



Sun Fire™ B1600 Blade System Chassis Administration Guide

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Preface

This manual tells you how to use the System Controller command-line interface (called Advanced Lights Out Management Software) to monitor and manage the Sun Fire B1600 blade system chassis. It also tells you how to upgrade firmware on the different components of the system chassis.

The manual is intended for experienced Solaris and Linux System Administrators.

Before You Read This Book

Before performing the instructions in this manual, make sure you have installed the blade system chassis into a rack and connected all of the power, network, and serial cables required. For information on how to install the system hardware, read the *Sun Fire B1600 Blade System Chassis Hardware Installation Guide*.

How This Book Is Organized

[Chapter 1](#) introduces the System Controller software and refers you to the Sun Fire B1600 Blade System Chassis Software Setup Guide for more information. This chapter also tells you how to restore the factory default settings for the System Controller.

[Chapter 2](#) tells you how to power on and off and how to reset components on the chassis.

[Chapter 3](#) tells you how to set up named users of the System Controller.

[Chapter 4](#) tells you how to access the event messages generated by the components on the chassis.

[Chapter 5](#) tells you how to access the consoles on the switches and server blades in the chassis.

[Chapter 6](#) tells you how to use the System Controller's monitoring facilities.

[Chapter 7](#) tells you how to force the standby System Controller to take over from the currently active one.

[Chapter 8](#) tells you how to use the System Controller to control the booting behavior of the server blades.

[Chapter 9](#) tells you how to recover access to the System Controller if you have lost your password.

[Chapter 10](#) tells you how to upgrade firmware on the SSCs, switches, and server blades.

[Chapter 11](#) provides information for troubleshooting the chassis.

[Chapter 12](#) tells you how to replace components of the chassis or how to replace an entire chassis.

[Chapter 13](#) tells you how to install DIMMs in the Sun Fire B100x and B200x blades.

[Appendix A](#) tells you how to interpret the LEDs on the front and rear of the chassis.

Using UNIX Commands

This document does not contain information on basic UNIX[®] commands and procedures.

See either of the following for this information:

- *Solaris Handbook for Sun Peripherals*
- AnswerBook2[™] online documentation for the Solaris[™] operating environment

Typographic Conventions

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

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

Shell Prompts

Shell	Prompt
C shell	<i>machine-name%</i>
C shell superuser	<i>machine-name#</i>
Bourne shell and Korn shell	<code>\$</code>

Shell	Prompt
Bourne shell and Korn shell superuser	#
System Controller shell	sc>
Integrated switch shell	Console#

Related Documentation

Application	Title
Compliance and safety	<i>Sun Fire B1600 Blade System Chassis Compliance and Safety Manual</i>
Hardware installation overview (foldout poster)	<i>Sun Fire B1600 Blade System Chassis Quick Start</i>
Hardware installation	<i>Sun Fire B1600 Blade System Chassis Hardware Installation Guide</i>
Software installation (foldout poster)	<i>Sun Fire B1600 Blade System Chassis Software Setup Quick Start</i>
Chassis software and Solaris blade setup	<i>Sun Fire B1600 Blade System Chassis Software Setup Guide</i>
B100x and B200x server blade installation and setup	<i>Sun Fire B200x and B200x Server Blade Installation and Setup Guide</i>
B10n content load balancing blade installation and setup	<i>Sun Fire B10n Content Load Balancing Blade Administration Guide</i>
Chassis administration and component replacement	<i>Sun Fire B1600 Blade System Chassis Administration Guide (this manual)</i>
Switch administration	<i>Sun Fire B1600 Blade System Chassis Switch Administration Guide</i>
Late-breaking information	<i>Sun Fire B1600 Blade System Chassis Product Notes</i>

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Managing the Sun Fire B1600 Blade System Chassis

This chapter contains the following sections:

- [Section 1.1, “The Command-line Interface to the System Controllers”](#) on page 1-2
- [Section 1.2, “Logging Into and Configuring the Switch and System Controllers”](#) on page 1-2
- [Section 1.3, “Returning a System Controller to its Factory Default Settings”](#) on page 1-3

1.1 The Command-line Interface to the System Controllers

The Sun Fire B1600 blade system chassis can be managed over a local or remote serial connection or over a 10/100Mbps network connection to the management network port (NETMGT). Both the serial connector and the management network port are on the rear panel of the Switch and System Controller unit.

The management interface is called the Advanced Lights Out Management Software. This software:

- Monitors the operating status of the Field Replaceable Units (FRUs) and their sub-components within the chassis. The FRUs are: the two Power Supply Units (PSUs), the two Switch and System Controller units (SSCs), and up to 16 server blades. The software also keeps a log of events that have occurred on each of the FRUs.
- Enables you to control and configure the chassis, and also to access the command-line interface to the integrated switches and to the consoles of the server blades.

