R421 R422 R422-INF HOW TO: Install Windows Using a Virtual Media Drive

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Hardware

July 2007

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Preface

This HOW TO explains how to use Virtual Media, one of the features offered by the AOC-SIMSO+ Add_On Card for the following servers:

- NovaScale Universal R421
- Novascale Universal R422
- Novascale Universal R422-INF

All items, including firmware, BIOS, tools, packages or manuals, which are included in this manual with an * character can be downloaded from the Bull web site:

Bull S.A.S. support Web site

http://support.bull.com

Intended readers

This HOW TO is written for very qualified user's or Bull SAS support technicians.

Terminology

Before using this mini user's guide, it is necessary to read firstly,

Bull's NovaScale R42x AOC-SIMSO/SIMSO + Installation and User's Guide (86 A1 96ET 00),

and secondly, the IPMI View User's Guide (CDR-SIMIPMI-

1.10\Manuals\IPMIView20.pdf) and to familiarize yourself with the following terms:

Term	Definition
	A computer connected to the AOC-SIMSO+ of the Destination Computer.
Technician computer	This computer contains IPMI tools for AOC-SIMSO+, the Windows CD
	Image and the 'third party OEM disk driver' Floppy Image.
Destination Computer	A computer on which you want to have Virtual Media. This computer is equipped with the AOC-SIMSO+ Add-On Card.
Virtual Media	This is one of the features of AOC-SIMSO+ card and creates a Virtual
	Media Drive (Virtual Floppy Disk or Virtual CDROM) on the Destination
	Computer based on the image files on the Technician Computer.
	The Virtual Media may be created on the Destination Computer by
	sharing the physical Floppy Disk or CDROM drive attached to the
	Technician Computer. In this case, this Virtual Media technology is called
	Media Redirection.

Chapter 1. Overview of the Installation process

1.1 Prepare the Destination computer

- Install the AOC-SIMSO+ Add-On card
- Configure the IP Address of AOC-SIMSO+
- Connect the AOC-SIMSO+ to the Technician Computer Network (directly through the crossed RJ45 Cable or through the hub with a parallel cable)

All the above operations are described in the AOC-SIMSO+ User's Guide.

1.2 Prepare the Technician Computer

- Install and Configure the IPMI View tools.
- Create the .ISO image of the Windows CD you want to install.
- Create the .img image of the Floppy Disk containing the OEM third Party disk Driver (Intel ESB2 SATA Driver in case of the R421/R422 the Destination Computer)
- Create an IPMI View Session to control the Destination Computer remotely.
- Under the IPMI View session, create the Virtual CDROM based on the .ISO image, above, and also create the Virtual Floppy based on the .IMG image, above.
- All the above operations (except Image Creation) are described in the *IPMI View User's Guide*.

The majority of tools used to burn the CDROM support the creation of the .ISO image of the Windows CD.

To create the Floppy Disk image containing the Intel ESB2 SATA driver

- Format the floppy disk.
- Copy the content of the **R421-R422-Drivers**\Intel_ESB2_SATA\ directory (except OEMDISK_421_422.IMG) to the floppy disk.
- Use the Disk Copy utility of FreeDos or equivalent to create the .IMG image

The **R421-R422-Drivers**\Intel_ESB2_SATA\OEMDISK_421_422.IMG file is the .IMG image of Intel ESB2 SATA Driver, version 6.0.1.1002 (date 07/06/2006) we created for you.

You will now have on the Destination computer the Windows CD to install in the Virtual CD-ROM drive, and the Intel ES2 Driver in the virtual floppy drive. So the Windows Installation may now be started.

