Sun™ Datacenter Switch 3456 Administration Guide

Sun Microsystems, Inc.
www.sun.com

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Contents

Preface

This administration guide provides management information about the Sun Datacenter Switch 3456 switch.

This document is written for system administrators, network administrators, and users who have advanced knowledge and experience managing an InfiniBand network. Topics include basic operations using switch-specific commands and CLIA subcommands.

Using UNIX Commands

This document might not contain information about basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices. Refer to the following for this information:

- Software documentation that you received with your system
- Solaris™ Operating System documentation, which is at:

  `http://docs.sun.com`

Shell Prompts

Shell	Prompt
C shell	*machine-name*`%`
C shell superuser	*machine-name*`#`
Bourne shell and Korn shell	`$`
Bourne shell and Korn shell superuser	`#`

Typographic Conventions

Typeface*	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
`AaBbCc123`	What you type, when contrasted with on-screen computer output	`%` **`su`** `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this. To delete a file, type `rm` *filename*.

* The settings on your browser might differ from these settings.

Related Documentation

The documents listed as online are available at:

http://docs.sun.com/app/docs/prod/switch.3456

Application	Title	Part Number	Format	Location
Product Notes	*Sun Datacenter Switch 3456 Product Notes*	820-4727-10	PDF	Online
Unpacking	*Sun Datacenter Switch 3456 Unpacking Guide*	820-4736-10	PDF Printed	Shipping crate Online
Site Planning	*Sun Datacenter Switch 3456 Site Planning Guide*	820-4728-10	PDF	Online
Installation	*Sun Datacenter Switch 3456 Installation Guide*	820-4730-10	PDF Printed	Shipping kit Online
Administration	*Sun Datacenter Switch 3456 Administration Guide*	820-4731-10	PDF	Online
Service	*Sun Datacenter Switch 3456 Service Manual*	820-4733-10	PDF	Online
Reference	*Sun Datacenter Switch 3456 Reference Manual*	820-4734-10	PDF	Online
Regulatory	*Sun Datacenter Switch 3456 Safety and Compliance Guide*	820-4735-10	PDF	Online

Documentation, Support, and Training

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Sun Datacenter Switch 3456 Administration Guide, part number 820-4731-10.

CHAPTER 1

Administrative Commands

This chapter provides an overview of accessing the Sun Datacenter Switch 3456 chassis management controllers (CMC) and the commands to administrate the switch.

Topics include:

Accessing the CMC

Management of the Sun Datacenter Switch 3456 hardware is conducted from the CMCs. The CMCs are redundant and do not load balance. The CMC on the left of the switch chassis, CMC0, is the default primary CMC. Administrative control can be transferred to CMC1 by using the `switchover` command.

▼ To Access the CMC From the Serial Management Port

1. **If you have not already done so, connect a serial terminal, terminal server, or workstation with a Tip connection to the serial management port of the CMC.**

   Configure the terminal or terminal emulator with these settings:

   - 115200 baud

- 8 bits
- No parity
- 1 Stop bit
- No handshaking

2. **Press the Return or Enter key several times to synchronize the connection.**

   You might see text similar to the following:

```
shmm1500 login:
```

   If you do not see the text, still progress to Step 3.

3. **Type `root` for the login name followed by the `root` password.**

```
shmm1500 login: root
Password: password
#
```

   The # prompt is displayed.

Note – As shipped, the `root` password is not set and therefore not required. Press the Enter key when prompted for the password. Refer to "To Change the `root` Password" on page 58 for instructions on how to set the `root` password.

▼ To Access the CMC From the Network Management Port

To access the CMC using the network for the first time, you must first configure the network management port through the serial management port. See "To Access the CMC From the Serial Management Port" on page 1.

You can set network parameters according to the specific details of your network configuration using the `setlanconfig` option of the `clia` command.

Note – The following procedure makes changes that do not require a reset or reboot.

---

1. **Set the IP address for the CMC.**

```
# clia setlanconfig 1 3 xxx.yyy.zzz.www
```

   where *xxx.yyy.zzz.www* is the IP address.

2. **Set the netmask for the CMC.**

```
# clia setlanconfig 1 6 aaa.bbb.ccc.ddd
```

where *aaa.bbb.ccc.ddd* is the netmask. Typically, the netmask is `255.255.255.0`. However, your network environment subnet might require a different netmask. Use a netmask number most appropriate to your environment.

3. **Set the IP address for the CMC gateway.**

```
# clia setlanconfig 1 12 eee.fff.ggg.hhh
```

where *eee.fff.ggg.hhh* is the IP address of the gateway.

4. **Open a Telnet session and connect to the CMC by specifying the CMC's network address.**

For example:

```
% telnet 123.456.789.000
Trying 123.456.789.000...
Connected to 123.456.789.000.
Escape character is '^]'.

shmm1500 login:
```

5. **Login as `root` using the `root` password.**

```
shmm1500 login: root
Password: password
#
```

The # prompt is displayed.

Note – As shipped, the `root` password is not set and therefore not required. Press the Enter key when prompted for the password. Refer to "To Change the `root` Password" on page 58 for instructions on how to set the `root` password.

Switch-Specific Command Overview

The CMCs use a simplified Linux OS and file system. From the # prompt, you can type switch-specific commands to perform some administrative and management tasks.

After you log in to the `root` account, the shell prompt (#) appears, and you can enter the switch-specific commands. The typical format of those commands is:

command [*component*] [*identifier*]

where:

- *command* is the command being issued.
- *component* is an abbreviated string representing a component.
- *identifier* is the numeric identifier of that component.

TABLE 1-1 provides a list of switch-specific commands.

TABLE 1-1 Switch-Specific Commands

Command	Description
`activate`	Fully powers on a line card or fabric card from standby state.
`checkfans`	Displays fan status.
`checklinks`	Checks that links are up for active line cards and fabric cards.
`checkpowers`	Checks internal voltages on line cards and fabric cards.
`checkpwrfault`	Checks for power faults.
`checkswitches`	Checks switches for boot status and errors.
`checkvoltages`	Checks line card and fabric card voltages.
`deactivate`	Powers down a line card or fabric card to standby state.
`disableboard`	Takes a line card or fabric card from standby state to completely powered off.
`disableipmb`	Turns off the IPMB bus and controller for a line card or fabric card.
`disablepsu`	Powers down a power supply to standby state.
`disablestby`	Powers off standby voltage for a line card or fabric card.
`disableswitchport`	Disables a port on an I3 switch chip.
`enableboard`	Takes a line card or fabric card from powered off to a standby state.
`enablehotinsert`	Readies the IPMB bus and standby voltage of a slot for hot insertion of a line card or fabric card.

TABLE 1-1 Switch-Specific Commands *(Continued)* *(Continued)*

Command	Description
`enableipmb`	Enables the IPMB bus and controller for a line card or fabric card.
`enablepsu`	Fully powers on a power supply from standby state.
`enablestby`	Enables standby voltage for a line card or fabric card.
`enableswitchport`	Enables a port on an I3 switch chip.
`getbaseguid`	Displays the base GUID from a line card or fabric card
`getfan`	Displays fan RPMs for a fabric card.
`getfwversion`	Displays line card and fabric card firmware versions, include I3 switch chip firmware.
`i2ctest`	Tests i2c devices on the CMC.
`i3prog`	Programs I3 switch chips.
`mcmversion`	Displays the version of the Magnum Chassis Manager (MCM).
`psustatus`	Displays power supply status.
`resetswitch`	Resets an I3 switch chip.
`showlogs`	Displays the log.
`showpresent`	Displays the present board configuration.
`showtemps`	Displays chassis temperatures.
`showvoltages`	Displays line card and fabric card internal voltages.

Find more information about the switch-specific commands in the *Sun Datacenter Switch 3456 Reference Manual*.

CLIA Command Shell Overview

The CMCs use another command shell interface called CLIA for issuing commands and performing tasks. With these commands, you can also administer the Sun Datacenter Switch 3456.

After you log in to the `root` account, the shell prompt (`#`) appears, and you can enter CLIA commands. The typical format of the CLIA command set is:

clia *command* [*option*] [*address* | *string*]

where:

- *command* is the command being issued.

