Managing Chassis

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Single Server Dual SIOC Connectivity

The S3260 Storage Server operates either in Single Server Single SIOC mode or Single Server Dual SIOC mode. In single server single SIOC mode, the data path from the second SIOC is unused. The second SIOC is used for management redundancy only, if a VIC installed in the second SIOC.

In single server dual SIOC mode, the data path from both SIOCs is provided to the single server. This allows users to use dual VICs or third party adapters (NIC or HBA) for data, or a combination of both. Only the VIC or dedicated management port can provide server management. When third party adapters are used, they are for the host data path only. In this mode:

Effective with this release, the S3260 storage server supports a single server with dual connectivity, which is based on these two factors:

- The PCIe between the server board and the SIOC card is connected using BIOS.
- The CMC controls the correct association of the server ID with the virtual network interfaces it creates.

This features allows you to configure a new single server dual VIC chassis property on the Cisco IMC by enabling it or disabling it using the web UI or command line interface.

When using a VIC in the SIOC, a specific PCI connectivity is enabled on the VIC. The CMC uses the single server dual VIC property along with the current chassis hardware configuration to identify the server ID property to be specified when you create a virtual network interface in either of the dual SIOC VICs. The VIC configuration page on the web UI displays the read-only attribute of the Server ID to which the VIC is PCIe linked, and this is used by the host server for the virtual network interface traffic.

Configuring Single Server Dual SIOC Connectivity

Before you begin

- You must log in with admin privileges to perform this task.
- The chassis must have a single server and two SIOCs.

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Summary**.

Step 3 In the **Chassis Properties** area of the **Chassis Summary** pane, from the **Server SIOC Connectivity** field, select **Single Server Single SIOC** or **Single Server Dual SIOC**.

If you have a chassis with a single server and dual SIOCs, the **Server SIOC Connectivity** field displays **Single Server Dual SIOC**.

Step 4 Click **Save Changes**.

This configures the server for dual or single connectivity.

Chassis Summary

Viewing Chassis Summary

By default when you log on to the Cisco UCS S-Series storage server, the **Summary** pane of the **Chassis** is displayed in the Web UI. You can also view the Chassis summary when in another tab or working area, by completing the following steps:

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Summary**.

Step 3 In the **Chassis Properties** area of the **Chassis Summary** pane, review the following information:

Name	Description
Product Name field	The model name of the chassis.
Serial Number field	The serial number for the chassis.
PID field	The product ID.

Name	Description
Description field	A user-defined description for the chassis. Following guidelines should be observed while updating Description field. • Asset Tag can not contain the following special characters: • & • !
Asset Tag field	A user-defined tag for the server. By default, the asset tag for a new server displays **Unknown**. Following guidelines should be observed while updating Asset Tag field. • Asset Tag field can have a maximum of 32 characters. • Asset Tag can not contain the following special characters: • & • !
Server SIOC Connectivity field	**Note** You can edit this field only when you have a chassis with a single server and two SIOCs installed on it. Indicates whether the server is connected to a single SIOC or two SIOCs. The options are: • **Single Server Dual SIOC**—This allows you point two SIOCs to a single available server. This is the default value. **Note** Single server dual SIOC connectivity is possible only when the chassis has an inbuilt single server with two SIOCs. • **Single Server Single SIOC**— This allows you to configure a single SIOC to a particular server.

Step 4 In the **Cisco IMC Information** area of the **Chassis Summary** pane, review the following information:

Name	Description
Hostname field	A user-defined hostname for the Cisco IMC. By default, the hostname appears in CXXX-YYYYYY format, where XXX is the model number and YYYYYY is the serial number of the server.
Management IP Address field	The management IP address for the Cisco IMC.
Single IP Mode	Displays if the single IP mode is enabled or disabled.

Name	Description
Timezone field	Displays the chosen time zone.
Select Timezone button	Allows you to select a time zone. In the **Select Timezone** pop-up screen, mouse over the map and click on the location to select your time zone or choose your time zone from the **Timezone** drop-down menu.
Current Time field	The current date and time according to the Cisco IMC clock. **Note** Cisco IMC gets the current date and time from the server BIOS when the NTP is disabled. When NTP is enabled, BIOS and Cisco IMC gets the current time and date from the NTP server. To change this information, reboot the server and press **F2** when prompted to access the BIOS configuration menu. Then change the date or time using the options on the main BIOS configuration tab.
Local Time field	The local time of the region according to the chosen time zone. You can set your local time by clicking on the calendar icon and choosing the local time on it

Step 5 In the **CMC 1** and **CMC 2** area of the **Chassis Summary** pane, review the following information:

Name	Description
IP Address field	The IP address for CMC.
MAC Address field	The MAC address assigned to the active network interface.
Firmware Version field	The current CMC firmware version.
State field	State of the server. This can be one of the following: • **Active**—CMC is active. • **Standby**—CMC is in standby mode.

