



# Managing Chassis

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## Viewing Chassis Properties

### Viewing Chassis Summary

#### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show detail**

#### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>show detail</b>	Displays the chassis' properties.

#### Example

This example displays the chassis' properties:

```
Server# scope chassis
Server /chassis # show detail
Chassis:
  Serial Number: FOX1843G9EM
  Product Name: UCS S3260
  PID : UCSC-C3X60-BASE
  Front Panel Locator LED: on
  Description:
  CMC-1 State: Active
  CMC-2 State: Standby
```

```
Server /chassis #
```

# Viewing CMC Firmware Versions

## SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show cmc**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>show cmc</b>	Displays the CMC firmware versions.

### Example

This example displays the CMC firmware versions.:

```
Server# scope chassis
Server /chassis # show cmc
ID      Name      Serial Number  Update Stage  Update Progress  Current FW Version
-----
1       CMC1
2       CMC2
                NONE          100           2.0 (6.79)
                NONE          100           2.0 (6.79)

Server /chassis #
```

# Viewing LED Details

## SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show led**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>show led</b>	Displays the LED details at the chassis level.

### Example

This example the LED details at the chassis level:

```

Server# scope chassis
Server /chassis # show led
LED Name                               LED State LED Color
-----
CHS_FP_LED_ID                           FAST BLINK BLUE
LED_HLTH_STATUS                          ON          GREEN
LED_PSU_STATUS                           ON          GREEN
LED_TEMP_STATUS                           ON          GREEN
LED_FAN_STATUS                            ON          GREEN
SERVER1_FP_ID_LED                         OFF         BLUE
SERVER2_FP_ID_LED                         OFF         BLUE
OVERALL_DIMM_STATUS                       ON          GREEN

Server /chassis #

```

## Viewing the Details of the Servers on the Chassis

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show server**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	Server # <b>scope chassis</b>	Enters chassis command mode.
Step 2	Server /chassis # <b>show server</b>	Displays the high level details of the servers on the chassis.

### Example

This example displays the high level details of the servers on the chassis:

```

Server# scope chassis
Server /chassis # show server
Server ID Power Serial Number Product Name PID          UUID
-----
-----
1          on   FCH1848794D   UCS C3160   UCSC-C3X60-SVRNB
60974271-A514-484C-BAE3-A5EE4FD16E06
2          on   FCH183978RD   UCS C3160   UCSC-C3X60-SVRNB
207BD0D4-C589-40C1-A73E-EF6E7F773198

Server /chassis #

```

## Viewing Physical Drive Properties

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **scope dynamic-storage**

3. Server /chassis/dynamic-storage # **scope physical-drive drive number**
4. Server /chassis/dynamic-storage/physical-drive # **show detail**
5. Server /chassis/dynamic-storage/physical-drive # **exit**
6. Server /chassis/dynamic-storage # **scope physical-drive-fw drive number**
7. Server /chassis/dynamic-storage/physical-drive-fw # **show detail**
8. Server /chassis/dynamic-storage/physical-drive-fw # **exit**
9. Server /chassis/dynamic-storage # **scope physical-drive-link drive number**
10. Server /chassis/dynamic-storage/physical-drive-link # **show detail**
11. Server /chassis/dynamic-storage/physical-drive-link # **exit**
12. Server /chassis/dynamic-storage # **scope physical-slot-owner drive number**
13. Server /chassis/dynamic-storage/physical-slot-owner # **show detail**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>scope dynamic-storage</b>	Enters the dynamic storage command mode.
<b>Step 3</b>	Server /chassis/dynamic-storage # <b>scope physical-drive drive number</b>	Enters the physical drive command mode.
<b>Step 4</b>	Server /chassis/dynamic-storage/physical-drive # <b>show detail</b>	Displays the details of the physical drive.
<b>Step 5</b>	Server /chassis/dynamic-storage/physical-drive # <b>exit</b>	Exits to the dynamic storage command mode.
<b>Step 6</b>	Server /chassis/dynamic-storage # <b>scope physical-drive-fw drive number</b>	Enters the physical drive firmware command mode.
<b>Step 7</b>	Server /chassis/dynamic-storage/physical-drive-fw # <b>show detail</b>	Displays the firmware details of the physical drive.
<b>Step 8</b>	Server /chassis/dynamic-storage/physical-drive-fw # <b>exit</b>	Exits to the dynamic storage command mode.
<b>Step 9</b>	Server /chassis/dynamic-storage # <b>scope physical-drive-link drive number</b>	Enters the physical drive link command mode.
<b>Step 10</b>	Server /chassis/dynamic-storage/physical-drive-link # <b>show detail</b>	Displays the link details of the physical drive.
<b>Step 11</b>	Server /chassis/dynamic-storage/physical-drive-link # <b>exit</b>	Exits to the dynamic storage command mode.
<b>Step 12</b>	Server /chassis/dynamic-storage # <b>scope physical-slot-owner drive number</b>	Enters the physical slot ownership command mode.
<b>Step 13</b>	Server /chassis/dynamic-storage/physical-slot-owner # <b>show detail</b>	Displays details about which server the physical drive is assigned to.

