



System x

IBM BladeCenter S Configuration Guide for Windows Essential Business Server 2008

Version 1.0





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Note

Before using this information and the product it supports, read the general information in "Notices," on page 23.

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Chapter 1. Introduction (What's included in this document)

This white paper is intended to provide pre-installation instructions and recommendations to prepare the IBM BladeCenter S for Windows Essential Business Server (EBS). This white paper lists the preferred configuration and the tools needed to get the IBM BladeCenter S chassis ready for the EBS installation.

This white paper also documents post-installation tasks that add the management software and the plug-in for EBS, and the storage drivers required for multipath support for the RAID SAS Switch Modules (RSSM) included in this BC S configuration.

This white paper does not provide installation details for the EBS software itself because that is provided in the appropriate Microsoft documentation.

Chapter 2. Recommended bill of materials (BOM) configuration

This bill of materials list is a recommended configuration that you can use as a guideline for a standard Windows Essential Business Server 2008 (EBS) installation.

Many variations can be used including other blades that support Windows 2008. HS12s were selected because they provide Hot-Swap drives which enhances serviceability. The Intelligent Copper Pass-thru Module was selected because it requires little or no configuration and allows the EBS Security server to be easily configured for two separate networks which is an EBS requirement. The additional Storage required by the Management and Messaging server is enhanced with the presence of the RSSMs as opposed to the standard SAS switches. The RSSMs provide full multipath support and the ability to provision storage to the blades in a granular manner.

BC S hardware configuration

Part number	Description	Quantity
88861MU	IBM Bladecenter S Chassis with 2x950/1450W PSU, Rackable	1
43W3581	IBM BladeCenter S 6-Disk Storage Module	1
43X0802	IBM 300GB 3.5in 15K HS SAS HDD	0
43W7524	IBM 146GB 15K 3.5in HS SAS HDD	6
43W3582	IBM BladeCenter S 950W/1450W Auto-Sensing Power Supplies 3 and 4	1
43W3584	IBM BladeCenter S SAS RAID Controller Module	2
44W4483	Intelligent Copper Pass-thru Module for IBM BladeCenter	1
Blade server configuration:		
802845U	HS12, Xeon Quad Core X3353 80W 2.66GHz/1333MHz/12MB L2, 2x1GB,	3
46C0512	4GB (2 x 2 GB) PC2-5300 CL5 ECC DDR2 667MHz SR VLP RDIMM	3
43W7535	IBM 73 GB 10K SAS 2.5in SFF Slim-HS HDD	6
39Y9190	SAS Expansion Card (CFFv) for IBM BladeCenter	3

The table above meets the minimum required hardware. Depending on storage requirements, a second Disk Storage Module might be necessary as well as more drives or larger drives.

Chapter 3. What you will need

You need software, firmware, and driver updates.

Tools and utilities required

- The latest version of Start Now Advisor
- The latest version of Storage Configuration Manager (SCM), which is also included with Start Now Advisor
- BIOS and firmware updates for the blade servers and SAS daughter cards
- The BC S plug-in for Essential Business Server (EBS) and the Director agents
- The Subsystem Device Driver Device Specific Module (SDDDSM) drivers for the RAIDed SAS Switch Module (RSSM)

BladeCenter S update site

Go to the following IBM Support Web site to find the IBM BladeCenter S updates:

[https://www-304.ibm.com/systems/support/supportsite.wss/
supportresources?categoryind=0&selectedButton.x=18&selectedButton.y=20
&selectedButton=category&familyind=5356544&brandind=5000020&osind=5358175
&typeind=0&modelind=0&matrix=Y&taskind=2](https://www-304.ibm.com/systems/support/supportsite.wss/supportresources?categoryind=0&selectedButton.x=18&selectedButton.y=20&selectedButton=category&familyind=5356544&brandind=5000020&osind=5358175&typeind=0&modelind=0&matrix=Y&taskind=2)

Chapter 4. Getting started

Perform these tasks to prepare for installation and configuration.

Make the network connections

This configuration includes the Intelligent Copper Pass-thru Module for network connectivity.

1. Make the network connections.

This configuration includes the Intelligent Copper Pass-thru Module (ICPM) for network connectivity.

Make the following connections to the network from the ICPM.