- *option* is any option for that command.
- *address* is the hexadecimal address of the device being manipulated.
- *string* represents the address device pair.

Note – Depending upon the command, the address might be the IPMB address, or the I^2C address.

Find more in-depth information regarding the use of the CLIA commands in the *Sun Datacenter Switch 3456 Reference Manual*.

▼ To Access the `clia` Interface

1. **Log in as previously described in:**
   - "To Access the CMC From the Serial Management Port" on page 1
   - "To Access the CMC From the Network Management Port" on page 2
2. **Use the `date` command to synchronize the Sun Datacenter Switch 3x24 with the time at your site:**

```
# date [mmddHHMM[yyyy][.SS]]
```

3. **Use the `clia help` command to get a list of the valid CLI commands.**

```
# clia help
Pigeon Point Shelf Manager Command Line Interpreter
Command Line Interface command set:
Parameters are case insensitive
 activate <addr> <fru_id>
 alarm <alarm status/action>
 amcportstate [-v] <ipmc> [ amc <N> | <fru_id> ]
 board [slot_number]
 boardreset <slot number>
.
.
.
 user [<user id>]
 user add <user id> <user name> <flags> <privilege level> <password>
 user channel <user id> <channel number> <flags> <privilege level>
 user delete <user id>
 user enable <user id> 1|0
 user name <user id> <user name>
```

```
 user passwd <user id> <user password>
 version
#
```

Note – Many of the CLI commands listed provide functionality that is not normally used or beyond the scope of this document. See the *Sun Datacenter Switch 3456 Reference Manual* for a description of the supported CLI commands.

Event and Message Logs

The CMC provides two logs which list messages about switch events. However one is more user-friendly, and the other is more informative.

- You can retrieve the user-friendly log using the `showlogs` command. For example:

```
# showlogs
Mar 11 20:15:40 2008; from:(LC 20); sensor:(Link down on I3 9, 10
or 11); event:asserted: 0x06
Mar 11 20:15:41 2008; from:(LC 20); sensor:(Link down on I3 9, 10
or 11); event:deasserted: 0x06
Mar 11 20:15:53 2008; from:(LC 20); sensor:(Link down on I3 6, 7
or 8); event:asserted: 0x05
Mar 11 20:16:02 2008; from:(LC 20); sensor:(Link down on I3 6, 7
or 8); event:deasserted: 0x05
Mar 11 20:16:06 2008; from:(LC 20); sensor:(Link down on I3 9, 10
or 11); event:asserted: 0x06
Mar 11 20:16:12 2008; from:(LC 20); sensor:(Link down on I3 3, 4
or 5); event:asserted: 0x04
Mar 11 20:16:12 2008; from:(LC 20); sensor:(Link down on I3 9, 10
or 11); event:deasserted: 0x06
Mar 11 20:16:19 2008; from:(LC 20); sensor:(Link down on I3 3, 4
or 5); event:deasserted: 0x04
...
```

- You can retrieve the more informative log using the `clia sel` command. For example:

```
# clia sel

Pigeon Point Shelf Manager Command Line Interpreter
```

```
0x027C: Event: at Mar 11 20:15:28 2008; from:(0x20,0,0);
sensor:(0xf1,1); event:0x6f(asserted): 0xA2 0x00 0x89
0x027D: Event: at Mar 11 20:15:28 2008; from:(0x12,0,0);
sensor:(0xf1,1); event:0x6f(asserted): 0xA2 0x00 0x89
0x027E: Event: at Mar 11 20:15:28 2008; from:(0x20,0,0);
sensor:(0xf1,1); event:0x6f(asserted): 0xA3 0x00 0x88
0x027F: Event: at Mar 11 20:15:28 2008; from:(0x12,0,0);
sensor:(0xf1,1); event:0x6f(asserted): 0xA3 0x00 0x88
0x0280: Event: at Mar 11 20:15:40 2008; from:(0xaa,0,0);
sensor:(0xc4,75); event:0x74(asserted): 0x06 0xFF 0xFF
0x0281: Event: at Mar 11 20:15:41 2008; from:(0xaa,0,0);
sensor:(0xc4,75); event:0x74(deasserted): 0x06 0xFF 0xFF
0x02A0: Event: at Mar 11 20:15:53 2008; from:(0xaa,0,0);
sensor:(0xc4,75); event:0x74(asserted): 0x05 0xFF 0xFF
0x02A1: Event: at Mar 11 20:15:55 2008; from:(0x10,0,0);
sensor:(0xf1,1); event:0x6f(asserted): 0xA3 0x00 0x88
0x02A2: Event: at Mar 11 20:15:56 2008; from:(0x10,0,0);
sensor:(0xf1,1); event:0x6f(asserted): 0xA1 0x00 0xC8
...
```

Checking the Chassis Components

▼ To Check the General Health of the Switch

- **Type the** `clia showunhealthy` **command.**

  For example:

```
# clia showunhealthy
Pigeon Point Shelf Manager Command Line Interpreter
There are no unhealthy components in the shelf.
#
```

▼ To Check the Availability of Components

- **Type the** `showpresent` **command.**

  For example:

```
# showpresent
PSU 00 present, state unknown
PSU 01 present, state unknown
PSU 03 present, state unknown
PSU 04 present, state unknown
PSU 05 present, state unknown
PSU 06 present, state unknown
.
.
.
FC 15 present and active (state = M4)
FC 16 present but not active
FC 17 present and active (state = M4)
.
.
.
LC 22 present and active (state = M4)
LC 23 present and active (state = M4)
#
```

In the example, power supply PSU 02 is missing. Additionally, fabric card FC 16 is not active.

When the `showpresent` command identifies an installed chassis component is missing, not active, or having an undesirable status, refer to the following sections for further investigation.

- For power supplies (PSU), see Chapter 2
- For fabric cards (FC), see Chapter 3
- For line cards (LC), see Chapter 4

Note – Fans and CMCs are not polled by the `showpresent` command. You can still administer fans and CMCs with the commands provided in "" on page 11.

CHAPTER 2

Chassis Component Operations

This chapter describes operations for the power supplies, fans, and CMCs. Topics include:

Power Supply Operations

Power Supply Address Mapping

To administrate, send commands to, or receive information about the power supplies, you need to know the slot number of the individual component. FIGURE 2-1 shows the location of the power supplies in the Sun Datacenter Switch 3456 chassis.

FIGURE 2-1 Power Supply Locations in the Sun Datacenter Switch 3456 Chassis

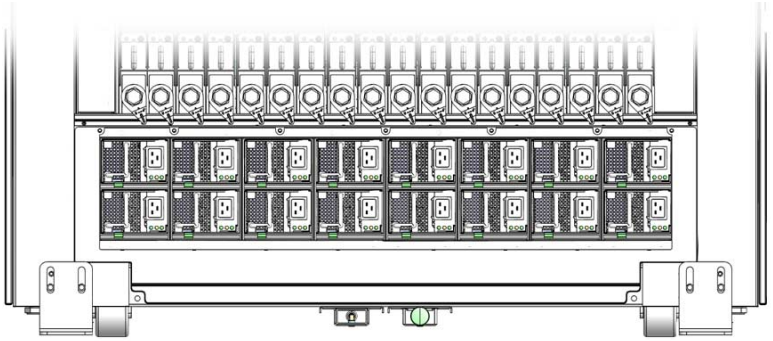


TABLE 2-1 lists the IPMB addresses and slot values for power supplies installed in the Sun Datacenter Switch 3456 chassis.

TABLE 2-1 Power Supply Address Mapping

Power Supply	Slot	Power Supply	Slot	Power Supply	Slot	Power Supply	Slot
PS0	0	PS4	4	PS8	8	PS12	12
PS1	1	PS5	5	PS9	9	PS13	13
PS2	2	PS6	6	PS10	10	PS14	14
PS3	3	PS7	7	PS11	11	PS15	15

Controlling Power Supplies

▼ To Power On a Power Supply

- **To power on a power supplyt, type the following command:**

```
# enablepsu slot
```

where *slot* is from TABLE 2-1.