### Example

This example displays the physical drive properties:

**Viewing Physical Drive Properties**

```

Server# scope chassis
Server /chassis # scope dynamic-storage
Server /chassis/dynamic-storage # scope physical-drive 1
Server /chassis/dynamic-storage/physical-drive # show detail
Slot 1:
  Ownership: server1
  Health: good
  Vendor: TOSHIBA
  Product ID: MG03SCA400
  Product Rev Level: 5702
  Size: 3.63 TB
  Serial Number: 94E0A0T9FVU4
svbu-huu-sanity-col2-1-vcmc /chassis/dynamic-storage/physical-drive #

```

**Viewing Firmware Details**

```

Server /chassis/dynamic-storage/physical-drive # exit
Server /chassis/dynamic-storage # scope physical-drive-fw 1
Server /chassis/dynamic-storage/physical-drive-fw # show detail

```

Slot 1:

```

  Vendor: TOSHIBA
  Product ID: MG03SCA400
  Current_FW: 5702
  Update Stage: NONE
  Update Progress: 0
Server /chassis/dynamic-storage/physical-drive-fw #

```

**Viewing Link Details**

```

Server /chassis/dynamic-storage/physical-drive # exit
Server /chassis/dynamic-storage # scope physical-drive-link 1
Server /chassis/dynamic-storage/physical-drive-link # show detail

```

Slot 1:

```

  Ownership: server1
  EX1 Link: 6.0 Gb
  EX2 Link: 6.0 Gb
  SAS Address 1: 50000395c8d2alfe
  SAS Address 2: 50000395c8d2alff
Server /chassis/dynamic-storage/physical-drive-link #

```

**Viewing the slot ownership**

```

Server /chassis/dynamic-storage/physical-drive-link # exit
Server /chassis/dynamic-storage # scope physical-slot-owner 1
Server /chassis/dynamic-storage/physical-drive-link # show detailSlot 1:
  Ownership: server1
Server /chassis/dynamic-storage/physical-slot-owner #

```

## Viewing Cisco VIC Adapter Properties

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show adapter**
3. Server /chassis # **show adapter detail**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>show adapter</b>	Displays the high level details of the servers on the chassis.
<b>Step 3</b>	Server /chassis # <b>show adapter detail</b>	Displays the high level details of the servers on the chassis.

## Example

This example displays the high level details of the Cisco Virtual Interface Card properties:

```

Server# scope chassis
Server /chassis # show adapter
Server ID Power Serial Number Product Name PID UUID
-----
-----
1 on FCH1848794D UCS S3260M4 UCSC-C3X60-SVRNB
60974271-A514-484C-BAE3-A5EE4FD16E06
2 on FCH183978RD UCS S3260M4 UCSC-C3X60-SVRNB
207BD0D4-C589-40C1-A73E-EF6E7F773198
Server /chassis # show adapter detail
SIOC Slot 1:
  Product Name: UCSS-S3260-SIOC
  Serial Number: FCH18467P0U
  Product ID: UCSC-C3260-SIOC
  Adapter Hardware Revision:
  Current FW Version: 4.0(300.76)
  VNTAG: Disabled
  FIP: Enabled
  LLDP: Enabled
  Configuration Pending: no
  Cisco IMC Management Enabled: yes
  VID: V00
  Vendor: Cisco Systems Inc
  Description:
  Bootloader Version: 4.0(300.76)
  FW Image 1 Version: 4.0(300.76)
  FW Image 1 State: RUNNING ACTIVATED
  FW Image 2 Version: 4.0(300.71)
  FW Image 2 State: BACKUP INACTIVATED
  FW Update Status: Idle
  FW Update Error: No error
  FW Update Stage: No operation (0%)
  FW Update Overall Progress: 0%
SIOC Slot 2:
  Product Name: UCSS-S3260-SIOC
  Serial Number: FCH18467P16
  Product ID: UCSC-C3260-SIOC
  Adapter Hardware Revision:
  Current FW Version: 4.0(300.61)
  VNTAG: Disabled
  FIP: Enabled
  LLDP: Enabled
  Configuration Pending: no
  Cisco IMC Management Enabled: yes
  VID: V00
  Vendor: Cisco Systems Inc