1.2 Logging Into and Configuring the Switch and System Controllers

For information about logging into and configuring the Switch and System Controllers, see the *Sun Fire B1600 Blade System Chassis Software Setup Guide*.

Note – The command for configuring the System Controllers is the `setupsc` command. This command initiates an interactive setup process that enables you to configure both the active and the standby System Controllers.

1.3 Returning a System Controller to its Factory Default Settings

To return the System Controller to its factory settings, type the following at the `sc>` prompt:

```
sc> setdefaults [-y]
```

where the `-y` option causes the command to execute without prompting you for confirmation to proceed.

Note – This command does not return the switch to its factory default settings. For information about how to do this, refer to the *Sun Fire B1600 Blade System Chassis Software Setup Guide*.

Powering On or Off and Resetting Components

This chapter contains the following sections:

- [Section 2.1, “Powering On All Components at Once” on page 2-2](#)
- [Section 2.2, “Powering Off All Components Except the Active System Controller” on page 2-2](#)
- [Section 2.3, “Powering Off All Components Including the Active System Controller” on page 2-4](#)
- [Section 2.4, “Powering on the Switch and System Controllers” on page 2-5](#)
- [Section 2.5, “Powering Off a Switch and System Controller” on page 2-6](#)
- [Section 2.6, “Powering on Server Blades” on page 2-8](#)
- [Section 2.7, “Powering Off Server Blades” on page 2-9](#)
- [Section 2.8, “Resetting System Controllers, Switches, and Server Blades” on page 2-11](#)

2.1 Powering On All Components at Once

Note – To use the `poweron` and `poweroff` commands, you must have `r`-level user permission on the System Controller. (For information about the levels of user permission available for the System Controller, see [Chapter 3](#).)

- To power on all components at once (to recover them from a powered down, ready-to-remove, or standby power state), type:

```
sc> poweron ch
```

2.2 Powering Off All Components Except the Active System Controller

You can power off (or power down to a ready-to-remove or standby) state all components (except the active System Controller) at once. The blade system chassis is designed so that you cannot power off or down the active System Controller in a single command. For the correct procedure to follow to power off all components including the active System Controller, see [Section 2.3, “Powering Off All Components Including the Active System Controller”](#) on page 2-4.

Caution – Before running any of the commands described in this section, make sure you have saved any switch settings that have changed since the last time each switch booted (if you want to preserve the changes). For instructions about saving your switch settings, refer to the *Sun Fire B1600 Blade System Chassis Software Setup Guide*.

Note – To use the `poweron` and `poweroff` commands, you must have `r`-level user permission on the System Controller. (For information about the levels of user permission available for the System Controller, see [Chapter 3](#).)

[TABLE 2-1](#) lists the different commands for powering off or powering down all components in the chassis except the active System Controller.

Where a command has options associated with it, you can specify more than one option on the command line. However, the `-s` and `-r` options for the `poweroff` command are logically incompatible. Therefore you cannot include them together on the same command line.

TABLE 2-1 Commands for Powering Off or Powering Down an SSC

Command and Option (if any)	Effect of the Command
<code>sc> poweroff ch</code>	Powers off all components on the chassis except the active System Controller.
<code>sc> poweroff -f ch</code>	Powers off all components (except the active System Controller) even if an orderly shutdown of the operating system on a component has failed.
<code>sc> poweroff -F sn</code>	Powers off the blade in slot <i>n</i> even if the active System Controller has not finished executing commands (from another user) involving the specified blade.
<code>sc> poweroff -y ch</code>	Powers off all components (except the active System Controller) without displaying the confirmation prompt.
<code>sc> poweroff -s ch</code>	Powers down all components (except the active System Controller) to standby mode (equivalent of <code>standbyfru ch</code> command).
<code>sc> poweroff -r ch</code>	Powers down all components (except the active System Controller) to a state in which it is safe for them to be removed. The <code>-r</code> option also turns on the “ok to remove” LED for each component (equivalent of the <code>removefru ch</code> command).
<code>sc> standbyfru ch</code>	Powers down all components (except the active System Controller) to standby mode (equivalent of the <code>poweroff -s ch</code> command).
<code>sc> standbyfru -f ch</code>	Powers down all components (except the active System Controller) to standby mode even if an orderly shutdown of the operating system on a component has failed.

TABLE 2-1 Commands for Powering Off or Powering Down an SSC

Command and Option (if any)	Effect of the Command
<code>sc> standbyfru -y ch</code>	Powers down all components (except the active System Controller) to standby mode without displaying the confirmation prompt.
<code>sc> removefru ch</code>	Powers down all components (except the active System Controller) to a state in which it is safe for them to be removed; this command also turns on the "ok to remove" LED for each component (equivalent of the <code>poweroff -r ch</code> command).
<code>sc> removefru -f ch</code>	Powers down all components (except the active System Controller) to a state in which it is safe for them to be removed even if an orderly shutdown of the System Controller's operating system has failed. This command also turns on the "ok to remove" LED for each component.

