	m\BCM5709\	W2K8\x64	vni B	rowse
	IVERS\Windows\Net	WORK IDTOBUCO				
) rivers Drive	to be installed: r summary					
Drivers Drive Broad	to be installed:	treme II GigE (ient)		
Drivers Drive Broad	to be installed: r summary Icom BCM5706C NetX J6bdrv\12nd&pci_164a bxnd60a.sys -> syste	ltreme II GigE (114e4 em32\drivers\b	NDIS VBD CI xxnd60a.sys	ient)		-
Drivers Drive Broad Broad	to be installed: r summary loom BCM5706C NetX 36bdrv\12nd&pci_164a bxnd60a.sys -> syste bxndcoa.dll -> syster loom BCM5706C NetX	Areme II GigE (14e4 em32\drivers\b m32\bxndcoa. Areme II GigE (NDIS VBD CI xxnd60a.sys dll	91.50.00		-
Drivers Drive Broad b0 Broad	to be installed: r summary loom BCM5706C NetX J6bdrv/U2nd&pci_164a bxnd60a.sys -> syste bxndcoa.dll -> syster loom BCM5706C NetX J6bdrv/U2nd&pci_164a	Areme II GigE (14e4 em32\drivers\b m32\bxndcoa. Areme II GigE (14e4	NDIS VBD CI xxnd60a.sys dll NDIS VBD CI	91.50.00		
Drivers Drive Broad b(Broad b(to be installed: r summary loom BCM5706C NetX 36bdrv\12nd&pci_164a bxnd60a.sys -> syste bxndcoa.dll -> syster loom BCM5706C NetX	Rreme II GigE (114e4 em32\drivers\b m32\dxndcoa. Rreme II GigE (114e4 em32\drivers\b m32\dxndcoa.	NDIS VBD CI xxnd60a.sys dli NDIS VBD CI xxnd60a.sys dli	ient)		-

4. Click OK. Processing will occur, followed by this message:

Boot Dis	k Creator 🕺	
2	A new driver has been added. The list of drivers is now out of date, but refreshing the list can take a few minutes. The list can be manually refreshed at any time by using the 'Refresh' button. Would you like to manually refresh the driver list right now?	
	Yes No	

- 5. Click No. Repeat the process in steps 3 and 4 for each driver (each time clicking No to not refresh the list of drivers) until all the drivers have been added.
- 6. After the final driver is added, click Yes to refresh the list of drivers in the Boot Disk Creator windows.
- 7. After all the drivers have been added and the list of drivers has finished refreshing, click Next.

Windows PE will attempt to auto-detect installed device driv selected to instruct Windows PE to load those drivers before				
Hard <u>w</u> are device drivers:		Clear	0 / 2363	All I.A.
Description /	Vendor	Device	Driver	
(MOBILE ASSIST)Realtek RTL8139/810x Family Fa	10ec	8139	netrtl32.inf	
3Com 3C2000-T Gigabit Adapter	1067	1700	yk60x86.inf	
3Com 3C940 Gigabit LOM Ethernet Adapter	1067	1700	yk.60x86.inf	
3Com Dual Port 10/100/1000 PCI × Server NIC	14e4	1648	netb57vx.inf	
3Com Dual Port 10/100/1000 PCI-X Server NIC	14e4	1648	b57nd60x.inf	
3Com Dual Port 1000-SX PCI-X Server NIC	14e4	16a8	netb57vx.inf	
3Com Dual Port 1000-SX PCI-X Server NIC	14e4	16a8	b57nd60x.inf	
3Com Quad Port 10/100/1000 PCI-X Server NIC	14e4	1648	netb57vx.inf	
3Com Quad Port 10/100/1000 PCI-X Server NIC	14e4	1648	b57nd60x.inf	
82557-based Integrated Ethernet with Wake on LAN	8086	1229	e100a325.inf	Ľ.
•				
Have Disk Internet Refresh				
Auto-detect all device drivers				

8. Click Next through Boot Disk Creator Steps 3, 4 and 5 (keeping all the existing settings).

9. At Boot Disk Creator Step 6, you should change the drive mapping to use the Z: drive.

of 12: Network Drive Mappings a drive to the file server where the Altiris Deplo	yment image files are stored.
Manually create drive mannings	
To access the imaging tools, create a drive	mapping to the Deployment share.
	e Deployment share, define additional drive mappings by rver and share name or volume name for that drive.
Drive: Z: \VALTIRIS695P5\eXpre	te 🔽
Path: \\ALTIRIS69SP5\eXpress	Browse
Example: \\server\share	
If the network does not support NetBIOS n LMHOSTS file to map server names to IP a	ame resolution to IP addresses, add entries to the addresses for each drive mapping.
Create an entry in the LMHOSTS file for must be added manually)	r the Deployment server file store (other entries
Server name: ALTIRIS69SP5	
IP address: 10 . 10 . 10	. 1
C Use NetWare (ogin scripts to create drive r	nappings
	< Back Next> Cancel

Note: Using the default drive letter (F:) can conflict with the virtual floppy CD/DVD or other system devices. This conflict can prevent the Altiris Express share from being mounted properly.

10. Click Next through Boot Disk Creator Steps 7, 8, 9, and 10 (keeping all the existing settings). At Step 11, the WinPE image will be built (this process can take a few minutes). When the process is completed, you will see the Step 12 of 12: Boot Disk Creation Complete screen. Click Finish and then OK on the screen that follows.

Boot Disk: Cleator has finished creating the boot disk.	Name: WinPE Managed
Boot disk summary:	P Allow as default PXE boot option
Boot Disk: Path Come Phe-boot S. WePE 2.1 Processor s64 Media pre Task: eutomation	Pre-boot Image Properties Operating System & Processor Options
	Final Location on P/E Server

11. When you are back to the PXE Configuration Utility–Shared Configuration screen, be sure to click Save. You will see the status along the bottom of the screen. When processing is finished, Save will be dimmed, and the WinPE Managed revision numerator will be incremented by 1.

11:027								
Name	rev	Scope	OS	Redirected	In use by DS	x86	x64	
Next Device (BIOS/EFI)	0	Shared						Up Dow
DOS Managed	0	Shared	FreeDOS		Yes	Yes		
Linux Managed	0	Shared	LinuxPE			Yes	Yes	
WinPE Managed	4	Shared	WinPE 2.1		Yes	No	Yes	New
								Edb
								<u>E</u> dit
								<u>E</u> dit
								<u>E</u> dit D <u>e</u> lete
۹]								
<u> </u>							11	
						0		Delete
oot Menu Properties						Regene	ate Boot	Delete
		Gustomiz	e PXE Server	- Shared Cont	figuration		ate Boot	Delete
oot Menu Properties					1.5. Contraction (1997)	Regene	ate Boot	Delete
oot Menu Properties				: Shared Cont	1.5. Contraction (1997)		ate Boot	Delete
oot Menu Properties © Use Shared properties Prompt: Press [F8] to	Select a	boot option	v		ver name		rate Boot S	Delete Images

12. Click OK to close the PXE Configuration Utility. The process is complete.

For More Information Cisco UCS C–Series Rack Servers



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