When a power supply is enabled, the Active LED is illuminated and the power supply goes to full power.

▼ To Power Down a Power Supply

- **To power down a power supply, type the following command:**

```
# disablepsu slot
```

where *slot* is from TABLE 2-1.

When a power supply is disabled, the Active LED turns off, but the Connected LED remains lit.

Monitoring Power Supplies

▼ To Show Power Supplies Present

- **To show power supplies that are present, type the following command:**

```
# showpresent | grep PSU
```

For example:

```
# showpresent | grep PSU
PSU 00 present, state unknown
PSU 01 present, state unknown
PSU 02 present, state unknown
PSU 03 present, state unknown
PSU 04 present, state unknown
PSU 05 present, state unknown
.
.
.
PSU 14 present, state unknown
PSU 15 present, state unknown
```

▼ To Check a Power Supply Status

- **To check the status of a power supply, type the following command:**

```
# psustatus slot
```

where *slot* is from TABLE 2-1. For example:

```
# psustatus 0
Using psu i2c addr 0x5d
PSU 0, 12 V on
#
```

Fan Operations

▼ To Check Fan Speed

- **To check fan sppeds and status, type the following command:**

```
# checkfans
```

The output displays the speed of every fan, for each fabric card. For example:

```
# checkfans
Checking M24 fans...
FC 0 Fan 0 RPM = 24070.000000
Warning : FC 0 Fan 1 stopped
FC 0 Fan 2 RPM = 24356.000000
FC 0 Fan 3 RPM = 24356.000000
FC 0 Fan 4 RPM = 24070.000000
FC 0 Fan 5 RPM = 24356.000000
FC 0 Fan 6 RPM = 24356.000000
FC 0 Fan 7 RPM = 24356.000000

FC 1 Fan 0 RPM = 23784.000000
FC 1 Fan 1 RPM = 24356.000000
.
.
.
```

```
FC 17 Fan 6 RPM = 24356.000000
FC 17 Fan 7 RPM = 24070.000000
#
```

In this example, fan 1 on fabric card 0 has stopped. Fan 1 is the second fan from the bottom. If you want know the speed of the fans in a specific fabric card, type:

```
# checkfans | grep 'FC slot'
```

where *slot* is for the fabric card from TABLE 3-1. For example:

```
# checkfans | grep 'FC 9'
FC 9 Fan 0 RPM = 23784.000000
FC 9 Fan 1 RPM = 24070.000000
FC 9 Fan 2 RPM = 24356.000000
FC 9 Fan 3 RPM = 24070.000000
FC 9 Fan 4 RPM = 23784.000000
FC 9 Fan 5 RPM = 24356.000000
FC 9 Fan 6 RPM = 23784.000000
FC 9 Fan 7 RPM = 24070.000000
#
```

CMC Operations

CMC Address Mapping

To administrate, send commands to, or receive information about the CMCs, you need to know the IPMB address of the individual component. FIGURE 2-2 shows the location of the CMCs in the Sun Datacenter Switch 3456 chassis.

FIGURE 2-2 CMC Locations in the Sun Datacenter Switch 3456 Chassis

TABLE 2-2 lists the IPMB addresses for CMCs installed in the Sun Datacenter Switch 3456 chassis.

TABLE 2-2 CMC Address Mapping

CMC	IPMB Address
CMC0	0x10
CMC1	0x12

Controlling CMCs

▼ To Activate a CMC

- **To activate a CMC, type the following command:**

```
# clia activate ipmb-address
```

where *ipmb-address* is from TABLE 2-2.

▼ To Deactivate a CMC

- **To deactivate a CMC, type the following command:**

```
# clia deactivate ipmb-address
```

where *ipmb-address* is from TABLE 2-2.

Caution – Deactivating the CMC that is performing the administration effectively severs the link from the management terminal to the Sun Datacenter Switch 3456. Perform a switchover operation before deactivating the primary CMC.

▼ To Switch Over to Another CMC

- **To switch over from one CMC to another, type the following command:**

```
# clia switchover
```

Monitoring CMCs

▼ To Check CMC Internal Power and Temperature

- **To check internal power and temperature of a CMC, type the following command:**

```
# clia sensordata -v ipmb-address | grep -e LUN -e Processed
```

where *ipmb-address* is from TABLE 2-2. For example:

```
# clia sensordata -v 12 |grep -e LUN -e Processed
12: LUN: 0, Sensor # 0 ("FRU 0 HOT_SWAP")
12: LUN: 0, Sensor # 1 ("IPMB LINK")
12: LUN: 0, Sensor # 2 ("lm75 temp")
    Processed data: 23.000000 degrees C
12: LUN: 0, Sensor # 3 ("Local Temp")
    Processed data: 20.000000 degrees C
12: LUN: 0, Sensor # 4 ("3.3STBY voltage")
    Processed data: 3.379200 Volts
12: LUN: 0, Sensor # 5 ("3.3MAIN voltage")
    Processed data: 3.379200 Volts
12: LUN: 0, Sensor # 6 ("VBAT")
    Processed data: 3.140000 Volts
12: LUN: 0, Sensor # 7 ("Analog 0")
    Processed data: 0.999600 Volts
12: LUN: 0, Sensor # 128 ("CPLD State")
#
```

▼ To Check CMC Status

- **To check the status of a CMC, type the following command:**

```
# clia shmstatus
```

For example:

```
# clia shmstatus
Pigeon Point Shelf Manager Command Line Interpreter
Host: "Active"
#
```

▼ To Check CMC Status LEDs

- **To check the status LEDs of a CMC, type the following command:**

```
# clia getfruledstate -v ipmb-address |grep -e FRU -e State: -e supported
```

where *ipmb-address* is from TABLE 2-2. For example:

```
# clia getfruledstate -v 12 |grep -e FRU -e color: -e supported
12: FRU # 0, Led # 0 ("BLUE LED"):
        Colors supported(0x02): BLUE
12: FRU # 0, Led # 1 ("LED 1"):
    Local Control LED State: LED ON, color: GREEN
        Colors supported(0x08): GREEN
12: FRU # 0, Led # 2 ("LED 2"):
        Colors supported(0x10): AMBER
#
```

Note – Only if an LED is stated `LED ON` or `LED BLINKING`, is the LED lit. Otherwise, the LED is off.

CHAPTER 3

Fabric Card Operations

This chapter describes administrative operations for fabric cards. Topics include:

Fabric Card Address Mapping

To administrate, send commands to, or receive information about the fabric cards, you need to know the IPMB address and slot number of the individual component. FIGURE 3-1 shows the location of the fabric cards in the Sun Datacenter Switch 3456 chassis.

FIGURE 3-1 Fabric Card Locations in the Sun Datacenter Switch 3456 Chassis

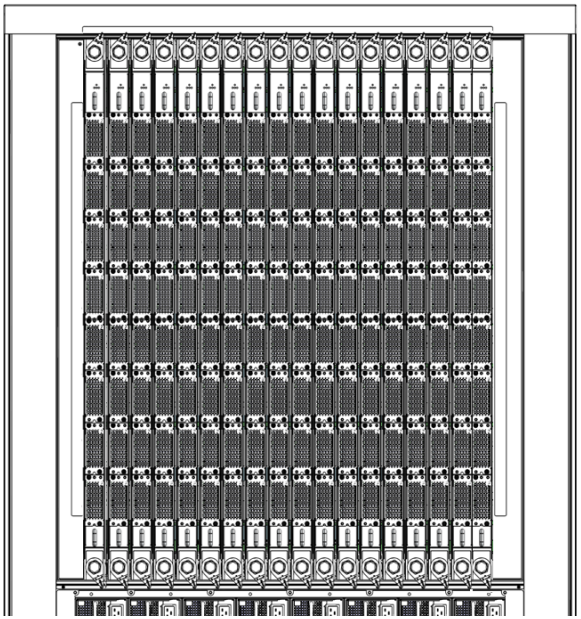


TABLE 3-1 lists the IPMB addresses and slot values for fabric cards installed in the Sun Datacenter Switch 3456 chassis.