2.3 Powering Off All Components Including the Active System Controller

You cannot power off or down the active System Controller in a single command. To power it down to a ready-to-remove state, do the following:

1. **Power off all components except the active System Controller.**

Type:

```
sc> poweroff ch
```

2. **Make sure all components (except the active System Controller) are in a ready-to-remove state.**

Type:

```
sc> removefru ch
```

3. Put the active System Controller into a ready-to-remove state.

Type:

```
sc> removefru sscn
```

where *n* is either 0 or 1 depending on whether the active System Controller is the one in SSC0 or SSC1.

Note – You can only use the `removefru` command on the active System Controller when all other components are in a ready-to-remove state.

4. Remove the power supply cords from the SSC modules.

The SSC modules are not physically powered down until the power supply cords have been removed.

2.4 Powering on the Switch and System Controllers

The SSCs are powered on as soon as you apply power to the chassis. However, if you have powered one of them off or down for any reason, you need to use the `poweron` command to restart it. This section tells you how to do this.

Note – To power on the Switch and System Controller(SSC), you must have `r`-level user permission on the System Controller. For information about the levels of user permission available, see [Chapter 3](#).

● To power on a single Switch and System Controller, type:

```
sc> poweron sscn
```

where *n* is either 0 or 1 depending on whether you want to power on the System Controller in SSC0 or SSC1.

2.5 Powering Off a Switch and System Controller



Caution – Before running any of the commands described in this section, make sure you have saved any switch settings that have changed since the last time each switch booted (if you want to preserve the changes). For instructions about saving your switch settings, refer to the *Sun Fire B1600 Blade System Chassis Software Setup Guide*.

Note – To power off a Switch and System Controller, you must have *r*-level user permission on the System Controller. For information about the levels of user permission available, see [Chapter 3](#).

[TABLE 2-2](#) lists the different commands for powering off or powering down the Switch and System Controller (SSC).

Note – You can only power off or down the standby System Controller. For information about powering down the active System Controller, see [Section 2.3, “Powering Off All Components Including the Active System Controller”](#) on page 2-4.

Where a command has options associated with it, you can specify more than one option on the command line. However, the *-s* and *-r* options for the `poweroff` command are logically incompatible. Therefore you cannot include them together on the same command line.

TABLE 2-2 Commands for Powering Off or Powering Down an SSC

Command and Option (if any)	Effect of the Command
<code>sc> poweroff ssc<i>n</i></code>	Powers off SSC <i>n</i> (where <i>n</i> is 0 or 1 depending on whether the standby System Controller is in SSC0 or SSC1).
<code>sc> poweroff -f ssc<i>n</i></code>	Powers off the standby System Controller (SSC0 or SSC1) even if an orderly shutdown of the System Controller’s operating system has failed.
<code>sc> poweroff -F ssc<i>n</i></code>	Powers off the standby System Controller (SSC0 or SSC1) even if the active System Controller has not finished executing commands (from another user) involving the standby System Controller.

TABLE 2-2 Commands for Powering Off or Powering Down an SSC

Command and Option (if any)	Effect of the Command
<code>sc> poweroff -y ssc<i>n</i></code>	Powers off the standby System Controller (SSC0 or SSC1) without displaying the confirmation prompt.
<code>sc> poweroff -s ssc<i>n</i></code>	Powers the standby System Controller (SSC0 or SSC1) down to standby-power mode (equivalent of <code>standbyfru</code> command).
<code>sc> poweroff -r ssc<i>n</i></code>	Powers the standby System Controller down to a state in which it is safe for it to be removed; the <code>-r</code> option also turns on the “ok to remove” LED (equivalent of the <code>removefru</code> command).
<code>sc> standbyfru ssc<i>n</i></code>	Powers the standby System Controller down to standby-power mode (equivalent of the <code>poweroff -s</code> command).
<code>sc> standbyfru -f ssc<i>n</i></code>	Powers the standby System Controller down to standby-power mode even if an orderly shutdown of its operating system has failed.
<code>sc> standbyfru -F ssc<i>n</i></code>	Powers the standby System Controller down to standby-power mode even if the active System Controller has not finished executing commands (from another user) involving the standby System Controller.
<code>sc> standbyfru -y ssc<i>n</i></code>	Powers the standby System Controller down to standby-power mode without displaying the confirmation prompt.
<code>sc> removefru ssc<i>n</i></code>	Powers the standby System Controller down to a state in which it is safe for it to be removed; this command also turns on the “ok to remove” LED on the SSC’s rear panel (equivalent of the <code>poweroff -r</code> command).