```

```

Description:
Bootloader Version: 4.0(300.61)
FW Image 1 Version: 4.0(300.61)
FW Image 1 State: RUNNING ACTIVATED
FW Image 2 Version: 4.0(300.51)
FW Image 2 State: BACKUP INACTIVATED
FW Update Status: Idle
FW Update Error: No error
FW Update Stage: No operation (0%)
FW Update Overall Progress: 0%
Server /chassis #

```

## Viewing Power Supply Properties

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show psu**
3. Server /chassis # **show psu detail**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>show psu</b>	Displays the properties of each power supply on the chassis.
<b>Step 3</b>	Server /chassis # <b>show psu detail</b>	Displays the properties of each power supply on the chassis.

### Example

This example displays the properties of each power supply on the chassis:

```

Server# scope chassis
Server /chassis # show psu
Name          In. Power (Watts)  Out. Power (Watts)  Firmware  Status  Product ID
-----
PSU1          101                79                  10062012 Present  UCSC-PSU1-1050W
PSU2          89                 73                  10062012 Present  UCSC-PSU1-1050W
PSU3          96                 79                  10062012 Present  UCSC-PSU1-1050W
PSU4          92                 82                  10062012 Present  UCSC-PSU1-1050W
Server /chassis # show psu detail
Name PSU1:
  In. Power (Watts): 100
  Out. Power (Watts): 77
  Firmware : 10062012
  Status : Present
  Product ID : UCSC-PSU1-1050W
Name PSU2:
  In. Power (Watts): 89
  Out. Power (Watts): 75
  Firmware : 10062012
  Status : Present
  Product ID : UCSC-PSU1-1050W

```

```

Name PSU3:
  In. Power (Watts): 96
  Out. Power (Watts): 81
  Firmware : 10062012
  Status : Present
  Product ID : UCSC-PSU1-1050W
Name PSU4:
  In. Power (Watts): 91
  Out. Power (Watts): 77
  Firmware : 10062012
  Status : Present
  Product ID : UCSC-PSU1-1050W

Server /chassis #

```

# Chassis Management Tasks

## Toggling the Front Locator LED for the Chassis

### Before you begin

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

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **set front-locator-led {on | off}**
3. Server /chassis # **commit**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>set front-locator-led {on   off}</b>	Enables or disables the chassis locator LED.
<b>Step 3</b>	Server /chassis # <b>commit</b>	Commits the transaction to the system configuration.

### Example

This example disables the chassis locator LED and commits the transaction:

```

Server# scope chassis
Server /chassis # set front-locator-led off
Server /chassis *# commit

Server /chassis #

```



# Updating Firmware on Server Components



**Important** If any firmware or BIOS updates are in progress, do not reset the server until those tasks are complete.

## Before you begin

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

Server must be powered off.

## SUMMARY STEPS

1. Server# **scope chassis**
2. Server /chassis # **scope firmware**
3. Server /chassis/firmware # **show detail**
4. Server /chassis/firmware # **update-all**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server# <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>scope firmware</b>	Enters firmware command mode.
<b>Step 3</b>	Server /chassis/firmware # <b>show detail</b>	Displays the firmware update required on some components message.
<b>Step 4</b>	Server /chassis/firmware # <b>update-all</b>	Updates the firmware on the server components.

## Example

This example resets the server:

```
Server# scope chassis
Server /chassis # scope firmware
Server /chassis / firmware # show detail
```

```
Firmware update required on some components,
please run update-all (under chassis/firmware scope).
```

```
Server /chassis / firmware # update-all
```

# Time Zone

## Selecting a Time Zone

Selecting a time zone helps you choose a local time zone so that you can view the local time rather than the default machine time. Web UI and the CLI provide you options to choose and set a time zone of your choice.

Setting the time zone to your local time will apply the time zone variable to all the services that utilize the system timing. This impacts the logging information and is utilized in the following applications of the :

- Fault summary and fault history logs
- log
- rsyslog

When you set a local time, the timestamp on the applications that you can view are updated with the local time that you have chosen.

## Setting a Time Zone

### Before you begin

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

### SUMMARY STEPS

1. Server # **scope time**
2. Server /time # **timezone-select**
3. Enter the number corresponding to your continent or ocean.
4. Enter the number corresponding to the country or region that you want to set as your time zone.
5. Enter the number corresponding to time zone.
6. Enter **1**.
7. Enter **y** if you want to set the chosen time zone.