TABLE 3-1 Fabric Card Address Mapping

Fabric Card	IPMB Address	Slot	Fabric Card	IPMB Address	Slot	Fabric Card	IPMB Address	Slot
FC0	b2	0	FC6	be	6	FC12	ca	12
FC1	b4	1	FC7	c0	7	FC13	cc	13
FC2	b6	2	FC8	c2	8	FC14	ce	14
FC3	b8	3	FC9	c4	9	FC15	d0	15
FC4	ba	4	FC10	c6	10	FC16	d2	16
FC5	bc	5	FC11	c8	11	FC17	d4	17

Controlling Fabric Cards

▼ To Enable Fabric Cards

- **To enable standby power and the IPMB buses for a fabric card, type the following command:**

```
# enableboard fc slot
```

where *slot* is from TABLE 3-1.

When a fabric card is enabled, the Standby LED on that fabric card flashes.

▼ To Disable Fabric Cards

- **To disable standby power and IPMB buses for a fabric card, type the following command:**

```
# disableboard fc slot
```

where *slot* is from TABLE 3-1.

When a fabric card is disabled, the Standby LED on that fabric card goes out.

▼ To Enable Fabric Card Standby Power

- **To enable standby power on a fabric card, type the following command:**

```
# enablestby fc slot
```

where *slot* is from TABLE 3-1.

▼ To Disable Fabric Card Standby Power

- **To disable standby power on a fabric card, type the following command:**

```
# disablestby fc slot
```

where *slot* is from TABLE 3-1.

▼ To Enable Fabric Card IPMB Buses

- **To enable an IPMB bus on a fabric card, type the following command:**

```
# enableipmb fc slot bus
```

where:

- *slot* is from TABLE 3-1
- *bus* is either `a` or `b`

▼ To Disable Fabric Card IPMB Buses

- **To disable an IPMB bus on a fabric card, type the following command:**

```
# disableipmb fc slot bus
```

where:

- *slot* is from TABLE 3-1
- *bus* is either `a` or `b`

▼ To Enable a Fabric Card Slot for Hot Insertion

- **To enable a fabric card slot for hot insertion, type the following command:**

```
# enablehotinsert fc slot
```

where *slot* is from TABLE 3-1.

▼ To Reset a Fabric Card

- **To reset a fabric card, type the following command:**

```
# clia boardreset ID
```

where *ID* is equal to the sum of 25 + the *slot* from TABLE 3-1. For example, to reset fabric card 3:

```
# clia boardreset 28
```

▼ To Activate a Fabric Card

- **To bring a fabric card to full power, type the following command:**

```
# activate fc slot
```

where *slot* is from TABLE 3-1.

Alternatively, at the # prompt, type the following command:

```
# clia activate ipmb-address
```

where *ipmb-address* is from TABLE 3-1.

When a fabric card is activated, the OK LED is illuminated and the fabric card goes to full power.

Note – Activating a fabric card can take up to 3 minutes for all of the I3 switch chips to boot. During the I3 switch chip boot process, the fabric card might be identified as being in an active (M4) state.

▼ To Deactivate a Fabric Card

- **To power down a fabric card to a standby state, type the following command:**

```
# deactivate fc slot
```

where *slot* is from TABLE 3-1.

Alternatively, at the # prompt, type the following command:

```
# clia deactivate ipmb-address
```

where *ipmb-address* is from TABLE 3-1.

When a fabric card is deactivated, the OK LED turns off, but the Standby LED remains flashing.

▼ To Turn On a Fabric Card Locator LED

- **To turn on the Locator LED of a fabric card, type the following command:**

```
# clia setfruledstate ipmb-address 0 3 ON
```

where *ipmb-address* is from TABLE 3-1.

▼ To Turn Off a Fabric Card Locator LED

- **To turn off the Locator LED of a fabric card, type the following command:**

```
# clia setfruledstate ipmb-address 0 3 OFF
```

where *ipmb-address* is from TABLE 3-1.

Monitoring Fabric Cards

▼ To Show the Fabric Cards Present

- **To display fabric cards that are present, type the following command:**

```
# showpresent | grep FC
```

For example:

```
# showpresent | grep FC
FC 00 present and active
FC 01 present and active
FC 02 present and active
FC 03 present and active
FC 04 present and active
FC 05 present and active
.
.
.
FC 16 present and active
FC 17 present and active
```

▼ To Check Fabric Card Power Faults

- **To check power faults of a fabric card, type the following command:**

```
# checkpwrfault | grep FC
```

For example:

```
# checkpwrfault | grep FC
FC 0 Power fault sensor = 0x000000     OK
FC 1 Power fault sensor = 0x000000     OK
FC 2 Power fault sensor = 0x000000     OK
FC 3 Power fault sensor = 0x000000     OK
FC 4 Power fault sensor = 0x000000     OK
FC 5 Power fault sensor = 0x000000     OK
.
.
```

```
.
FC 16 Power fault sensor = 0x000000     OK
FC 17 Power fault sensor = 0x000000     OK
```

▼ To Check Fabric Card Internal Power and Temperature

- **At the # prompt, type the following command:**

```
# clia sensordata -v ipmb-address | grep -e LUN -e Processed
```

where *ipmb-address* is from TABLE 3-1. For example:

```
# clia sensordata b8 |grep -e LUN -e Processed
b8: LUN: 0, Sensor # 0 ("Hot Swap")
b8: LUN: 0, Sensor # 1 ("IPMB Physical")
b8: LUN: 0, Sensor # 2 ("LM75_0")
    Processed data: 23.000000 degrees C
b8: LUN: 0, Sensor # 3 ("LM75_1")
    Processed data: 23.000000 degrees C
b8: LUN: 0, Sensor # 4 ("LM75_2")
    Processed data: 23.000000 degrees C
b8: LUN: 0, Sensor # 5 ("LM75_3")
    Processed data: 23.000000 degrees C
.
.
.
```

▼ To Check Fabric Card Internal Temperatures

- **To check the internal temperatures of a fabric card, type the following command:**

```
# showtemps | grep FC
```

For example:

```
# showtemps | grep FC
Temperature on FC 00, LM75 min = 22.00 ºC,  LM75 max = 24.00 ºC, at adm1026 =
27.00 ºC
Temperature on FC 01, LM75 min = 22.00 ºC,  LM75 max = 24.00 ºC, at adm1026 =
25.00 ºC
```

```
Temperature on FC 02, LM75 min = 21.00 ºC,  LM75 max = 24.00 ºC, at adm1026 =
25.00 ºC
Temperature on FC 03, LM75 min = 21.00 ºC,  LM75 max = 24.00 ºC, at adm1026 =
27.00 ºC
Temperature on FC 04, LM75 min = 22.00 ºC,  LM75 max = 24.00 ºC, at adm1026 =
25.00 ºC
Temperature on FC 05, LM75 min = 21.00 ºC,  LM75 max = 24.00 ºC, at adm1026 =
25.00 ºC
.
.
.
Temperature on FC 16, LM75 min = 21.00 ºC,  LM75 max = 24.00 ºC, at adm1026 =
27.00 ºC
Temperature on FC 17, LM75 min = 22.00 ºC,  LM75 max = 24.00 ºC, at adm1026 =
25.00 ºC
```

▼ To Check Fabric Card Internal Voltages

- **To check internal voltages of a fabric card, type the following command:**

```
# showvoltages
```

The output is for all fabric cards and line cards. For example:

```
# showvoltages
Reading M24 voltages...
FC 0 readings
 12V       = 12.16
 3.3V      = 3.27
 3.3V STBY = 3.34
 1.8V      = 1.75
 1.6V_0    = 1.57
 1.6V_1    = 1.60
 1.2V_0    = 1.19
 1.2V_1    = 1.20
 1.2V_2    = 1.19
 1.2V_3    = 1.19
 1.2V_4    = 1.20
 1.2V_5    = 1.20
 1.2V_6    = 1.20
 1.2V_7    = 1.17

FC 1 readings
 12V       = 12.10
 3.3V      = 3.29
.
.
.
LC 23 readings
 12V       = 12.22
 3.3V      = 3.25
 3.3V STBY = 3.30
 1.8V      = 1.73
 1.6V_0    = 1.36
 1.6V_1    = 1.56
 1.6V_2    = 1.47
 1.6V_3    = 1.56
 1.6V_4    = 1.56
 1.6V_5    = 1.53
```

Alternatively, at the # prompt, type the following command:

```
# checkvoltages
```

The output is for all fabric cards and line cards. For example:

```
# checkvoltages
Reading M24 voltages...
Checking FC 0 ...
FC 0 OK

Checking FC 1 ...
FC 1 OK
.
.
.
Checking LC 23 ...
LC 23 OK
```

▼ To Check Fabric Card Link Status (Simple)

- **To check the link status of a fabric card, type the following command:**

```
# checklinks | grep FC
```

For example:

```
# checklinks |grep FC
FC 0 Active, checking iTrack links.....OK
FC 1 Active, checking iTrack links.....OK
FC 2 Active, checking iTrack links.....OK
FC 3 Active, checking iTrack links.....OK
FC 4 Active, checking iTrack links.....OK
FC 5 Active, checking iTrack links.....OK
.
.
.
```

If no faults are found, the output is simple, such as displayed in the example. If faults are found, the output is detailed. Such output can be confusing. Use the procedure: "To Check Fabric Card Link Status (Detailed)" on page 30, to present the output in a more organized way.