TABLE 2-2 Commands for Powering Off or Powering Down an SSC

Command and Option (if any)	Effect of the Command
<code>sc> removefru -f sscn</code>	Powers the standby System Controller down to a state in which it is safe for it to be removed even if an orderly shutdown of the System Controller's operating system has failed. This command also turns on the "ok to remove" LED on the SSC's rear panel.
<code>sc> removefru -F sscn</code>	Powers the standby System Controller down to a state in which it is safe for it to be removed even if the active System Controller has not finished executing commands (from another user) involving the standby System Controller.
<code>sc> removefru -y sscn</code>	Powers the standby System Controller down to a state in which it is safe for it to be removed but does not display the confirmation prompt before doing so. This command also turns on the "ok to remove" LED on the SSC's rear panel.

2.6 Powering on Server Blades

Note – To power on any server blades, you must have `r`-level user permission. For information about the levels of user permission available, see [Chapter 3](#).

- To power on a single server blade, type:

```
sc> poweron sn
```

where *n* is the number of the slot containing the blade you want to power on.

- To power on more than one server blade, specify each blade in a space-separated list as in the following example:

```
sc> poweron s1 s6 s11
```

2.7 Powering Off Server Blades

Note – To power off any server blades, you must have `r`-level user permission. (For information about the levels of user permission available on the System Controller, see [Chapter 3](#).)

TABLE 2-3 lists the commands for powering off or powering down a server blade. To apply any of the commands to more than one server blade, use a space-separated list. For example, to power off the blades in slots 1, 3, and 15, you would type:

```
sc> poweroff s1 s3 s15
```

You can specify more than one option on the command line. However, the `-s` and `-r` options available for the `poweroff` command are logically incompatible. Therefore you cannot include them together on the same command line.

Note – The commands listed in **TABLE 2-3** all attempt to shut down the operating system on the blade before powering off or powering down the blade itself.

TABLE 2-3 Commands for Powering Off or Powering Down a Server Blade

Command and Option (if any)	Effect of the Command
sc> poweroff <i>sn</i>	Powers off the blade in slot <i>n</i> .
sc> poweroff -f <i>sn</i>	Powers off the blade in slot <i>n</i> even if an orderly shut down of its operating system has failed.
sc> poweroff -F <i>sn</i>	Powers off the blade in slot <i>n</i> even if the active System Controller has not finished executing commands (from another user) involving the specified blade.
sc> poweroff -y <i>sn</i>	Powers off the blade in slot <i>n</i> without displaying the confirmation prompt.
sc> poweroff -s <i>sn</i>	Powers the blade in slot <i>n</i> down to standby mode (equivalent of <code>standbyfru</code> command).
sc> poweroff -r <i>sn</i>	Powers the blade in slot <i>n</i> down to a state in which it is safe for it to be removed; the <code>-r</code> option also turns on the blue “ok to remove” LED on the front of the blade (equivalent of the <code>removefru</code> command).

TABLE 2-3 Commands for Powering Off or Powering Down a Server Blade

Command and Option (if any)	Effect of the Command
<code>sc> standbyfru sn</code>	Powers the blade in slot <i>n</i> down to standby mode (equivalent of the <code>poweroff -s</code> command).
<code>sc> standbyfru -f sn</code>	Powers the blade in slot <i>n</i> down to standby mode even if an orderly shut down of the blade's operating system has failed.
<code>sc> standbyfru -F sn</code>	Powers the blade in slot <i>n</i> down to standby mode even if the active System Controller has not finished executing commands (from another user) involving the specified blade.
<code>sc> standbyfru -y sn</code>	Powers the blade in slot <i>n</i> down to standby mode without displaying the confirmation prompt.
<code>sc> removefru sn</code>	Powers the blade in slot <i>n</i> down to a state in which it is safe for it to be removed; this command also turns on the blue "ok to remove" LED on the front of the blade (equivalent of the <code>poweroff -r</code> command).
<code>sc> removefru -f sn</code>	Powers the blade in slot <i>n</i> down to a state in which it is safe for it to be removed. This command performs power down even if an orderly shutdown of the blade's operating system has failed. The command also turns on the blue "ok to remove" LED on the front of the blade.
<code>sc> removefru -F sn</code>	Powers the blade in slot <i>n</i> down to a state in which it is safe for it to be removed. This command performs power down even if the active System Controller has not finished executing commands (from another user) involving the specified blade.
<code>sc> removefru -y sn</code>	Powers the blade in slot <i>n</i> down to a state in which it is safe for it to be removed but does not display the confirmation prompt before doing so. This command also turns on the blue "ok to remove" LED on the front of the blade.

2.7.1 Turning on the Blue “ok to remove” LED Manually

If you have a server blade powered down and you want to remove it, you can apply the `removefru` command to it anyway. This causes the blue “ok to remove” LED come on, enabling you to identify the blade easily when you go to the chassis to remove it. For example, if the blade in slot 3 were powered down but you wanted to turn the LED on, you would type:

```
sc> removefru s3
Are you sure you want to power off FRU S3 (y/n)?: y
FRU S3 is already powered off
Sep 17 13:14:49: bem: MINOR: S3: OK to Remove LED state changed to
ON on FRU S3
```

2.8 Resetting System Controllers, Switches, and Server Blades

[TABLE 2-4](#) lists the commands for resetting components of the blade system chassis.