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope time</b>	Enters time command mode.
<b>Step 2</b>	Server /time # <b>timezone-select</b>	Displays a list of continents and oceans.
<b>Step 3</b>	Enter the number corresponding to your continent or ocean.	A list of all the countries or regions of the chosen continent or ocean displays.
<b>Step 4</b>	Enter the number corresponding to the country or region that you want to set as your time zone.	If a country or a region has more than one time zones, a list of time zones in that country or region displays.
<b>Step 5</b>	Enter the number corresponding to time zone.	<b>Is the above information OK?</b> message appears.
<b>Step 6</b>	Enter <b>1</b> .	<b>Continue?[y N]:</b> prompt appears.
<b>Step 7</b>	Enter <b>y</b> if you want to set the chosen time zone.	The chosen time zone is set as the time zone for your server.

## Example

This example sets the time zone:

```
Server# scope time
Server /time # timezone-select
```

Please identify a location so that time zone rules can be set correctly.  
Please select a continent or ocean.

- 1) Africa
  - 2) Americas
  - 3) Antarctica
  - 4) Arctic Ocean
  - 5) Asia
  - 6) Atlantic Ocean
  - 7) Australia
  - 8) Europe
  - 9) Indian Ocean
  - 10) Pacific Ocean
- #? 2

Please select a country whose clocks agree with yours.

- 1) Anguilla
- 2) Antigua & Barbuda
- 3) Argentina
- 4) Aruba
- 5) Bahamas
- 6) Barbados
- 7) Belize
- 8) Bolivia
- 9) Brazil
- 10) Canada
- 11) Caribbean Netherlands
- 12) Cayman Islands
- 13) Chile
- 14) Colombia
- 15) Costa Rica
- 16) Cuba
- 17) Curacao
- 18) Dominica
- 19) Dominican Republic
- 20) Ecuador
- 21) El Salvador
- 22) French Guiana
- 23) Greenland
- 24) Grenada
- 25) Guadeloupe
- 26) Guatemala
- 27) Guyana
- 28) Haiti
- 29) Honduras
- 30) Jamaica
- 31) Martinique
- 32) Mexico
- 33) Montserrat
- 34) Nicaragua
- 35) Panama
- 36) Paraguay
- 37) Peru
- 38) Puerto Rico
- 39) St Barthelemy
- 40) St Kitts & Nevis
- 41) St Lucia
- 42) St Maarten (Dutch part)

- 43) St Martin (French part)
- 44) St Pierre & Miquelon
- 45) St Vincent
- 46) Suriname
- 47) Trinidad & Tobago
- 48) Turks & Caicos Is
- 49) United States
- 50) Uruguay
- 51) Venezuela
- 52) Virgin Islands (UK)
- 53) Virgin Islands (US)

#? 49  
Please select one of the following time zone regions.

- 1) Eastern Time
- 2) Eastern Time - Michigan - most locations
- 3) Eastern Time - Kentucky - Louisville area
- 4) Eastern Time - Kentucky - Wayne County
- 5) Eastern Time - Indiana - most locations
- 6) Eastern Time - Indiana - Daviess, Dubois, Knox & Martin Counties
- 7) Eastern Time - Indiana - Pulaski County
- 8) Eastern Time - Indiana - Crawford County
- 9) Eastern Time - Indiana - Pike County
- 10) Eastern Time - Indiana - Switzerland County
- 11) Central Time
- 12) Central Time - Indiana - Perry County
- 13) Central Time - Indiana - Starke County
- 14) Central Time - Michigan - Dickinson, Gogebic, Iron & Menominee Counties
- 15) Central Time - North Dakota - Oliver County
- 16) Central Time - North Dakota - Morton County (except Mandan area)
- 17) Central Time - North Dakota - Mercer County
- 18) Mountain Time
- 19) Mountain Time - south Idaho & east Oregon
- 20) Mountain Standard Time - Arizona (except Navajo)
- 21) Pacific Time
- 22) Alaska Time
- 23) Alaska Time - Alaska panhandle
- 24) Alaska Time - southeast Alaska panhandle
- 25) Alaska Time - Alaska panhandle neck
- 26) Alaska Time - west Alaska
- 27) Aleutian Islands
- 28) Metlakatla Time - Annette Island
- 29) Hawaii

#? 8  
The following information has been given:

United States  
Eastern Time - Indiana - Crawford County

Is the above information OK?

- 1) Yes
- 2) No

#? 1  
You have chosen to set timezone settings to:

America/Indiana/Marengo

Continue?[y|N]: y  
Timezone has been updated.  
The local time now is: Wed Jul 1 02:21:15 2015 EST

Server /time #

## 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 feature 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 VIC adapters (SIOC).

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **server-sioc-connectivity**
3. Server /chassis # **show detail**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	Server # <b>scope chassis</b>	Enters chassis command mode.
Step 2	Server /chassis # <b>server-sioc-connectivity</b>	Enter <b>y</b> at the confirmation prompt. Configures the server SIOC Connectivity of the chassis to single server dual SIOC.  <b>Note</b> This operation will reset the VIC adapter 2 to factory default configuration as part of these changes.