▼ To Check Fabric Card Link Status (Detailed)

If the simple check (see "To Check Fabric Card Link Status (Simple)" on page 29) showed a failure in a fabric card, use the detailed method to gather more information about that fabric card.

- **At the # prompt, type the following command:**

```
# checklinks | grep 'FC slot '
```

where *slot* is from TABLE 3-1 in the form of two-digits. For example:

```
# checklinks | grep 'FC 03 '
Port 03 on I3 0 FC 03 is down          (->LC 13)
Port 03 on I3 1 FC 03 is down          (->LC 13)
Port 03 on I3 2 FC 03 is down          (->LC 13)
Port 03 on I3 3 FC 03 is down          (->LC 13)
Port 06 on I3 4 FC 03 is down          (->LC 13)
Port 06 on I3 5 FC 03 is down          (->LC 13)
Port 06 on I3 6 FC 03 is down          (->LC 13)
Port 06 on I3 7 FC 03 is down          (->LC 13)
.
.
.
```

Note – There is a space following the second digit of the *slot* and preceding the '.

▼ To Enable Downed Fabric Card Links

If the output of the `checklinks` command indicates that some links are down, use the `-e` option of the `checklinks` command in attempt to enable those downed links.

1. **At the # prompt, type the following command:**

```
# checklinks -e
```

2. **Use the `checklinks` command again, to verify which downed links have been enabled:**

```
# checklinks |grep FC
FC 0 Active, checking iTrack links.....OK
FC 1 Active, checking iTrack links.....OK
```

```
FC 2 Active, checking iTrack links.....OK
FC 3 Active, checking iTrack links.....OK
FC 4 Active, checking iTrack links.....OK
FC 5 Active, checking iTrack links.....OK
.
.
.
```

Note – For more information about the I3 switch chips and their ports, see the *Sun Datacenter Switch 3456 Reference Manual*.

▼ To Check Fabric Card IPMB State

- **To check the IPMB state of a fabric card, type the following command:**

```
# clia getipmbstate ipmb-address
```

where *ipmb-address* is from TABLE 3-1. For example:

```
# clia getipmbstate b8
Pigeon Point Shelf Manager Command Line Interpreter
b8: LUN: 0, Sensor # 1 ("IPMB Physical")
    Bus Status: 0x8  (IPMB-A Enabled, IPMB-B Enabled)
    IPMB A State: 0x08 (LocalControl, No failure)
    IPMB B State: 0x08 (LocalControl, No failure)
#
```

▼ To Check Fabric Card Status LEDs

- **To check the status LEDs of a fabric card, type the following command:**

```
# clia getfruledstate -v ipmb-address |grep -e FRU -e color: -e supported
```

where *ipmb-address* is from TABLE 3-1. For example:

```
# clia getfruledstate -v b8 |grep -e FRU -e color: -e supported
b8: FRU # 0, Led # 0 ("BLUE LED"):
        Colors supported(0x02): BLUE
b8: FRU # 0, Led # 1 ("LED 1"):
        Colors supported(0x10): AMBER
b8: FRU # 0, Led # 2 ("LED 2"):
```

```
    Local Control LED State: LED ON, color: GREEN
        Colors supported(0x08): GREEN
b8: FRU # 0, Led # 3 ("LED 3"):
        Colors supported(0x40): WHITE
#
```

Note – Only if an LED is stated `LED ON` or `LED BLINKING`, is the LED lit. Otherwise, the LED is off.

▼ To Display Fabric Card Firmware Versions

- **To display the firmware version of a fabric card, type the following command:**

```
# getfwversion fc slot
```

where *slot* is from TABLE 3-1. For example:

```
# getfwversion fc 3
FW versions for FC 3
 H8 version          : 0.12
 FPGA version        : 43
 I3 FW image version : 0.8.6
 I3 FW build ID      : 0x2d22
#
```

▼ To Display Fabric Card FRU Information

- **To read the FRUID information of an individual fabric card, type the following command:**

```
# clia fruinfo ipmb-address 0
```

where *ipmb-address* is from TABLE 3-1. For example:

```
# clia fruinfo b8 0
Pigeon Point Shelf Manager Command Line Interpreter
b8: FRU # 0, FRU Info
Common Header:    Format Version = 1
Board Info Area:
    Version     = 1
    Language Code            = 25
    Mfg Date/Time           = May 28 15:08:00 2008 (6525548 minutes since 1996)
    Board Manufacturer       = Sun Microsystems, Inc.
    Board Product Name       = DCS 3456 - Fabric Card
    Board Serial Number      = 37535620821BT00030
    Board Part Number        = 375-3562-02
    FRU Programmer File ID   = Fruid_FC.txt

Product Info Area:
    Version     = 1
    Language Code            = 25
    Manufacturer Name        = Sun Microsystems, Inc.
    Product Name             = DCS 3456 - Fabric Card
    Product Part / Model#    = 375-3562-02
    Product Version          = Rev 3.4
    Product Serial Number    = 37535620821BT00030
    Asset Tag
    FRU Programmer File ID   = Fruid_FC.txt
```

CHAPTER 4

Line Card Operations

This chapter describes administrative operations for line cards. Topics include:

Line Card Address Mapping

To administrate, send commands to, or receive information about the line cards, you need to know the IPMB address and slot number of the individual component. FIGURE 4-1 shows the location of the line cards in the Sun Datacenter Switch 3456 chassis.

FIGURE 4-1 Line Card Locations in the Sun Datacenter Switch 3456 Chassis

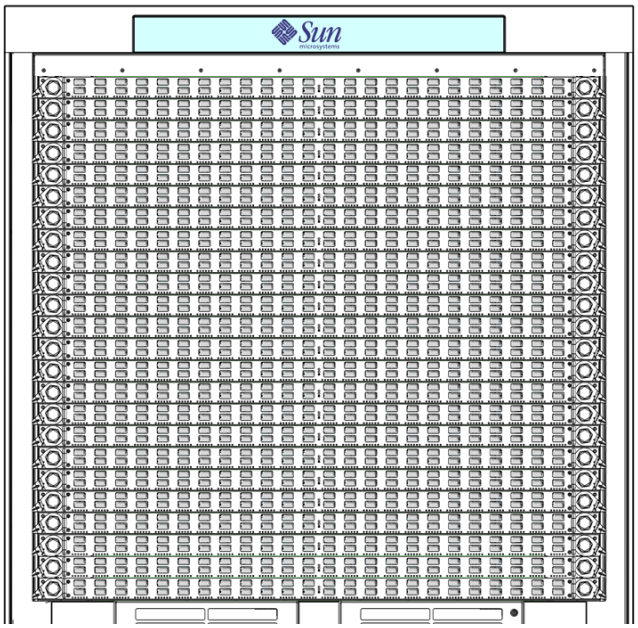


TABLE 4-1 lists the IPMB addresses and FRU slot values for line cards installed in the Sun Datacenter Switch 3456 chassis.