If you install new firmware onto a System Controller (see [Chapter 10](#)), you will need to reset that System Controller afterwards.

Note – To reset any of the components of the blade system chassis, you must have `r`-level user permission on the System Controller. (For information about the levels of user permission available, see [Chapter 3](#).)

TABLE 2-4 Commands for Resetting Components of the System Chassis

Command and Option (if any)	Effect of the Command
<code>sc> reset sn</code>	Resets the server blade in slot <i>n</i> .
<code>sc> reset sn sy</code>	Resets the server blades in slots <i>n</i> and <i>y</i> . (Specify the blades you want to reset in a space-separated list.)
<code>sc> reset -y sn</code>	Resets the blade in slot <i>n</i> without displaying the confirmation prompt.

TABLE 2-4 Commands for Resetting Components of the System Chassis

Command and Option (if any)	Effect of the Command
<code>sc> reset -F sn</code>	Forces the specified blade to reset even if the active System Controller has not finished executing commands (for another user) involving that blade.
<code>sc> reset -x sn</code>	Performs an externally-initiated reset on the blade in slot <i>n</i> .
<code>sc> reset sscn/swt</code>	Resets the switch in SSC <i>n</i> (where <i>n</i> is 0 or 1).
<code>sc> reset -y sscn/swt</code>	Resets the switch in SSC <i>n</i> without displaying the confirmation prompt.
<code>sc> reset -F sscn/swt</code>	Resets the switch in SSC <i>n</i> even if the active System Controller has not finished executing commands (for another user) involving that switch.
<code>sc> reset -x sscn/swt</code>	Performs an externally-initiated reset on the switch in SSC <i>n</i> .
<code>sc> resetsc</code>	Resets the System Controllers. Neither of the switches is affected by this reset. You will lose your user session when you reset the System Controller using this command.
<code>sc> resetsc -y</code>	Resets the System Controllers without displaying the confirmation prompt.
<code>sc> resetsc -F</code>	Resets the active System Controller without waiting for any outstanding <code>flashupdate</code> or <code>setupsc</code> commands (from another user) to finish executing. By default, the System Controller will not initiate the reset of itself until it has finished executing these commands for another user.
<code>sc> reset sscn/sc</code>	Resets the standby System Controller (where <i>n</i> is 0 or 1 depending whether the standby System Controller is in SSC0 or SSC1).
<code>sc> reset -f sscn/sc</code>	Forces the standby System Controller to reset even if it is not possible to shut down its operating system gracefully (where <i>n</i> is 0 or 1 depending whether the standby System Controller is in SSC0 or SSC1). When you execute this command you will also cause the switch in the same SSC unit to reset.

TABLE 2-4 Commands for Resetting Components of the System Chassis

Command and Option (if any)	Effect of the Command
<code>sc> break sn</code>	If Solaris is running (and it is configured to handle breaks in this way), the <code>break</code> command causes a Solaris blade to drop from Solaris into either <code>kadb</code> or <code>OBP</code> , depending on the mode in which Solaris was booted. The <code>break</code> command disables the hardware watchdog on a Solaris blade and issues the following error: "Debugging requested; hardware watchdog disabled; reboot to re-enable."
<code>sc> break -y sn</code>	As above, but the <code>-y</code> option means that you are not prompted to confirm the <code>break</code> command that you have initiated.
<code>sc> break sn sy sx</code>	As above, but this command applies the break to blades <code>n</code> , <code>y</code> , and <code>x</code> .

Setting Up System Controller Login Accounts

The System Controller provides management access to the system chassis. For security, we recommend you to set up named users of the System Controller and also to control the levels of access of each user. This chapter tells you how to do these things.

The chapter contains the following sections:

- [Section 3.2, “Logging in for the First Time and Setting an admin Password” on page 3-2](#)
- [Section 3.3, “Setting Up a Named User Account for Yourself” on page 3-3](#)
- [Section 3.4, “Changing Your Own User Password” on page 3-4](#)
- [Section 3.5, “Setting up Named User Accounts for Other People” on page 3-5](#)
- [Section 3.6, “Viewing a List of all Users Currently Logged Into the SC” on page 3-8](#)
- [Section 3.7, “Quitting the System Controller’s Command-line Interface” on page 3-8](#)

3.1 Controlling User Access to the System Controller

The System Controller allows you to set up individual user accounts with different levels of access configured for each user. The accounts you set up all require a user name and a password. This chapter tells you how to log in for the first time, setting a password for the default user (whose login name is `admin`); how to create a user account for yourself; and how to create accounts for other people and allocate specific levels of access them individually.