- Port 1 is network interface card (NIC) 1 for Blade 1, which is the management server
- Port 2 is NIC 1 for Blade 2, which is the internal NIC for the security server
- Port 3 is NIC 1 for Blade 3, which is the messaging server
- Port 9 is NIC 2 for Blade 2, which is the external NIC for the security server, Internet
- Port 7 is for management of the first Redundant Array Of Independent Disks enabled (RAIDed) SAS Switch Module (RSSM)
- Port 14 is for management of the second RSSM

Port 7 and 14 of the ICPM must be connected in order for the RSSMs to be managed with the command line interface (CLI) or Storage Configuration Manager (SCM).

2. If you are using a switch that is different than the ICPM, isolate the second NIC for the security server by putting the server in its own VLAN.

Configuring the BC S

The use of Start Now Advisor is highly recommended. The alternative is to configure the BC S manually.

Use Start Now Advisor to configure the IBM BladeCenter S (BC S) chassis

The Start Now Advisor wizard goes thru a step-by-step configuration of the BC S chassis and chassis components to automatically install the Storage Configuration Manager (SCM) to set up the storage.

1. Run Start Now Advisor to configure the chassis. Start Now Advisor can run from any Windows machine that is connected to the same network as the BCS

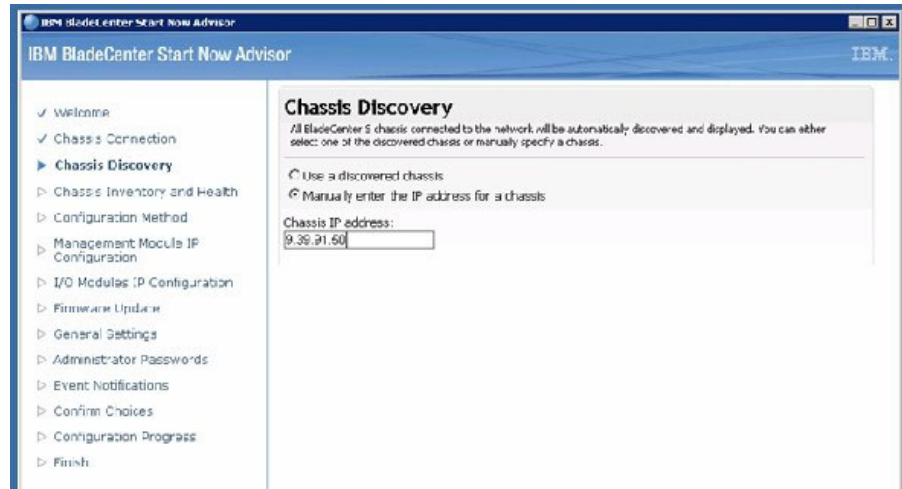
chassis.



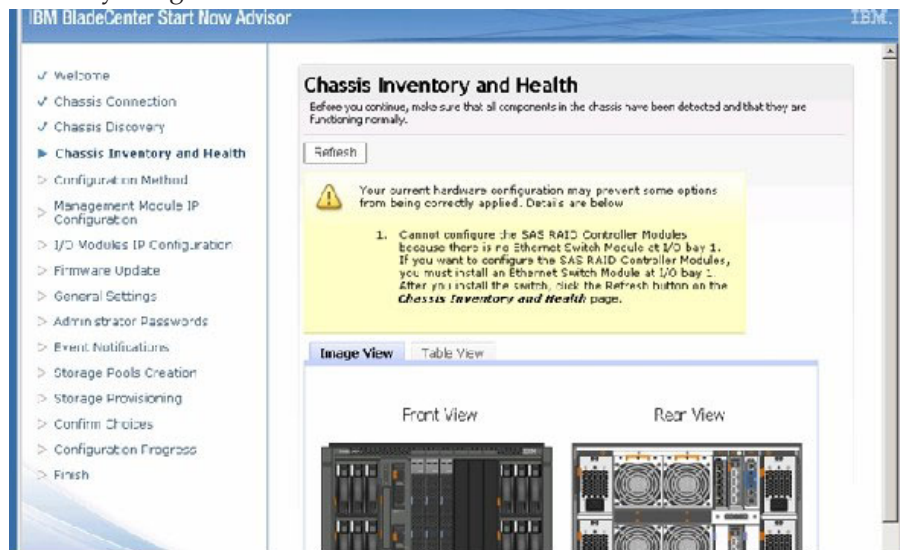
2. Choose your preferred network connection.