Chapter 2. Installing Windows on the Destination Computer

Once the Destination computer and the Technician computer have been prepared, Windows is installed on the Destination Computer as follows:

- 1. Switch on the Destination computer
- On the Technician computer, under IMPI View, click File ->New...->System to include the destination computer in IPMI View. When the Add a new system dialog box appears, enter the AOC-SIMSO+ IP address of the Destination computer

≜ Add a new sys	tem	×
		,
System Name:	ccs-node-6-m (R422-S-IPEC)	
IP address:	199.182.200.194]
Description:	ccs-node-6-m (R422-S-IPEC)	
	OK	

The new system is added to IPMI View (left panel)

3. Double Click on the newly added system to open a session for the Destination computer

IPMI View V2.5.2 (build 061219) - Super Micro Computer, Inc.	
File Edit Session Manage Help	
Supermice Supermice The Server Solutions Manufacturer Supermice	
IPMI Domain ▲ ♥ ☆ IPMI Domain ▲ ♥ ☆ IPMI costnode-10-m (R422-INF-S-SDD) System Name ccs-node-6-m (R422-S-IPEC) IPMI costnode-11-m (R422-INF-P-SDD) System Name ccs-node-6-m (R422-S-IPEC)	
R ccs-node-4-m (R421-IPEC) IP Address 199.182.200.194	
B ccs-node-5-m (R422-P-IPEC) B ccs-node-7-m (R422-S-IPEC)	
Login ID ADMIN	
Password *****	
Login Logout	
题 Groups La 企 令	
IPMI Domain (8/8)	
Ready	

The default Login ID is **ADMIN**, and the default password of ADMIN. Both the Login ID and Password are case-sensitive.

- 4. Create a shared directory (C:\VirtualMedia), shared using the same name, on the Technician computer.
- Copy Windows_2003_SP2_CD.iso and OEMDisk_421_422.IMG into C:\VirtualMedia (Windows_2003_SP2_CD.iso is the image of Windows CD to install and OEMDisk_421_422.IMG is the image of Floppy Disk image containing the Intel ESB2 SATA driver).

 In the Virtual Media tab, Floppy Media Uploaded zone, Open C:\VirtualMedia\OEMDisk_421_422.IMG and click on UpLoad to create the Virtual Floppy on the Destination computer.

🛄 IPMI View V2.5.2 (build 061219) - 9	Super Micro Computer, Inc.	
File Edit Session Manage Help		
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霓 <mark>Groups </mark>	Stop Drive 1 Stop Drive 2 Login Event Log Sensors IPM Device BMC Setting Users Text Con	Refresh
Get Virtual Media information done		

- 7. In the Virtual Media tab, CD-ROM Image on Windows share, specify the Windows image to install :
- share host is the technician computer IP address,
- **share name** is the Windows directory share name (**VirtualMedia**) where is the Windows CD-ROM image is located
- path to image is the .ISO image of Windows CD to be installed (Windows_2003_SP2.ISO)
- **user/password** is the login/password used to access the above shared directory on the Technician computer

TIPMI View V2.5.2 (build 061219) - Super Micro Computer, Inc.					
File Edit Session Manage Help					
Image: Provide the provided interview of the provided interview	Drive 2 Type : CD-ROM Image Read / Write mode: Read-Only ISO path : //199.182.200.196/VirtualMedia/Windows_2003_SP2 iso (652261376 bytes)				
Costricuter and (R4224INF-S-IPEC) Drive: Costricuter and Costributer and Co	Drive: Set Share host: 199.182.200.196 Share name: VirtualMedia Path to image: Windows_2003_SP2 iso User (optional): administrator Password (optional): * * *				
Groups Get Virtual Media information done					

8. On the Destination computer or using the KVM console tab of IPMI View Session of the Destination computer, restart the computer and hit the **DEL** key to enter the BIOS setup and configure the BIOS for Intel ESB2 SATA as shown in the screens which follow :

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R422-INF-S-IPEC)	System Time:	100:21:00	
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IPMI Domain (8/8)	► SATA Port 2	LNoneJ	
	► SATA Port 3	INonel	
	Serial ATA:	LEnabledJ	
	SATA Controller Mode Option:	[Enhanced]	
	SATA RAID Enable	[Enabled]	
	ICH Raid CodeBase	[Intel]	
	System Memory:	634 KB	
		IARE HR	
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If the destination computer has only one SATA disk, go to the next operation

9. Save and restart the Destination computer again and press the **Ctrl+I** keys to configure the SATA disk in RAID.

For a **Windows Compute Cluster Server 2003** Compute Node, create two RAIDO virtual disks using all physical disks as follows:

- RAIDO-0 40GB
- RAIDO-1 Available space remaining

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File Edit Session Manage Help						
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ccs-node-9-m (R421-SDD)			E MAIN	MENU]=		
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R422-INF-S-IPEC)			2. Delete	KHID VO	lume	
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re-enable ACPI polling						

10. In the BIOS Setup, go to the Boot tab and configure the boot order as follows:

IPMI View V2.5.2 (build 061219) - Se	uper Micro Compute	, Inc.				
File Edit Session Manage Help						
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ccs-node-11-m (R422-INF-P-SDD)	Main	Advanced	Security	Boot	Exit	
ccs+node-9-m (R421-SDD)				_		
Cosmode-6-m (R422-54PEC)						Item Specific Help
ccs-node-7-m (R422-INF-P-IPEC)	1.	USB CDDOM . Dom	norf Hirtusl D	iec 2		reem opective herj
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E IPMI Domain (8/8)	8:					the device up or dou
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		IDE 1:				the device fixed or
		TDF 2.				removable
1		106 2.				
	Console(Norm): Desktop	size is 1 024 x 768				Fps: 0 In: 0 B/s Out: 2 B/s
	Login EventLog Se	nsors IPM Device BMC Setting U	Isers Text Console KVM Console V	Intual Media		
re-enable ACPI polling						

Where

- USB CDROM : PepperC Virtual Disc 2 is the virtual CD-ROM
- USB LS120 : PepperC Virtual Disc 1 is the Virtual Floppy Disk
- PCI SCSI : Intel VolumeO is the RAIDO-O volume created above (when Ctrl+I were entered)

Note:

If Virtual Media does not appear in the boot order, reset the Destination computer

11. The Destination computer starts and displays the screen below.



Press any key to boot from the virtual CD-ROM

12. During Windows Setup, hit the "F6 " key when the screen below appears. Install the Intel ESB2 SATA driver.

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File Edit Session Manage Help	
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SUPERMICE States (B425)PEC	
	Options
IPMI Domain A 🗢 🛇 🖻	
Baccondellon (H42NF5-500)	
ccroade-4m (R421/PEC) HTTROWS Securp	
concernate sim (rA22.54/FC)	
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Be cc:mode@m (R4224NF64PEC)	
関 Groups Da 金 余	
📔 IPUL Donain (A/B)	
Press F6 if you need to install a third party SCSI or RAID driver	
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13. Press the "S" key when the following screen appears.

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IPMI View V2.5.2 (build 061219) -	Super Micro Computer, Inc.	- D ×
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The Server Solutions Manufacturer		Options
PFR0 Demain ▲ ♥ 9 Connected Um F422W15450D1 Connected Sm F422V15450D1 Connected Sm F422V15470 Connected Sm F422V15470 Connected Sm F422V15470 Connected Sm F422V15470	Windows Setup Setup could not determine the type of one or more mass storage devices installed in your system, or you have chosen to manually specify an adapter. Currently, Setup will load support for the following mass storage devices(s)	:
受 Groups L2 台 前 参 Mail Power (20)	<pre><none> * To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S. * If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER. S=Specify Additional Device ENTER=Continue F3=Exit</none></pre>	

14. Then choose the driver listed for the ESB2 SATA RAID Controller, as shown below.



15. When Windows has been completely installed, some hardware devices remain uninstalled, including, the motherboard chip set, network adapters, and the **InfinBand** adapter. Complete the Windows installation by installing the corresponding drivers from the Resources CD. Transfer these drivers to the Destination computer and execute their install programs. The following table lists the hardware device, the driver location on the resource CD and the install program to run.

Hardware Device	Driver Location on the Resource CD-ROM	Install Program to run
Chip Set	R421-R422-	infinst_autol.exe
	Drivers\Intel_Chipset_v8.1.1.1010\	
lan	R421-R422-Drivers\nic\Intel\	Auto_run.exe
Mellanox	R421-R422-Drivers\nic\Mellanox\	WinIB_x64_1_3_0_2000.msi
Infiniband		
Voltaire	R421-R422-Drivers\nic\Voltaire\	Voltaire_WinlB64_2_5_615_765.msi
Infiniband		

16. Stop the 2 virtual drives in the IPMI View session for the Destination computer, Virtual Media tab. Close the IPMI View session. Close the IPMI View application.

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