TABLE 4-1 Line Card Address Mapping

Line Card	IPMB Address	Slot	Line Card	IPMB Address	Slot	Line Card	IPMB Address	Slot
LC0	82	0	LC8	92	8	LC16	a2	16
LC1	84	1	LC9	94	9	LC17	a4	17
LC2	86	2	LC10	96	10	LC18	a6	18
LC3	88	3	LC11	98	11	LC19	a8	19
LC4	8a	4	LC12	9a	12	LC20	aa	20
LC5	8c	5	LC13	9c	13	LC21	ac	21
LC6	8e	6	LC14	9e	14	LC22	ae	22
LC7	90	7	LC15	a0	15	LC23	b0	23

Controlling Line Cards

▼ To Enable Line Cards

- **To enable standby power and the IPMB buses for a line card, type the following command:**

```
# enableboard lc slot
```

where *slot* is from TABLE 4-1.

When a line card is enabled, the Standby LED on that line card flashes.

▼ To Disable Line Cards

- **To disable standby power and IPMB buses for a line card, type the following command:**

```
# disableboard lc slot
```

where *slot* is from TABLE 4-1.

When a line card is disabled, the Standby LED on that line card goes out.

▼ To Enable Line Card Standby Power

- **To enable standby power on a line card, type the following command:**

```
# enablestby lc slot
```

where *slot* is from TABLE 4-1.

▼ To Disable Line Card Standby Power

- **To disable standby power on a line card, type the following command:**

```
# disablestby lc slot
```

where *slot* is from TABLE 4-1.

▼ To Enable Line Card IPMB Buses

- **To enable an IPMB bus on a line card, type the following command:**

```
# enableipmb lc slot bus
```

where:

- *slot* is from TABLE 4-1
- *bus* is either `a` or `b`

▼ To Disable Line Card IPMB Buses

- **To disable an IPMB bus on a line card, type the following command:**

```
# disableipmb lc slot bus
```

where:

- *slot* is from TABLE 4-1
- *bus* is either `a` or `b`

▼ To Enable a Line Card Slot for Hot Insertion

- **To enable a line card slot for hot insertion, type the following command:**

```
# enablehotinsert lc slot
```

where *slot* is from TABLE 4-1.

▼ To Reset a Line Card

- **To reset a line card, type the following command:**

```
# clia boardreset ID
```

where *ID* is equal to the sum of 1 + the *slot* from TABLE 4-1. For example, to reset line card 20:

```
# clia boardreset 21
```

▼ To Activate a Line Card

- **To bring a line card to full power, type the following command:**

```
# activate lc slot
```

where *slot* is from TABLE 4-1.

Alternatively, at the # prompt, type the following command:

```
# clia activate ipmb-address
```

where *ipmb-address* is from TABLE 4-1.

When a line card is activated, the Active LED is illuminated and the line card goes to full power.

Note – Activating a line card can take up to 3 minutes for all of the I3 switch chips to boot. During the I3 switch chip boot process, the line card might be identified as being in an active (M4) state.

▼ To Deactivate a Line Card

- **To power down a line card to a standby state, type the following command:**

```
# deactivate lc slot
```

where *slot* is from TABLE 4-1.

Alternatively, at the # prompt, type the following command:

```
# clia deactivate ipmb-address
```

where *ipmb-address* is from TABLE 4-1.

When a line card is deactivated, the Active LED turns off, but the Standby LED remains flashing.

▼ To Turn On a Line Card Locator LED

- **To turn on the Locator LED of a line card, type the following command:**

```
# clia setfruledstate ipmb-address 0 3 ON
```

where *ipmb-address* is from TABLE 4-1.

▼ To Turn Off a Line Card Locator LED

- **To turn off the Locator LED of a line card, type the following command:**

```
# clia setfruledstate ipmb-address 0 3 OFF
```

where *ipmb-address* is from TABLE 4-1.

Monitoring Line Cards

▼ To Show Line Cards Present

- **To display line cards that are present, type the following command:**

```
# showpresent | grep LC
```

For example:

```
# showpresent | grep LC
LC 00 present and active
LC 01 present and active
LC 02 present and active
LC 03 present and active
LC 04 present and active
LC 05 present and active
.
.
.
LC 22 present and active
LC 23 present and active
```

▼ To Check Line Card Power Faults

- **To check power faults of a fabric card, type the following command:**

```
# checkpwrfault | grep LC
```

For example:

```
# checkpwrfault | grep LC
LC 0 Power fault sensor = 0x0000000000     OK
LC 1 Power fault sensor = 0x0000000000     OK
LC 2 Power fault sensor = 0x0000000000     OK
LC 3 Power fault sensor = 0x0000000000     OK
LC 4 Power fault sensor = 0x0000000000     OK
LC 5 Power fault sensor = 0x0000000000     OK
.
.
```

```
.
LC 22 Power fault sensor = 0x0000000000     OK
LC 23 Power fault sensor = 0x0000000000     OK
```

▼ To Check Line Card Internal Power and Temperature

- **At the # prompt, type the following command:**

```
# clia sensordata ipmb-address | grep -e LUN -e Processed
```

where *ipmb-address* is from TABLE 4-1. For example:

```
# clia sensordata aa | grep -e LUN -e Processed
aa: LUN: 0, Sensor # 0 ("Hot Swap")
aa: LUN: 0, Sensor # 1 ("IPMB Physical")
aa: LUN: 0, Sensor # 2 ("LM75_0")
    Processed data: 24.000000 degrees C
aa: LUN: 0, Sensor # 3 ("LM75_1")
    Processed data: 24.000000 degrees C
aa: LUN: 0, Sensor # 4 ("LM75_2")
    Processed data: 24.000000 degrees C
aa: LUN: 0, Sensor # 5 ("LM75_3")
    Processed data: 24.000000 degrees C
.
.
.
```

▼ To Check Line Card Internal Temperatures

- **To check the internal temperatures of a line card, type the following command:**

```
# showtemps | grep FC
```

For example:

```
# showtemps | grep LC
Temperature on LC 00, LM75 min = 26.00 ºC,  LM75 max = 31.00 ºC, at adm1026 =
27.00 ºC
Temperature on LC 01, LM75 min = 23.00 ºC,  LM75 max = 31.00 ºC, at adm1026 =
27.00 ºC
Temperature on LC 02, LM75 min = 26.00 ºC,  LM75 max = 25.00 ºC, at adm1026 =
30.00 ºC
```

```
Temperature on LC 03, LM75 min = 26.00 ºC,  LM75 max = 31.00 ºC, at adm1026 =
27.00 ºC
Temperature on LC 04, LM75 min = 23.00 ºC,  LM75 max = 25.00 ºC, at adm1026 =
30.00 ºC
Temperature on LC 05, LM75 min = 26.00 ºC,  LM75 max = 31.00 ºC, at adm1026 =
27.00 ºC
.
.
.
Temperature on LC 22, LM75 min = 23.00 ºC,  LM75 max = 31.00 ºC, at adm1026 =
30.00 ºC
Temperature on LC 23, LM75 min = 26.00 ºC,  LM75 max = 25.00 ºC, at adm1026 =
27.00 ºC
```

▼ To Check Line Card Internal Voltages

- **To check internal voltages of a line card, type the following command:**

```
# showvoltages
```

The output is for all fabric cards and line cards. For example:

```
# showvoltages
Reading M24 voltages...
FC 0 readings
 12V       = 12.16
 3.3V      = 3.27
 3.3V STBY = 3.34
 1.8V      = 1.75
.
.
.
LC 0 readings
 12V       = 12.22
 3.3V      = 3.27
 3.3V STBY = 3.34
 1.8V      = 1.72
 1.6V_0    = 1.53
 1.6V_1    = 1.57
 1.6V_2    = 1.55
 1.6V_3    = 1.55
 1.6V_4    = 1.57
 1.6V_5    = 1.55
.
.
.
LC 23 readings
 12V       = 12.22
 3.3V      = 3.25
 3.3V STBY = 3.30
 1.8V      = 1.73
 1.6V_0    = 1.36
 1.6V_1    = 1.55
 1.6V_2    = 1.47
 1.6V_3    = 1.56
 1.6V_4    = 1.56
 1.6V_5    = 1.53
```

Alternatively, at the # prompt, type the following command:

```
# checkvoltages
```

The output is for all line cards and line cards. For example:

```
# checkvoltages
Reading M24 voltages...
Checking FC 0 ...
FC 0 OK
Checking FC 1 ...
FC 1 OK
.
.
.
Checking LC 0 ...
LC 0 OK
.
.
.
Checking LC 23 ...
LC 23 OK
```

▼ To Check Line Card Link Status (Simple)

- **To check the link status of a line card, type the following command:**

```
# checklinks | grep LC
```

where *slot* is from TABLE 4-1 in the form of two-digits. For example:

```
# checklinks |grep LC
LC 0 Active, checking links.....OK
LC 1 Active, checking links.....OK
LC 2 Active, checking links.....OK
LC 3 Active, checking links.....OK
LC 4 Active, checking links.....OK
LC 5 Active, checking links.....OK
.
.
.
```

If no faults are found, the output is simple, such as displayed in the example. If faults are found, the output is detailed. Such output can be confusing. Use the procedure: "To Check Line Card Link Status (Detailed)" on page 46, to present the output in a more organized way.