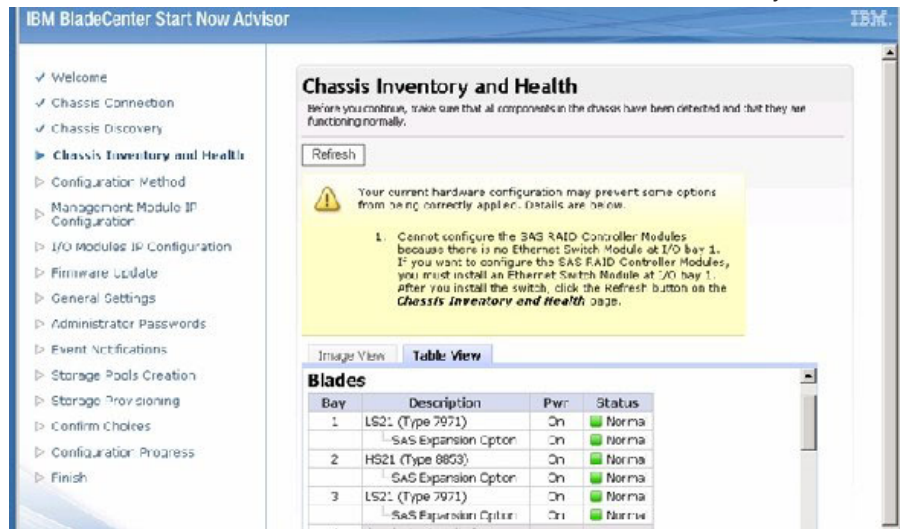
3. Let Start Now Advisor discover the BC S automatically or you can manually discover the BC S by providing an IP Address for the management module.



- After discovery Start Now Advisor will present an inventory of the chassis either by image view or table view. Select Table view for a detailed inventory.



- Click the Table View tab to see the tabular view of the inventory.

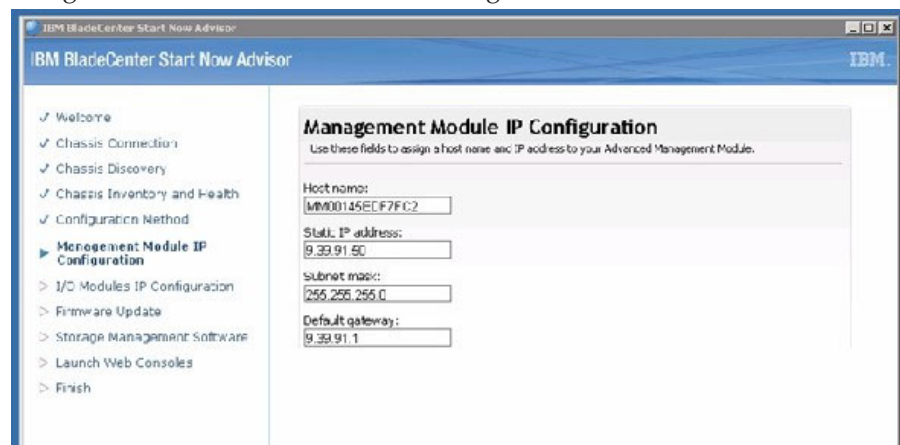


- The ICPM requires the Launch Method. Launch method is required to automatically install the Storage Configuration Manager to configure the storage. The current version of Start Now Advisor does not support the Intelligent Copper Pass-thru Module (ICPM) for Express Setup. However, ICPM works

fine with Launch method.



7. Assign the IP information for the Management Module.



8. Assign IP information for all I/O modules.



- The Start Now Advisor automatically updates selected BC S components.

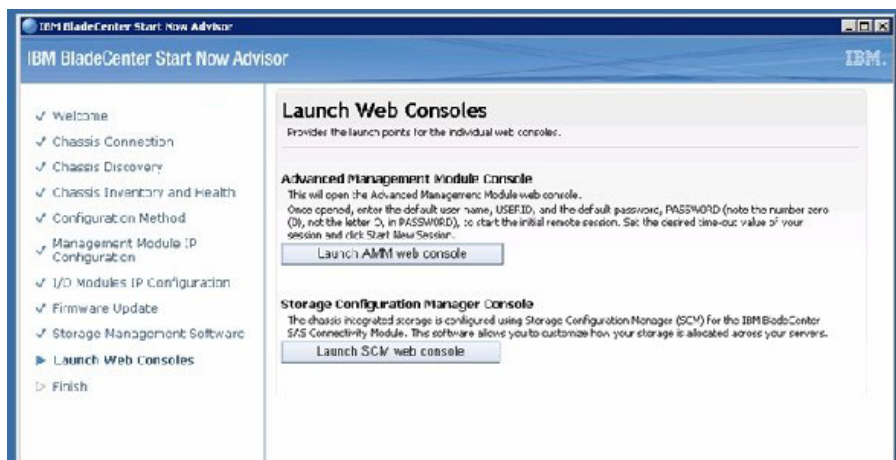


- The Start Now Advisor automatically installs SCM for storage configuration.