Step 6 In the **Chassis Status** area of the **Chassis Summary** pane, review the following information:

Name	Description
Overall Chassis Status field	The overall status of the chassis. This can be one of the following: • **Good** • **Moderate Fault** • **Severe Fault**

Name	Description
Temperature field	The temperature status. This can be one of the following: • **Good** • **Fault** • **Severe Fault** You can click the link in this field to view more temperature information.
Overall DIMM Status field	The overall status of the memory modules. This can be one of the following: • **Good** • **Fault** • **Severe Fault** You can click the link in this field to view detailed status information.
Power Supplies field	The overall status of the power supplies. This can be one of the following: • **Good** • **Fault** • **Severe Fault** You can click the link in this field to view detailed status information.
Fans field	The overall status of the power supplies. This can be one of the following: • **Good** • **Fault** • **Severe Fault** You can click the link in this field to view detailed status information.
Front Locator LED field	Whether the front panel locator LED on the chassis is on or off. **Note** This option is available only on some UCS C-Series servers.
Overall Storage Status field	The overall status of all controllers. This can be one of the following: • **Good** • **Moderate Fault** • **Severe Fault**

Name	Description
Power Status field	• **Server 1**—Whether server 1 is powered on or off. • **Server 2**—Whether server 2 is powered on or off.
Locator LED field	• **Server 1**—Whether locator LED on server 1 is on or off. • **Server 2**—Whether locator LED on server 2 is on or off.

Step 7 In the **Power Utilization** area of the **Chassis Summary** pane, review the power utilization of a chassis and servers in a Pie Chart Diagram.

Step 8 In the **Server Utilization** area of the **Chassis Summary** pane, review the following information in a graphical representation.

- **Overall Utilization**
- **CPU Utilization**
- **Memory Utilization**
- **IO Utilization**

Chassis Inventory

Viewing the Details of the Servers on the Chassis

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the **Inventory** work pane, the **Servers** tab displays by default. Review the high level details of the server on the chassis:

Name	Description
Name column	The model name of the server.
PID column	Product ID.
UUID column	The UUID assigned to the server.
SysSerialNum column	Serial Number of the server.
Number of Cores column	The number of cores in the CPU.
Memory column	Total memory available.

Name	Description
Power State column	The current power state.

Viewing Power Supply Properties

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the **Inventory** work pane, click the **Power Supplies** tab and review the following information for each power supply:

Name	Description
Device ID column	The identifier for the power supply unit.
Status column	The status of the power supply unit.
Input column	The input into the power supply, in watts.
Output column	The maximum output from the power supply, in watts.
FW Version column	The firmware version for the power supply.
Product ID column	The product identifier for the power supply assigned by the vendor.

Viewing Cisco VIC Adapter Properties

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the **Inventory** work pane, click the **Cisco VIC Adapters** tab and review the following high level information:

Name	Description
Slot Number column	The PCI slot in which the adapter is installed.
Serial Number column	The serial number for the adapter.
Product ID column	The product ID for the adapter.

Name	Description
Cisco IMC Enabled column	Whether the adapter is able to manage Cisco IMC. This functionality depends on the type of adapter installed and how it is configured. For details, see the hardware installation guide for the type of server you are using.
Description column	Description of the adapter.

Dynamic Storage

Dynamic Storage Support

Effective with this release, The Cisco UCS C-Series rack-mount servers support dynamic storage of Serial Attached SCSI (SAS) drives in the Cisco Management Controller (CMC). This dynamic storage support is provided by the SAS fabric manager located in the CMC.

The fabric manager interacts with the PMC SAS expanders over an Out-of-Band ethernet connection. SAS Expanders allow you to maximize the storage capability of an SAS controller card. Using these expanders, you can employ SAS controllers support up to 60 hard drives. In CMC, an active SIOC configures the expander zoning, where you can assign the drives to the server nodes through the Web UI, command line interface or Cisco UCS Manager. The standby CMC is updated with the current state, so during a CMC fail-over standby, the CMC can take over the zoning responsibilities. Once the drives are visible to a particular server node, you can manage these using RAID controller.

Note The SAS controller support 56 hard disk drives (HDD) by default. There is also a provision to to replace Server node 2 with an additional four HDDs on Server 2. In that case the total number of HDDs shown in the Zoning page is 60. However, CMC would not support zoning for the additional HDDs 57, 58, 59, 60.

The SAS fabric manager provides an API library for other processes to configure and monitor the expanders and drives. Configuration of the fabric involves zoning the drives, updating the firmware for expanders and drives.

Dynamic Storage supports the following options:

- Assigning physical disks to server 1 and server 2
- Chassis Wide Hot Spare (supported only on RAID controllers)
- Shared mode (supported only in HBAs)
- Unassigning physical disks

Viewing SAS Expander Properties

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the **Inventory** working area, click the **Dynamic Storage** tab.