	Command or Action	Purpose
<b>Step 3</b>	Server /chassis # <b>show detail</b>	Displays the chassis details that has the server SIOC connectivity status.

### Example

The following example shows how to configuring single server dual SIOC connectivity:

```
Server # scope chassis
Server /chassis # server-sioc-connectivity
Do you want to configure Server SIOC Connectivity of the chassis to Single Server Dual SIOC?[y|N]y

This operation will reset the VIC Adapter-2 to factory default configuration as part of these changes.
Please take backup of VIC Adapter-2 configuration before proceeding with the operation.
All your VIC Adapter-2 configuration will be lost.
Continue?[y|N]y
The VIC Adapter-2 factory default has been successfully restored. Please reboot the Server-1 Host.
The Chassis Server SIOC Connectivity successfully configured to Single Server Dual SIOC.
Server /chassis # show detail
Chassis:
  Serial Number: FCH1819JUVM
  Product Name: UCS S3260
  PID : UCSS-S3260-BASE
  Front Panel Locator LED: off
  Description: Test Label22
  Asset Tag: TESTTAG11
  CMC-1 State: Active
  CMC-2 State: Standby
  Server SIOC Connectivity: Single_Server_Dual_SIOC
```

**When the server connectivity is set as Single Server Dual SIOC and if you want to change that to single server single SIOC:**

```
Server /chassis # server-sioc-connectivity
The Server SIOC Connectivity of the chassis is currently configured as Single Server Dual SIOC.
Do you want to configure Server SIOC Connectivity of the chassis to Single Server Single SIOC?[y|N]y

This operation will reset the VIC Adapter-2 to factory default configuration as part of these changes.
Please take backup of VIC Adapter-2 configuration before proceeding with the operation.
All your VIC Adapter-2 configuration will be lost.
Continue?[y|N]y
The VIC Adapter-2 factory default has been successfully restored. Please reboot the Server-1 Host.
The Chassis Server SIOC Connectivity successfully configured to Single Server Single SIOC.
Server /chassis # show detail
Chassis:
  Serial Number: FCH1819JUVM
  Product Name: UCS S3260
  PID : UCSS-S3260-BASE
  Front Panel Locator LED: off
  Description: Test Label22
  Asset Tag: TESTTAG11
  CMC-1 State: Active
  CMC-2 State: Standby
```

```
Server SIOC Connectivity: Single_Server_Single_SIOC
```

```
Server /chassis #
```

# Managing 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

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show sas-expander**
3. Server /chassis # **show sas-expander detail**
4. Server /chassis # **scope sas-expander sas expander ID**
5. Server /chassis/sas-expander # **show detail**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>show sas-expander</b>	Displays the SAS expander properties.
<b>Step 3</b>	Server /chassis # <b>show sas-expander detail</b>	Displays detailed SAS expander properties.
<b>Step 4</b>	Server /chassis # <b>scope sas-expander sas expander ID</b>	Enters SAS expander mode.
<b>Step 5</b>	Server /chassis/sas-expander # <b>show detail</b>	Displays the properties of the chosen SAS expander.

**Example**

This example displays the SAS expander properties:

```
Server# scope chassis
Server /chassis # show sas-expander
ID      Name      Update Stage Update Progress Current FW Version
-----
1       SASEXP1    NONE         100           04.08.01_B055
2       SASEXP2    NONE         100           04.08.01_B055
```

```
Server /chassis # show sas-expander detail
```

```
Firmware Image Information:
```

```
ID: 1
Name: SASEXP1
Update Stage: NONE
Update Progress: 100
Current FW Version: 04.08.01_B056
FW Image 1 Version: 04.08.01_B056
FW Image 1 State: RUNNING ACTIVATED
FW Image 2 Version: 04.08.01_B056
FW Image 2 State: BACKUP INACTIVATED
```

```
Firmware Image Information:
```

```
ID: 2
Name: SASEXP2
Update Stage: NONE
Update Progress: 100
Current FW Version: 04.08.01_B056
FW Image 1 Version: 04.08.01_B056
FW Image 1 State: RUNNING ACTIVATED
FW Image 2 Version: 04.08.01_B056
FW Image 2 State: BACKUP INACTIVATED
```

```
Server /chassis # scope sas-expander 1
Server /chassis/sas-expander # show detail
```

```
Firmware Image Information:
```

```
ID: 1
Name: SASEXP1
Update Stage: NONE
Update Progress: 100
Current FW Version: 04.08.01_B056
FW Image 1 Version: 04.08.01_B056
FW Image 1 State: RUNNING ACTIVATED
FW Image 2 Version: 04.08.01_B056
FW Image 2 State: BACKUP INACTIVATED
```

```
Server /chassis/sas-expander #
```