- Launch Storage Configuration Manager to configure volumes and assignments to the blade servers.

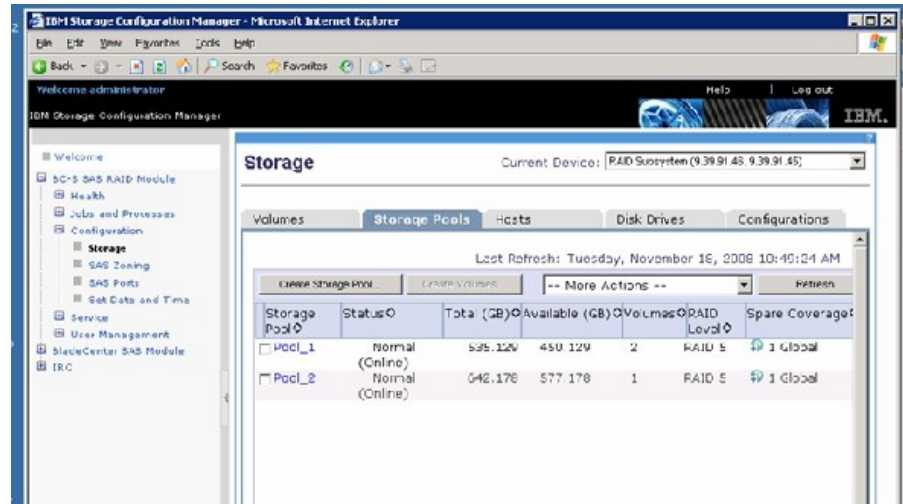
If this is first time you have run SCM, use the Welcome Wizard to discover the RAID controllers.



- Create storage pools. Select the physical drives and RAID level 5 to create a pool.

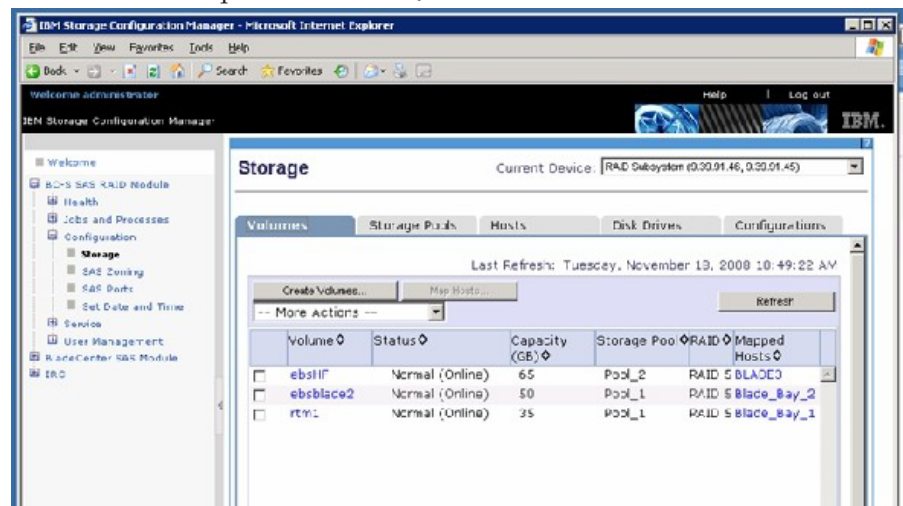
For EBS, use RAID 5 pools with enough space to create a volume for the management server and a volume for the messaging server. The size varies on the amount of data and user environment. Also allow room for growth. If

there is space left over, create a volume for the security server logs.