▼ To Check Line Card Link Status (Detailed)

If the simple check (see "To Check Line Card Link Status (Simple)" on page 45) showed a failure in a line card, use the detailed method to gather more information about that line card.

- **At the # prompt, type the following command:**

```
# checklinks -c | grep 'LC slot '
```

where *slot* is from TABLE 4-1 in the form of two-digits. For example:

```
# checklinks -c | grep 'LC 13 '
LC 13 Active, checking links.....
Port 16 on I3 01 LC 13 is down          (Cable 3 A )
Port 17 on I3 01 LC 13 is down          (Cable 3 A )
Port 18 on I3 01 LC 13 is down          (Cable 3 A )
Port 22 on I3 03 LC 13 is down          (Cable 6 A )
Port 23 on I3 03 LC 13 is down          (Cable 6 A )
Port 24 on I3 03 LC 13 is down          (Cable 6 A )
Port 14 on I3 04 LC 13 is down          (Cable 9 B )
Port 21 on I3 05 LC 13 is down          (Cable 10 B )
Port 22 on I3 07 LC 13 is down          (Cable 14 A )
.
.
.
```

Note – There is a space following the second digit of the *slot* and preceding the '.

▼ To Enable Downed Line Card Links

If the output of the `checklinks` command indicates that some links are down, use the `-e` option of the `checklinks` command in attempt to enable those downed links.

1. **At the # prompt, type the following command:**

```
# checklinks -e
```

2. **Use the `checklinks` command again, to verify which downed links have been enabled:**

```
# checklinks |grep LC
LC 0 Active, checking links.....OK
LC 1 Active, checking links.....OK
LC 2 Active, checking links.....OK
LC 3 Active, checking links.....OK
LC 4 Active, checking links.....OK
LC 5 Active, checking links.....OK
.
.
.
```

Note – For more information about the I3 switch chips and their ports, see the *Sun Datacenter Switch 3456 Reference Manual*.

▼ To Check Line Card IPMB State

- **To check the IPMB state of a line card, type the following command:**

```
# clia getipmbstate ipmb-address
```

where *ipmb-address* is from TABLE 4-1. For example:

```
# clia getipmbstate aa
Pigeon Point Shelf Manager Command Line Interpreter
aa: LUN: 0, Sensor # 1 ("IPMB Physical")
    Bus Status: 0x8  (IPMB-A Enabled, IPMB-B Enabled)
    IPMB A State: 0x08 (LocalControl, No failure)
    IPMB B State: 0x08 (LocalControl, No failure)
#
```

▼ To Check Line Card Status LEDs

- **To check the status LEDs of a line card, type the following command:**

```
# clia getfruledstate -v ipmb-address |grep -e FRU -e color: -e supported
```

where *ipmb-address* is from TABLE 4-1. For example:

```
# clia getfruledstate -v aa |grep -e FRU -e color: -e supported
aa: FRU # 0, Led # 0 ("BLUE LED"):
        Colors supported(0x02): BLUE
aa: FRU # 0, Led # 1 ("LED 1"):
        Colors supported(0x10): AMBER
aa: FRU # 0, Led # 2 ("LED 2"):
    Local Control LED State: LED ON, color: GREEN
        Colors supported(0x08): GREEN
aa: FRU # 0, Led # 3 ("LED 3"):
    Override LED State (current state): LED ON, color: WHITE
        Colors supported(0x40): WHITE
#
```

Note – Only if an LED is stated `LED ON` or `LED BLINKING`, is the LED lit. Otherwise, the LED is off.

▼ To Display Line Card Firmware Versions

- **To display the firmware version of a line card, type the following command:**

```
# getfwversion lc slot
```

where *slot* is from TABLE 4-1. For example:

```
# getfwversion lc 13
FW versions for LC 13
 H8 version          : 0.08
 FPGA version        : 83
 I3 FW image version : 1.0.0
 I3 FW build ID      : 0x2e9e
#
```

▼ To Display Line Card FRU Information

- **To read the FRUID information of a line card, type the following command:**

```
# clia fruinfo ipmb-address 0
```

where *ipmb-address* is from TABLE 4-1. For example:

```
# clia fruinfo aa 0
Pigeon Point Shelf Manager Command Line Interpreter
aa: FRU # 0, FRU Info
Common Header:    Format Version = 1
Board Info Area:
    Version     = 1
    Language Code            = 25
    Mfg Date/Time           = May 28 15:08:00 2008 (6525548 minutes since 1996)
    Board Manufacturer       = Sun Microsystems, Inc.
    Board Product Name       = DCS 3456 - Line Card
    Board Serial Number      = 37535610821BT00030
    Board Part Number        = 375-3561-02
    FRU Programmer File ID   = Fruid_LC.txt

Product Info Area:
    Version     = 1
    Language Code            = 25
    Manufacturer Name        = Sun Microsystems, Inc.
    Product Name             = DCS 3456 - Line Card
    Product Part / Model#    = 375-3561-02
    Product Version          = Rev 3.4
    Product Serial Number    = 37535610821BT00030
    Asset Tag
    FRU Programmer File ID   = Fruid_LC.txt
```

CHAPTER 5

I3 Switch Chip Operations

This chapter describes operations specifically for the I3 switch chip ports. Topics include:

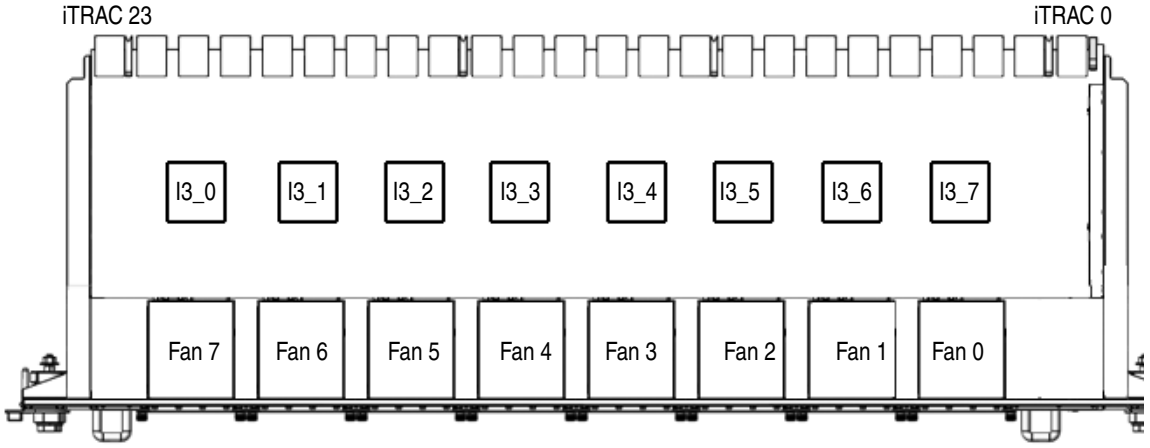
Fabric Card I3 Switch Chip Operations

Note – For more information about the I3 switch chips and their ports, see the *Sun Datacenter Switch 3456 Reference Manual*.