## Viewing Dynamic Storage and Physical Drive Details

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show dynamic-storage**
3. Server /chassis/dynamic-storage # **scope dynamic-storage**
4. Server /chassis/dynamic-storage # **show physical-drive**
5. Server /chassis/dynamic-storage # **show physical-drive-fw**
6. Server /chassis/dynamic-storage # **show physical-drive-link**
7. Server /chassis/dynamic-storage # **show physical-slot-owner**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>show dynamic-storage</b>	Displays the physical drives and the servers they are assigned to.
<b>Step 3</b>	Server /chassis/dynamic-storage # <b>scope dynamic-storage</b>	Enters dynamic storage command mode.
<b>Step 4</b>	Server /chassis/dynamic-storage # <b>show physical-drive</b>	Displays the physical drive properties.
<b>Step 5</b>	Server /chassis/dynamic-storage # <b>show physical-drive-fw</b>	Displays the firmware of the physical drives.
<b>Step 6</b>	Server /chassis/dynamic-storage # <b>show physical-drive-link</b>	Displays the links of the physical drives.
<b>Step 7</b>	Server /chassis/dynamic-storage # <b>show physical-slot-owner</b>	Displays the physical drives association with the servers.

### Example

This example displays the dynamic storage properties:

```
Server# scope chassis
Server /chassis # show dynamic-storage
Slot  Ownership
-----
1      server1
2      server1
3      server1
4      server1
5      server1
6      server1
7      server1
8      server1
9      server1
.
.
.
Server /chassis # scope dynamic-storage
Server /chassis/dynamic-storage # show detail
Slot 1:
```

Viewing Dynamic Storage and Physical Drive Details

```

Ownership: server1
Slot 2:
Ownership: server1
Slot 3:
Ownership: server1
Slot 4:
Ownership: server1
Slot 5:
Ownership: server1
Slot 6:
Ownership: server1
Slot 7:
Ownership: server1
Slot 8:
.
.
.

```

Server /chassis/dynamic-storage # **show physical-drive**

Slot	Ownership	Health	Vendor	Product ID	Size	Serial Number
1	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94E0A0T9FVU4
2	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94D0A0F7FVU4
3	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A12YFVU4
4	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A131FVU4
5	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94C0A0I9FVU4
6	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A12ZFVU4
7	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A02AFVU4
8	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A00LFVU4
9	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A00WFVU4
10	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A00QFVU4
11	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A00MFVU4
12	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A00NFVU4
13	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A130FVU4
14	server1	good	TOSHIBA	MG03SCA400	3.63 TB	94B0A000FVU4

Server /chassis/dynamic-storage # **show physical-drive-fw**

Slot	Vendor	Product ID	Current_FW	Update Stage	Update Progress
1	TOSHIBA	MG03SCA400	5702	NONE	0
2	TOSHIBA	MG03SCA400	5702	NONE	0
3	TOSHIBA	MG03SCA400	5702	NONE	0
4	TOSHIBA	MG03SCA400	5702	NONE	0
5	TOSHIBA	MG03SCA400	5702	NONE	0
6	TOSHIBA	MG03SCA400	5702	NONE	0
7	TOSHIBA	MG03SCA400	5702	NONE	0
8	TOSHIBA	MG03SCA400	5702	NONE	0
9	TOSHIBA	MG03SCA400	5702	NONE	0
10	TOSHIBA	MG03SCA400	5702	NONE	0
11	TOSHIBA	MG03SCA400	5702	NONE	0
12	TOSHIBA	MG03SCA400	5702	NONE	0
13	TOSHIBA	MG03SCA400	5702	NONE	0
14	TOSHIBA	MG03SCA400	5702	NONE	0