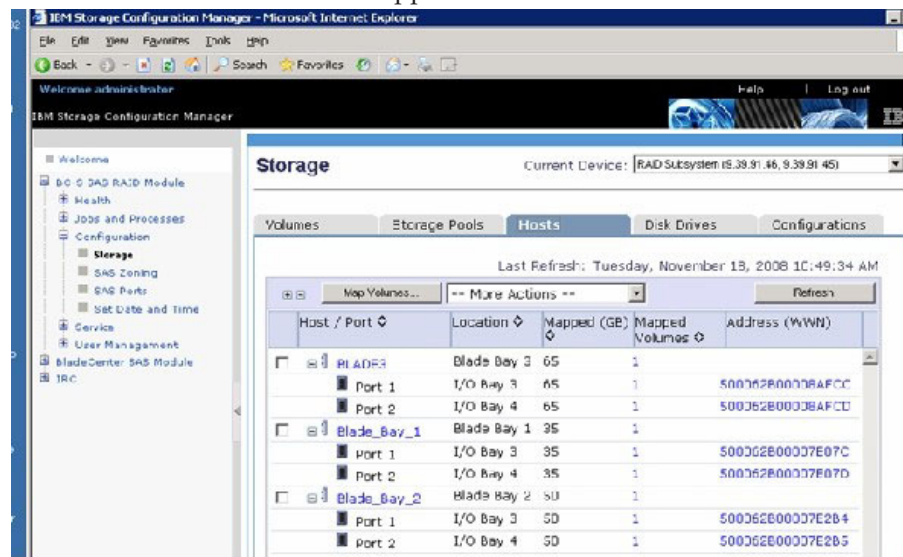


13. Create volumes from the pools.

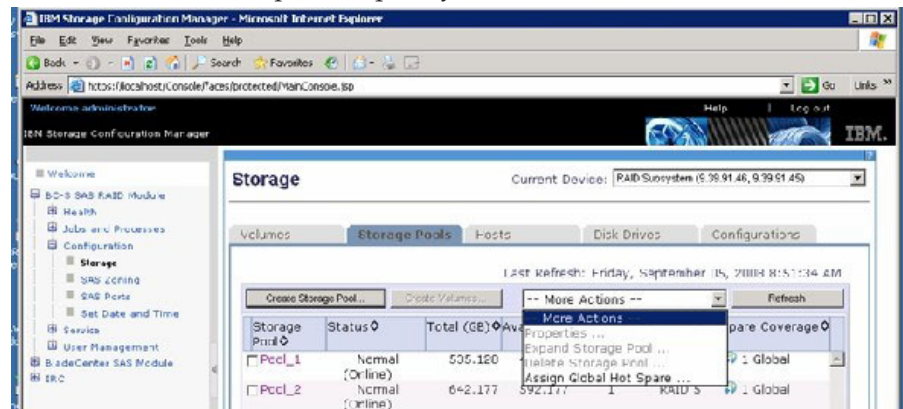
At a minimum, create two volumes, one for the management server and one for the exchange server. If you are using premium edition EBS, then at least one volume is required for the SQL server.



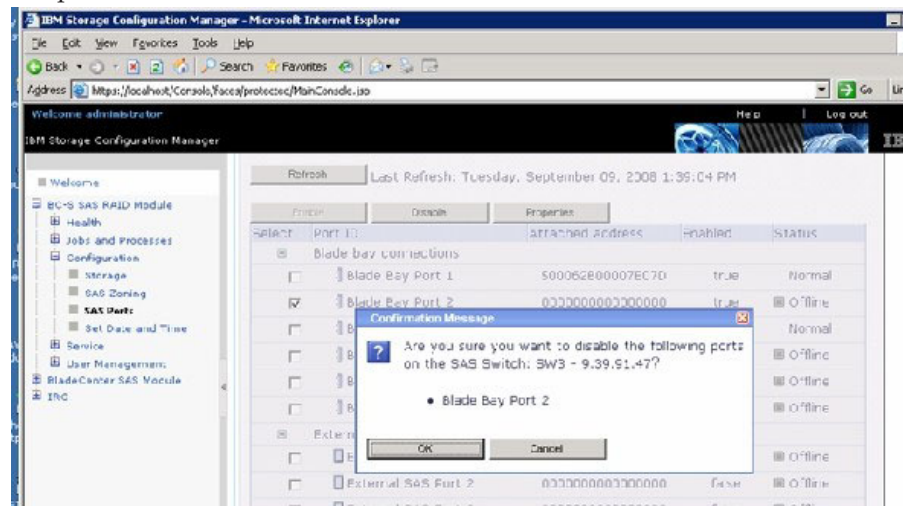
- Use the Volume Creation Wizard to map drives to the blade servers. The SAS HBA cards in the blades are mapped to the volumes.