There are categories of permissions available for users. Full access to the System Controller therefore requires all four categories to be assigned to a user. The available categories are:

- “console permission”
This enables a user to access the consoles of the server blades and switches in the chassis.
- “user administration permission”
This enables a user to add and delete other users and alter their permission levels by using the `userperm` command.
- “administration permission”
This enables a user to change the SC’s configuration variables.
- “reset permission”
This enables the named user to reset the SCs, switches, and blades, and to power them on and off.

For information about allocating permissions to a user, see [Section 3.5.5, “Specifying Permissions for a Named User”](#) on page 3-7.

3.2 Logging in for the First Time and Setting an `admin` Password

You can specify named users of the System Controller (SC), but the default user is called `admin`. This is what you must type at the `username` prompt the first time you log into the SC. There is no default password for user `admin`. However, note that user `admin` has no permissions to configure settings or access the switch or server blade consoles until you have set a password for it.

To set a password, see [Section 3.4, “Changing Your Own User Password”](#) on page 3-4.

When you have set up a password for user `admin`, or when you have set up named users of the SC, then any subsequent time that somebody connects to the SC by telnet or by using a serial connection, the following login and password prompts appear:

```
username:  
password:
```

Note – The switch inside the Switch and System Controller (SSC) module has its own system of user login and password security. For information about how to log into the switch and how to set user names and passwords, refer to the *Sun Fire B1600 Blade System Software Setup Guide*.

3.3 Setting Up a Named User Account for Yourself

This section tells you how to set up a named user account for yourself.

1. Create a user account by typing:

```
sc> useradd username
```

where *username* is the name you intend to use as your login name. (For information about the characters that are acceptable in a user name, see [Section 3.5, “Setting up Named User Accounts for Other People”](#) on page 3-5.)

2. Specify a password for yourself.

The characters that are acceptable in the password are the same as the characters that are acceptable in a user name (see [Step 1](#) above).

3. Give yourself full user permissions by typing:

```
sc> userperm caur
```

For information about the meanings of the letters that indicate permission levels, see [Section 3.5, "Setting up Named User Accounts for Other People" on page 3-5](#)

3.4 Changing Your Own User Password

Note – All SC users with named user accounts are authorized to change their own password.

There are rules for specifying passwords. If you have u-level privileges, these rules do not apply, and you can if you like specify an empty string as a password. If you do this, then when you log in you will not be prompted for your password.

If you do not have u-level privileges, then the password you specify for yourself must:

- Begin with an uppercase or lowercase alphabetic character and contain at least two uppercase or lowercase alphabetic characters,
- Contain at least six characters (although it can contain up to eight),
- Contain at least one numeric character, or period (.), underscore (_), or hyphen (-).
- Not be identical with the user login name, or with the user login name in reverse, or with any re-arrangement of the characters of this name that would retain their sequence in a continuous circular reading of the name (for example, if the login name were roger, then ogerr, gerro, errog, and rroge would all be forbidden).

1. To change the password for the account you are currently logged into, type:

```
sc> password  
Enter current password: *****  
Enter new password: *****  
Enter new password again: *****
```

2. When prompted, specify the current password.
3. When prompted, specify the new password you want to use.
4. Specify the new password again to confirm it.

3.5 Setting up Named User Accounts for Other People

Note – You must have User Administration (u-level) authorization to add a user (see [Section 3.3, “Setting Up a Named User Account for Yourself” on page 3-3](#)). If you have not added any users, you have u-level and all other levels of authorization by default.

3.5.1 Creating a User Account

- **Type:**

```
sc> useradd username
```

where the *username* is up to eight characters long, begins with an alphabetic character, and contains at least one lowercase alphabetic character. Apart from this, the name can contain alphabetic and numeric characters, and/or period (.), underscore (_), and hyphen (-) characters in any combination.

3.5.2 Specifying or Changing Other Users' Passwords

Note – You must have User Administration (u-level) authorization to set a password for a user (see [Section 3.3, “Setting Up a Named User Account for Yourself” on page 3-3](#)).

- **Type:**

```
sc> userpassword username
```

where the *username* is the name of a user account that has already been set up.

The rules for specifying passwords referred to in [Section 3.4, “Changing Your Own User Password” on page 3-4](#)) do not apply when you are using this command. A password can be an empty string, or a string of up to eight characters in length. If

you specify an empty string (by typing [ENTER] when prompted to specify the user's password) then when that user logs in he or she will not be prompted for a password. Instead the `sc>` prompt will appear as soon as the user's name has been entered.

3.5.3 Viewing Details of User Accounts

Note – You must have User Administration (u-level) authorization to view the details of a SC user account (see [Section 3.3, “Setting Up a Named User Account for Yourself” on page 3-3](#)).

- **Type either:**

```
sc> usershow username
```

where the *username* is the name of an existing SC user account, or type the `usershow` command on its own to see a list of the user accounts that have been created and to see the user permissions of each one:

```
sc> usershow
User name      Permissions    Password?
-----
psmith         aucr           Assigned
awetherby     --cr          None
sperkins      ---r          Assigned
sc>
```

For information about the meanings of the letters indicating the different permission levels, see [Section 3.3, “Setting Up a Named User Account for Yourself” on page 3-3](#).