Server /chassis/dynamic-storage **show physical-drive-link**

Slot	Ownership	EX1 Link	EX2 Link	SAS Address 1	SAS Address 2
1	server1	6.0 Gb	6.0 Gb	50000395c8d2a1fe	50000395c8d2a1ff
2	server1	6.0 Gb	6.0 Gb	50000395c8d1f6de	50000395c8d1f6df
3	server1	6.0 Gb	6.0 Gb	50000395c8d0e93a	50000395c8d0e93b
4	server1	6.0 Gb	6.0 Gb	50000395c8d0e946	50000395c8d0e947
5	server1	6.0 Gb	6.0 Gb	50000395c8d17d2e	50000395c8d17d2f
6	server1	6.0 Gb	6.0 Gb	50000395c8d0e93e	50000395c8d0e93f

```

7      server1      6.0 Gb   6.0 Gb   50000395c8d09ace  50000395c8d09acf
8      server1      6.0 Gb   6.0 Gb   50000395c8d099ce  50000395c8d099cf
9      server1      6.0 Gb   6.0 Gb   50000395c8d099fa  50000395c8d099fb
10     server1      6.0 Gb   6.0 Gb   50000395c8d099e2  50000395c8d099e3
11     server1      6.0 Gb   6.0 Gb   50000395c8d099d2  50000395c8d099d3
12     server1      6.0 Gb   6.0 Gb   50000395c8d099d6  50000395c8d099d7
13     server1      6.0 Gb   6.0 Gb   50000395c8d0e942  50000395c8d0e943
14     server1      6.0 Gb   6.0 Gb   50000395c8d099da  50000395c8d099db

```

```

Server /chassis/dynamic-storage show physical-slot-owner
Slot  Ownership
-----
1      server1
2      server1
3      server1
4      server1
5      hotspare
6      server1
7      server1
8      server1
9      server1
10     server1
.
.
.
Server /chassis/dynamic-storage #

```

## 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

This action is available only on some servers.

#### Before you begin

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

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **scope sas-expander sas-expander ID**
3. Server /chassis/sas-expander # **scope 6G-12G-Mixed-Mode-status**
4. Server /chassis/sas-expander/6G-12G-Mixed-Mode-status # **set set-6G-12G-mixed-mode Enabled**
5. Server /chassis/sas-expander/6G-12G-Mixed-Mode-status \* # **commit**
6. (Optional) Server /chassis/sas-expander/6G-12G-Mixed-Mode-status # **show detail**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	Server # <b>scope chassis</b>	Enters the chassis command mode.

	Command or Action	Purpose
<b>Step 2</b>	Server /chassis # <b>scope sas-expander sas-expander ID</b>	Enters the SAS expander command mode.
<b>Step 3</b>	Server /chassis/sas-expander # <b>scope 6G-12G-Mixed-Mode-status</b>	Enters the 6G or 12G mixed mode command mode.
<b>Step 4</b>	Server /chassis/sas-expander/6G-12G-Mixed-Mode-status # <b>set set-6G-12G-mixed-mode Enabled</b>	Enables the 6G or 12G mixed mode on the SAS expander.
<b>Step 5</b>	Server /chassis/sas-expander/6G-12G-Mixed-Mode-status * # <b>commit</b>	Enter <b>y</b> at the confirmation prompt. Commits the transaction to the system configuration.
<b>Step 6</b>	(Optional) Server /chassis/sas-expander/6G-12G-Mixed-Mode-status # <b>show detail</b>	Displays the 6G or 12G mixed mode status.

### Example

This example shows how to enable the 6G or 12G mixed mode on the SAS expander:

```
Server# scope chassis
Server /chassis # scope sas-expander 1
Server /chassis/sas-expander # scope 6G-12G-Mixed-Mode-status
Server /chassis/sas-expander/6G-12G-Mixed-Mode-status # set set-6G-12G-mixed-mode Enabled
Server /chassis/sas-expander/6G-12G-Mixed-Mode-status *# commit
Are you sure you want to change the enable-mixed-mode setting to Enable mode?[y|N]y
Setting enable-mixed-mode setting to Enable ..
Successfully set enable-6G-12G-mixed-mode to Enable..
Server /chassis/sas-expander/6G-12G-Mixed-Mode-status # show detail
6G/12G Mixed Mode Settings:
    Mixed 6G/12G Drive Support: Enabled
Server /chassis/sas-expander/6G-12G-Mixed-Mode-status #
```

## Enabling Dual Enclosure ID

This action is available only on some servers.

### Before you begin

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

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **scope dynamic-storage**
3. Server /chassis/sas-expander # **set-dual-enclosure**
4. Enter **Yes** again and press **Enter** to confirm.

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters the chassis command mode.

	Command or Action	Purpose
<b>Step 2</b>	Server /chassis # <b>scope dynamic-storage</b>	Enters the dynamic storage command mode.
<b>Step 3</b>	Server /chassis/sas-expander # <b>set-dual-enclosure</b>	Enter <b>Yes</b> and press <b>Enter</b> to confirm.
<b>Step 4</b>	Enter <b>Yes</b> again and press <b>Enter</b> to confirm.	