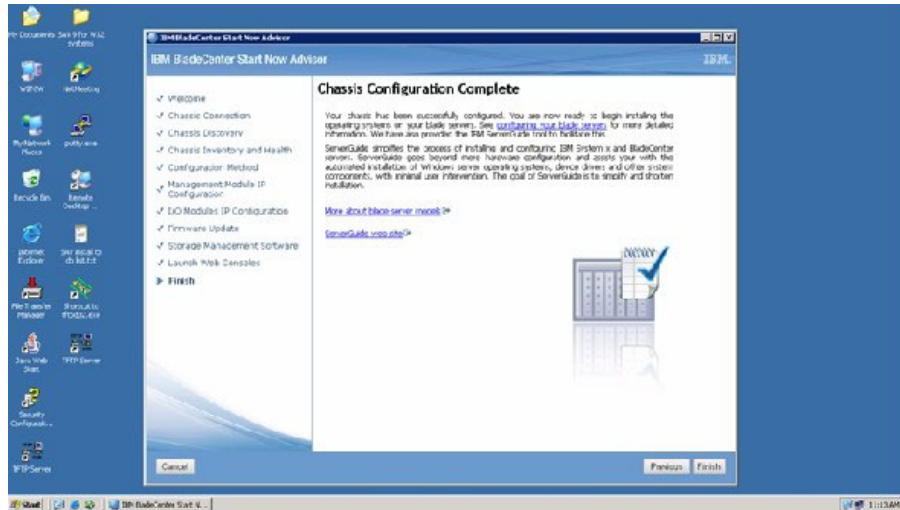
- Create a Global Hot Spare to quickly recover from a drive failure.



- Turn off the second SAS port for each blade because the operating system does not yet recognize multi path configuration during the installation. Once EBS is installed and the drivers are loaded, you can use SCM to turn on the ports.



17. That completes the Start Now Advisor.



Configuring the BC S manually

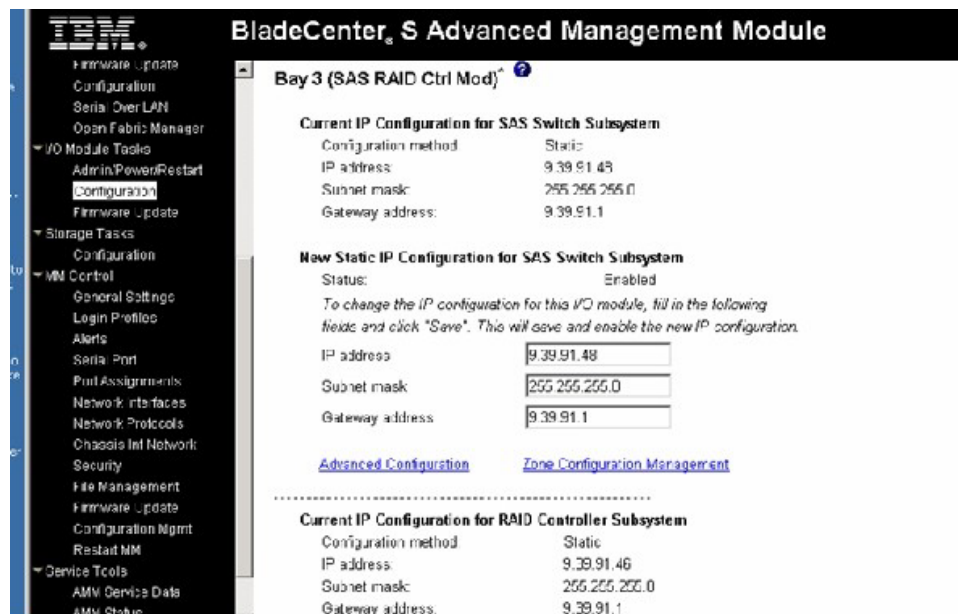
You can configure the BladeCenter S chassis manually instead of using the Start Now Advisor.

About this task

At a minimum, you must configure an IP address on the network for the advanced management module (AMM).

Each RAIDed SAS Switch Module (RSSM) must have an IP Address for the SAS component of the switch and the RAID Controller component of the switch. Many options can be configured for the AMM, including DNS, LDAP, SNMP, Alerts, and others. At a minimum, assign the modules a valid IP address so that Storage Configuration Manager (SCM) can configure each RSSM later in the installation.

1. Log into the AMM.
2. Click **I/O Module TasksConfigurationBay 3 (First RSSM)**.
3. Fill in the IP information for the SAS switch and RAID controller.



4. Assign IP addresses to both SAS switches and both RAID controllers.
5. If the configuration has a network switch instead of a pass-thru module, assign the network switch an IP address as well.