3.5.4 Deleting a System Controller User's Account

Note – You must have User Administration (u-level) authorization to delete a user account (see [Section 3.5, “Setting up Named User Accounts for Other People” on page 3-5](#)). Note that if you delete a user account, there is no way to recover it afterwards.

- **Type:**

```
sc> userdel username
```

where the *username* is the name of an existing SC user account.

3.5.5 Specifying Permissions for a Named User

Note – You must have User Administration (u-level) authorization to specify or to alter permission levels for a user account.

By default, all four levels of permission are available to each named user you set up.

- **To limit users to a particular level of permission, type:**

```
sc> userperm username [c] [u] [a] [r]
```

You can specify:

- **No parameters**
This causes all permissions for the named user to be removed (if you answer yes in response to the confirmation prompt).
- **All four parameters** (for example, `sc> userperm cuar`)
This makes all four levels available to the named user.
- **One, two, or three parameters**
This makes only the parameter or parameters you specify available.

The parameters are:

- **c**
This stands for “console permission”. It enables the named user to access the console on a server blade or on the integrated switch.
- **u**
This stands for “user administration permission”. It enables the named user to add and delete users and alter their permission levels by using the `userperm` command.
- **a**
This stands for “administration permission”. It enables the named user to change the SC’s configuration variables.

■ **r**

This stands for “reset permission”. It enables the named user to reset the SCs, switches, and blades, and to power them on and off.

3.6 Viewing a List of all Users Currently Logged Into the SC

- To see a list of users currently logged into the SC, type:

```
sc> showusers
user name      connection      login time      client IP addr  console
-----
psmith         serial          Jan 16 10:30
sperkins       net-3           Jan 14 17:24    172.16.100.56   system
rnixon         net-2           Jan 15 12:55    192.168.45.77
sc>
```

In the above example, “system” under the heading “console”, indicates that user sperkins currently has write access to a server blade console (the particular blade is not indicated).

Note that only one user at a time can have write access to a given server blade console; other users can have read-only access to the same console (in other words they can view all activity on the console, but they cannot intervene by executing commands).

3.7 Quitting the System Controller’s Command-line Interface

- Type:

```
sc> logout
```

This returns you to the SC’s login prompt.

Monitoring the Chassis

This chapter contains the following sections:

- [Section 4.1, “Receiving Event Reports Passively Over the Serial Connection” on page 4-2\)](#)
- [Section 4.2, “Viewing Events Relating to the System Controller and Server Blades” on page 4-3](#)
- [Section 4.3, “Interpreting Events” on page 4-4](#)
- [Section 4.4, “Controlling the Number of Events Displayed” on page 4-5](#)
- [Section 4.5, “Viewing Event Reports Sent by the Blade to `syslogd`” on page 4-6](#)

4.1 Receiving Event Reports Passively Over the Serial Connection

All events that are written to the System Controller's log files are, by default, also transmitted onto the serial interface. Therefore if you connect a terminal to the serial port of either SSC0 or SSC1, you will see any events that are reported.

4.1.1 Turning off Event Reporting for Telnet Connections

If you want to prevent events from being reported by the System Controller on telnet sessions, turn off the event reporting facility.

Note – You cannot disable event reporting on the serial interface.

To turn off event reporting on telnet connections to the SC:

1. **Type:**

```
sc> setupsc
```

2. **Press [ENTER] in answer to each question until you are asked if you want to configure parameters for the System Controller.**

Answer **y** for yes.

3. **If CLI event reporting is currently disabled, you will be asked if you want to enable it.**

If it is currently enabled, you will be asked if you want to disable it. Only event reporting on a telnet connection is affected. You cannot prevent events from being reported on the serial connection.

Answer **y** or **n** as required.

4.1.2 Checking Whether Event Reporting is On or Off

- To check whether event reporting (on telnet connections only) is currently enabled or disabled, use the `showsc` command:

```
SC> showsc
:
The CLI prompt is set as:          SC>          SC>
Event Reporting via telnet interface: Enabled      Enabled
The CLI event level is set as:     CRITICAL      CRITICAL
:
SC>
```

where the `:` character immediately above and below the `SC>` prompts indicates omitted data.

4.2 Viewing Events Relating to the System Controller and Server Blades

You can use the `showlogs` command to view events relating to specific server blades or to specific System Controllers.

To view events relating to a switch, refer to the *Sun Fire B1600 Blade System Chassis Switch Administration Guide*.

Note – Users with any of the four levels of user permission can view the event log by using the `showlogs` command. For information about the levels of permission available, see [Chapter 3](#).

4.2.1 Viewing Events Relating to a System Controller

- **Type:**

```
SC> showlogs sscn
```

where *n* is the number (0 or 1) of the System Controller whose events you want to view.