Fabric Card I3 Switch Chip Locations

FIGURE 5-1 shows the location of the I3 switch chips on a fabric card.

FIGURE 5-1 I3 Switch Chip Locations on a Fabric Card



▼ To Enable a Fabric Card I3 Switch Chip Port

- **At the # prompt, type the following command:**

```
# enableswitchport fc slot switch-chip port
```

where:

- *slot* is number of the fabric card (0 - 17).
- *switch-chip* is the number of the chip (0 - 7).
- *port* is the number of the port (1 - 24).

▼ To Disable a Fabric Card I3 Switch Chip Port

- **At the # prompt, type the following command:**

```
# disableswitchport fc slot switch-chip port
```

where:

- *slot* is number of the fabric card (0 - 17).
- *switch-chip* is the number of the chip (0 - 7).
- *port* is the number of the port (1 - 24).

▼ To Reset a Fabric Card I3 Switch Chip

- **At the # prompt, type the following command:**

```
# resetswitch fc slot switch-chip state
```

where:

- *slot* is number of the fabric card (0 - 17).
- *switch-chip* is the number of the chip (0 - 7).
- *state* is `0` to reset once, and `1` to hold in reset.

▼ To Check Fabric Card I3 Switch Chip Health

- **At the # prompt, type the following command:**

```
# checkswitches | grep FC
```

For example:

```
# checkswitches
Checking booted switches in M24...
FC 0 Active, checking switches ....OK
FC 1 Active, checking switches ....OK
FC 2 Active, checking switches ....OK
FC 3 Active, checking switches ....OK
FC 4 Active, checking switches ....OK
FC 5 Active, checking switches ....OK
.
.
.
FC 16 Active, checking switches ....OK
FC 17 Active, checking switches ....OK
```

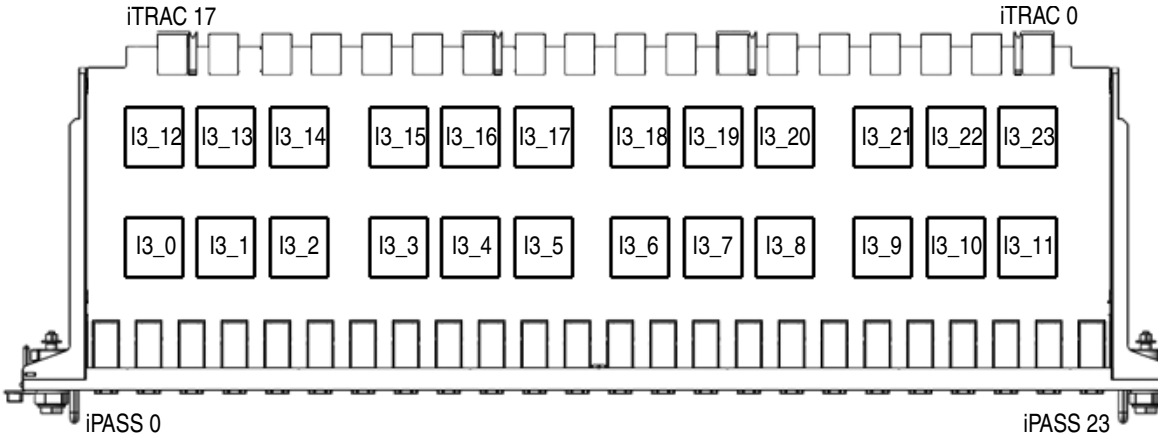
Line Card I3 Switch Chip Operations

Note – For more information about the I3 switch chips and their ports, see the *Sun Datacenter Switch 3456 Reference Manual*.

Line Card I3 Switch Chip Locations

FIGURE 5-2 shows the location of the I3 switch chips on a line card.

FIGURE 5-2 I3 Switch Chip Locations on a Line Card



▼ To Enable a Line Card I3 Switch Chip Port

- **At the # prompt, type the following command:**

```
# enableswitchport lc slot switch-chip port
```

where:

- *slot* is number of the line card (0 - 23).
- *switch-chip* is the number of the chip (0 - 23).
- *port* is the number of the port (1 - 24).

▼ To Disable a Line Card I3 Switch Chip Port

- **At the # prompt, type the following command:**

```
# disableswitchport lc slot switch-chip port
```

where:

- *slot* is number of the line card (0 - 23).
- *switch-chip* is the number of the chip (0 - 23).

- *port* is the number of the port (1 - 24).

▼ To Reset a Line Card I3 Switch Chip

- **At the # prompt, type the following command:**

```
# resetswitch lc slot switch-chip state
```

where:

- *slot* is number of the line card (0 - 23).
- *switch-chip* is the number of the chip (0 - 23).
- *state* is `0` to reset once, and `1` to hold in reset.

▼ To Check Line Card I3 Switch Chip Health

- **At the # prompt, type the following command:**

```
# checkswitches | grep LC
```

For example:

```
# checkswitches
Checking booted switches in M24...
LC 0 Active, checking switches ....OK
LC 1 Active, checking switches ....OK
LC 2 Active, checking switches ....OK
LC 3 Active, checking switches ....OK
LC 4 Active, checking switches ....OK
LC 5 Active, checking switches ....OK
.
.
.
LC 16 Active, checking switches ....OK
LC 17 Active, checking switches ....OK
```

CHAPTER 6

Other Administrative Operations

This chapter describes other administrative operations. Topics include:

More information about the CLIA commands in this chapter is available in the *Sun Datacenter Switch 3456 Reference Manual*.

User Operations

▼ To Display the User Accounts

- **At the # prompt, type the following command:**

```
# clia user -v
```

▼ To Add a User

- **At the # prompt, type the following command:**

```
# clia user add userid "user-name" channel-access-flags privilege-level password
```

where:

- *userid* – A unique valid user ID.
- *user-name* – The user name (16 characters).

- *channel-access-flag* – The first byte of the SetUserInfo commands (only bits 4,5, and 6 are meaningful).
  - bit 6 – IPMI messaging enabled.
  - bit 5 – Link authentication enabled.
  - bit 4 – Restricted to callback.
- *privilege-level* – The user privilege level.
- *password* – The user password (16 characters).

▼ To Change a User's Password

- **At the # prompt, type the following command:**

```
# clia user passwd userid "password"
```

where:

- *userid* – A unique valid user ID.
- *password* – The user password (16 characters).

▼ To Delete a User

- **At the # prompt, type the following command:**

```
# clia user delete userid
```

where *userid* is a unique valid user ID.

Other Operations

▼ To Change the `root` Password

As shipped, the `root` password is not set and therefore not required. Press the Enter key when prompted for the password. To improve security by setting the password, follow this procedure.

1. **Access the system controller.**

   See:

   - "To Access the CMC From the Serial Management Port" on page 1
   - "To Access the CMC From the Network Management Port" on page 2

2. **Change the `root` password:**

```
# passwd
Changing password for root
Enter the new password (minimum of 5, maximum of 8 characters)
Please use a combination of upper and lower case letters and
numbers.
Enter new password: new-password

Re-enter new password: new-password
Password changed.
#
```

▼ To Get Help on a CLIA Subcommand

- **At the # prompt, type the following command:**

```
# clia help subcommand option
```

where:

- *subcommand* – A subcommand to the `clia` command.
- *option* – A subordinate command or option to the subcommand.

▼ To Display the Date

- **At the # prompt, type the following command:**

```
# date
```

▼ To Set the Date

- **At the # prompt, type the following command:**

```
# date [mmddHHMM[yyyy][.SS]]
```

where:

- *mm* – Month
- *dd* – Date
- *HH* – Hour (24-hour format)
- *MM* – Minutes
- *yyyy* – Year
- *SS* – Seconds

▼ To Display the Network Configuration

- **At the # prompt, type the following command:**

```
# clia getlanconfig 1
```

▼ To Display the Shelf Manager Version

- **At the # prompt, type the following command:**

```
# clia version
```

▼ To Display the Magnum Chassis Manager Version

- **At the # prompt, type the following command:**

```
# mcmversion
```

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