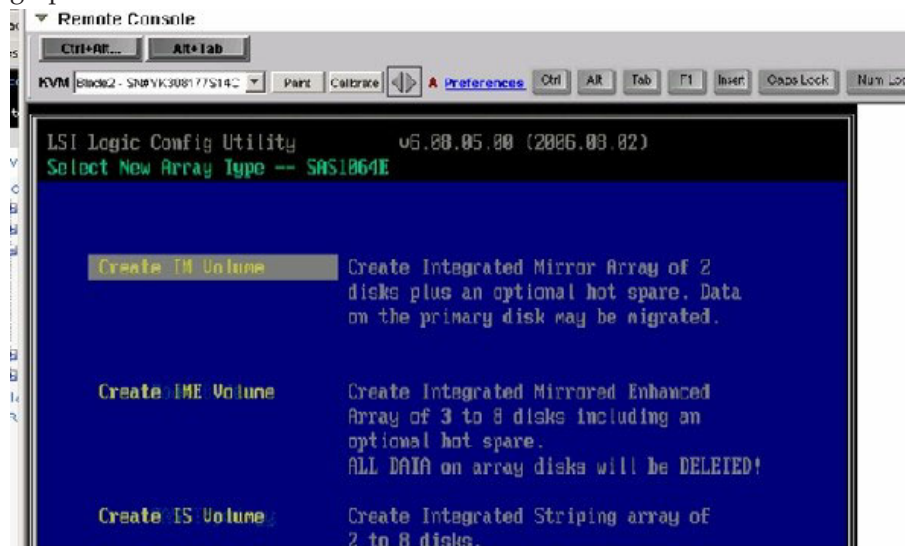
Prepare the blades

The blades should be updated to the current BIOS and firmware levels. Also update the SAS daughter card to the current firmware level.

About this task

The HS12 blade contains two hot-swap drives that you must mirror. These drives are for the operating system portion of the EBS installation.

1. To create a mirror, press **Ctrl-C** during post to enter the LSI configuration program.
2. Select the onboard controller.
3. Include the two internal drives in a mirrored pair as shown in the following graphic.



Chapter 5. Installing Essential Business Server

Installing Essential Business Server (EBS) involves installing three EBS servers for specific tasks.

About this task

The installation must be done in order:

1. Management server
2. Security server
3. Messaging server

For detailed instructions for any of the steps in the following procedure, consult the Windows EBS documentation.

1. Install the management server.
 - a. Use the Planning Wizard to generate the Planning Wizard XML file that is required to install the management server.
 - b. To install the management server, insert the Management Server DVD and follow the instructions.
2. Install the Security server.
3. Install the Messaging server.
4. Point to the volumes previously created during the installation.

Each server installation prompts for the location to store the data for that server. The locations should point to the volumes that were created with Start Now Advisor.

What to do next

Once the installation for all three servers is completed, perform the post-installation tasks.

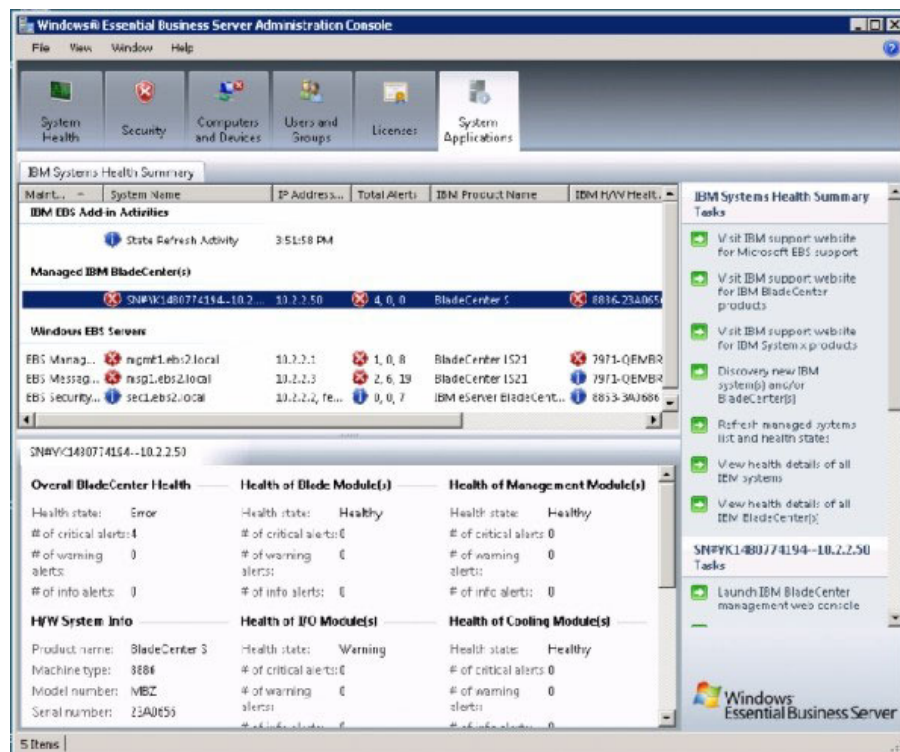
Chapter 6. Performing post-installation tasks