### Example

```
Server# scope chassis
server /chassis# scope dynamic-storage
server /chassis/dynamic-storage # set-dual-enclosure
Do you want to set different enclosure id to SAS Expanders?
Enter 'yes' --> to set different enclosure id
Enter 'no' --> to set same enclosure id
Enter your option 'yes/no' to continue-->yes
This dual enclosure feature should be applied only when the server nodes has UCS-S3260-DHBA
adaptor and single path is zoned for each drives.
make sure both server blades are powered off.
Do you want to continue? Enter 'yes' to continue-->yes
set-dual-enclosure operation success
server /chassis/dynamic-storage #
```

## Managing Physical Drives

### Assigning Physical Drives to Servers

#### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis/dynamic-storage # **scope dynamic-storage**
3. Server /chassis/dynamic-storage # **assign-drive** <server1 | server2 | shared | hotspare> [SBMezz1 | IOEMezz1 | SBMezz2] [PATH\_BOTH | PATH\_0 | PATH\_1] <drive-slotid-list>

#### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis/dynamic-storage # <b>scope dynamic-storage</b>	Enters dynamic storage command mode.
<b>Step 3</b>	Server /chassis/dynamic-storage # <b>assign-drive</b> <server1   server2   shared   hotspare> [SBMezz1   IOEMezz1   SBMezz2] [PATH_BOTH   PATH_0   PATH_1] <drive-slotid-list>	Enter <b>yes</b> at the confirmation prompt, this assigns the chosen physical drive to the server.

### Example

Example for assigning a physical drive to the servers:

```

Server# scope chassis
Server /chassis # scope dynamic-storage
Server /chassis/dynamic-storage # assign-drive server2 SBMezz1 PATH_0 15
Are you sure you want to assign drives 15 to server1-SBMezz1 using PATH_0?
Enter 'yes' to confirm -> yes
assign-drive operation successful.
Server /chassis/dynamic-storage #

```

## Unassigning Physical Drives to Servers

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis # **show dynamic-storage**
3. Server /chassis/dynamic-storage # **scope dynamic-storage**
4. Server /chassis/dynamic-storage # **unassign-drive <drive-slotid-list>**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis # <b>show dynamic-storage</b>	Displays the physical drives and the servers they are assigned to servers.
<b>Step 3</b>	Server /chassis/dynamic-storage # <b>scope dynamic-storage</b>	Enters dynamic storage command mode.
<b>Step 4</b>	Server /chassis/dynamic-storage # <b>unassign-drive &lt;drive-slotid-list&gt;</b>	Unassign the chosen physical drive.

### Example

This example unassigning a physical drive:

```

Server# scope chassis
Server /chassis # scope dynamic-storage
Server /chassis/dynamic-storage # unassign-drive 27
Are you sure you want to unassign drives 27
Host will loose access to drive(s). Enter 'yes' to confirm -> yes
unassign-drive operation successful.

Server /chassis/dynamic-storage #

```

## Assigning Physical Drives as Chassis Wide Hot Spare

### SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis/dynamic-storage # **scope dynamic-storage**
3. Server /chassis/dynamic-storage # **assign-drive hotspare <drive-slotid-list>**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis/dynamic-storage # <b>scope dynamic-storage</b>	Enters dynamic storage command mode.
<b>Step 3</b>	Server /chassis/dynamic-storage # <b>assign-drive hotspare</b> <drive-slotid-list>	Assigns the physical drive as a global hotspare at the chassis level.

**Example**

Example for assigning a physical drive as a global hotspare at the chassis level:

```
Server# scope chassis
Server /chassis # scope dynamic-storage
Server /chassis/dynamic-storage # assign-drive hotspare 5
Are you sure you want to assign drives 5 as hotspare
Enter 'yes' to confirm -> yes
assign-drive operation successful.

Server /chassis/dynamic-storage #
```

**Sharing Physical Drives with Servers**

## SUMMARY STEPS

1. Server # **scope chassis**
2. Server /chassis/dynamic-storage # **scope dynamic-storage**
3. Server /chassis/dynamic-storage # **assign-drive shared** <drive-slotid-list>

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Server # <b>scope chassis</b>	Enters chassis command mode.
<b>Step 2</b>	Server /chassis/dynamic-storage # <b>scope dynamic-storage</b>	Enters dynamic storage command mode.
<b>Step 3</b>	Server /chassis/dynamic-storage # <b>assign-drive shared</b> <drive-slotid-list>	Assigns the chosen physical drive for both the servers.

**Example**

Example for assigning the same physical drive for both the servers:

```
Server# scope chassis
Server /chassis # scope dynamic-storage
svbu-huu-sanity-col2-1-vcmc /chassis/dynamic-storage # assign-drive shared 4
Are you sure you want to assign drives 4 as shared
Enter 'yes' to confirm -> yes
assign-drive operation successful.
```

```
Server /chassis/dynamic-storage #
```