Step 4 In the **SAS Expander** tab, review the following high level details for SAS Expanders:

Name	Description
ID column	The product ID of the expander.
Name column	The name of the expander.
Firmware Version column	The firmware version the expander uses.
Secondary Firmware Version column	The secondary firmware version of the expander.
Hardware Revision column	The hardware version of the expander.
SAS Address column	The SAS address of the expander.
Server Up Link Speed column	Up link speed received with the LSI RAID Controller. **Note** You can view up to four speed levels for Server 1 and 2 respectively using the **Filter** icon on the top right hand corner of the **SAS Expander** table. Select the Tick mark next to the speed filter to view the individual speed in the table.
Enclosure ID column	The enclosure ID of the expander.

Enabling 6G or 12G Mixed Mode Speed on SAS Expanders

Cisco IMC supports mixed mode speeds of 6 gigabytes or 12 gigabytes for SAS expanders. This support is added because 6 gigabyte solid state drives (SSDs) are now giving way to 12 gigabyte SSDs. Using this feature you can select a SAS expander in the Dynamic Storage tab and enable either modes based on your requirements.

Enabling 6G or 12G Mixed Mode on a SAS Expander

You can enable or disable a 6 gigabyte or 12 gigabyte mixed mode speed support for a card using this option, which is a toggle button.

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the **Inventory** working area, click the **Dynamic Storage** tab.

Step 4 In the **SAS Expander** area, click **Enable 6G-12G Mixed Mode**.

Step 5 (Optional) Click **Disable 6g-12G Mixed Mode** to disable the feature.

Assigning Physical Drives to Servers

You can assign a physical drive to Server 1 or Server 2, or both, based on your requirements. On the Web UI the **Chassis Front View** area displays the physical drives available on the chassis. You can choose a physical drive individually or an entire row of physical drives by checking the checkbox against the drives.

Before you begin

You must log in with user or admin privileges to perform this task.

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the **Inventory** working area, click the **Zoning** tab.

The Chassis Front View is displayed.

Step 4 In the **Chassis Front View** working area, select an individual physical drive or a row of physical drives.

Step 5 Click the **Assign to Server 1** or **Assign to Server 2** link.
A dialog box appears to select the Controller and Path values.

Name	Description
Controller drop-down	Allows you to choose the controller to which you want to assign the chosen physical drive. **Note** Controller option is available for all Dual controllers.
Path drop-down	Allows to choose the SAS Expander path. This could be one of the following: • **Path-0** • **Path-1** • **Both Paths** **Note** Path option is available only for the DHBA controllers.

Step 6 Click **Save Changes**.

Step 7 To assign the physical drive or drives to both servers, click the **Share** link.

A prompt appears informing that the physical drives would be assigned to both servers.

Step 8 Click **OK** to confirm.

Note Shared mode is supported only for HBAs.

What to do next

Move a physical drive as chassis wide hot spare, share, or unassign servers.

Moving Physical Drives as Chassis Wide Hot Spare

You can move the selected physical drive as a chassis wide hot spare. On the Web UI the **Chassis Front View** area displays the physical drives available on the chassis. You can choose a physical drive individually or an entire row of physical drives by checking the checkbox against the drives.

Note Chassis wide hot spare is supported only in Mezz RAID controllers (RAID Controller for UCS C3X60 storage). This option is unavailable if the chassis has an HBA card.

Before you begin

You must log in with user or admin privileges to perform this task.

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the **Inventory** working area, click the **Zoning** tab.

The Chassis Front View is displayed.

Step 4 In the **Chassis Front View** working area, select an individual server or a row of servers.

Step 5 Click the **Chassis Wide Hot Spare** link.

Step 6 Click **OK**.

What to do next

Assign more physical drives to servers, share, or unassign servers.

Unassigning Physical Drives

You can unassign a physical drive (remove association with) from Server 1 or Server 2, or both, based on your requirements. On the Web UI the **Chassis Front View** area displays the physical drives available on the chassis. You can choose a physical drive individually or an entire row of physical drives by checking the checkbox against the drives.

Before you begin

You must log in with user or admin privileges to perform this task.

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the **Inventory** working area, click the **Zoning** tab.

The Chassis Front View is displayed.

Step 4 In the **Chassis Front View** working area, select an individual server or a row of servers.

Step 5 Click the **Unassign** link.

Step 6 Click **OK**.

Enabling Dual Enclosure ID

You can enable or disable dual enclosure ID for an expander. For single path functionality, apart from single path drive zoning, expander should have different enclosure ID and SAS paths enabled accordingly.

Before you begin

You must log in with admin privileges to perform this task.

Procedure

Step 1 In the **Navigation** pane, click the **Chassis** menu.

Step 2 In the **Chassis** menu, click **Inventory**.

Step 3 In the Inventory working area, click the **SAS Expander** tab.

Step 4 In the **SAS Expander** working area, click **Enable Dual Enclosure ID**.