Perform the post-installation procedure to configure your BladeCenter S for use with Windows Essential Business Server 2008 (EBS) and to take advantage of the management plug-in.

Before you begin

Install all three EBS servers before performing this procedure, as described in Chapter 5, "Installing Essential Business Server," on page 17.

1. Install IBM Director Core Services Agent on each blade.
2. Install the IBM Hardware Management Pack on the EBS management server.
3. Discover the BladeCenter S that the three EBS servers are in, using the management module IP address and subnet mask, plus the user ID and password, as required.
4. Install "IBM EBS Administration Add-in for BladeCenter 1.0" on the EBS management server.

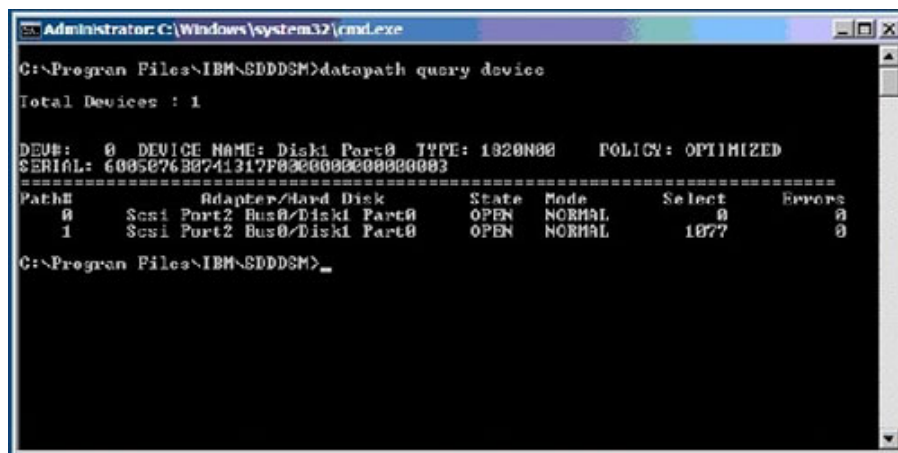


Chapter 7. Providing multipath support

To provide multipath support for each RAIDed SAS Switch Module (RSSM), the Subsystem Device Driver Device Specific Module (SDDDSM) drivers must be installed on each server.

1. Run the setup program to install the drivers.
2. After the installation of SDDDSM and rebooting, use Storage Configuration Manager (SCM) to enable the second port on the SAS switch can be enabled from the SCM.
3. Issue the following commands from the command prompt to verify that both paths are available.

```
CD \Program Files\IBM\SDDDSM
Datapath query device
```



```
Administrator: C:\Windows\system32\cmd.exe
C:\Program Files\IBM\SDDDSM>datapath query device
Total Devices : 1
DEV#: 0  DEVICE NAME: Disk1 Part0  TYPE: 1920N00  POLICY: OPTIMIZED
SERIAL: 600507630741317F0300000000000003
=====
Path#      Adapter/Array Disk      State  Mode      Select  Errors
  0         Scsi Port2 Bus0/Disk1 Part0  OPEN   NORMAL    0       0
  1         Scsi Port2 Bus0/Disk1 Part0  OPEN   NORMAL   1077    0
C:\Program Files\IBM\SDDDSM>
```

Both paths should be present.

Appendix. Notices

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Important notes

View important assumptions about terminology and claims.

Processor speed indicates the internal clock speed of the microprocessor; other factors also affect application performance.

CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity can vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard disk drive bays with the largest currently supported drives that are available from IBM.

Maximum memory might require replacement of the standard memory with an optional memory module.

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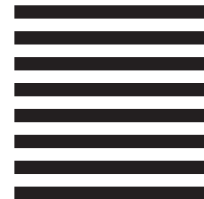
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