You can also view events relating to both System Controllers. To do this, type:

```
lom> showlogs ssc0 ssc1
```

4.2.2 Viewing Server Blade Events

- **Type:**

```
sc> showlogs sn
```

where *n* is the number of the slot containing the server blade whose events you want to look at.

You can also view events relating to more than one server blade. To do this, type a space-separated list of the blades you are interested in.

For example, to view the events relating to the server blades in slots 4, 9, and 13, you would type:

```
sc> showlogs s4 s9 s13
```

Note – The `showlogs` command displays the most recent 20 events (by default) with the oldest of those 20 first. Each event has a date- and time-stamp, event level, FRU affected, and an event description.

4.3 Interpreting Events

There are four levels of events:

- **CRITICAL**
These messages concern events that immediately affect the operation of a component of the system chassis. For example, they might concern exceeded temperature thresholds or supply rail failures.
- **MAJOR:**
These messages concern events of less immediate severity, for example, fans turning too slowly or the Service Required LED having been turned on.

- **MINOR:**
These messages concern events of no immediate severity.
- **INFO:**
These events are most likely to inform you that some problem has been resolved (in other words, that it is now OK).

4.4 Controlling the Number of Events Displayed

The event log for the whole chassis is maintained by the System Controller in the active SSC. Events are stored from the very first time the chassis is powered up. When the buffer storing them becomes full, the events at the beginning of the buffer (the earliest events to have been recorded) are over-written.

By default, the `showlogs` command displays the last 20 lines of the event log associated with the System Controller or Server Blade you specify. However, you might want to see more or less than the last 20 events, or you might want to see a specific number of events counting from the beginning of the log file. Finally, you might want to display the events in groups of a specified number. To do these things, read this section.

4.4.1 Viewing the First *n* Events

You can use the `-b` option to indicate that you want to see a certain number of the earliest events in the log that relate to the SCs or blades you have specified.

The `-b` option must be followed by a space and then the number of events you want to see. For example, to see the first 15 events relating to the server blade in slot 7, you would type:

```
sc> showlogs -b 15 s7
```

4.4.2 Viewing the Last *n* Events

You can use the `-e` option to indicate that you want to see a certain number of the most recent events in the log that relate to the SCs or blades you have specified.

The `-e` option must be followed by a space and then the number of events you want to see. For example, to see the last 15 events relating to the server blade in slot 7, you would type:

```
sc> showlogs -e 15 s7
```

4.4.3 Viewing Events in Groups of a Specified Number

You can use the `-g` option to indicate that you want to see events in groups of a specified number. For example, to see events relating to the System Controller in SSC0 in groups of 10, you would type:

```
sc> showlogs -g 10 ssc0
```

Note – When you have read one group of event messages, press any key to see the next group.

4.4.4 Viewing the Entire Event Log of a System Controller or Server Blade

To view the entire event log for a System Controller or server blade, use the `-v` option. For example, to see events relating to the System System Controller in SSC0, you would type:

```
sc> showlogs -v ssc0
```

4.5 Viewing Event Reports Sent by the Blade to `syslogd`

The server blade contains a processor called the Blade Support Chip (BSC). This monitors the temperature and the status of the fans and supply rails on the server blade even when the blade is powered down. If it detects a fault, it turns on the

Service Required LED on the blade's front panel and sends a report to the chassis's active System Controller. When Solaris is running, the BSC also sends event reports to `syslogd`. `syslogd` handles these in the way it has been configured to handle event reports. This means that by default it sends them to the console and stores them in the following file:

```
/var/adm/messages
```

In this file the reports are displayed with a label identifying them as BSC reports and indicating their severity as either warnings or notices.

Accessing the Server Blade and Switch Consoles

This chapter contains the following sections:

- [Section 5.1, “Accessing the Server Blade and Switch Consoles”](#) on page 5-2
- [Section 5.2, “Exiting From the Switch or Blade Console to the System Controller”](#) on page 5-4
- [Section 5.3, “Viewing the Console History on a Server Blade or Switch”](#) on page 5-4
- [Section 5.4, “Accessing the Server Blade Consoles Directly Using Telnet”](#) on page 5-6

Note – Whenever you are at a switch or blade console, type `#.` to return to the active System Controller’s `sc>` prompt.

5.1 Accessing the Server Blade and Switch Consoles

Note – You must have `c`-level user permission on the System Controller to access the console of a server blade or switch. For more information about the user permissions available, see [Chapter 3](#).

- To access the console on a server blade, type the following at the System Controller's `sc>` prompt:

```
sc> console sn
```

where n is the number of the slot containing the server blade you want to log into.

- To access the console on a switch, type:

```
sc> console sscn/swt
```

where n is either 0 or 1 depending on whether the switch whose console you want to access is in SSC0 or SSC1.

Note – If another user with write-access is already using the blade console you have connected to, your connection will be made “with input disabled”. This means that you can view activity on the console but you cannot affect it by typing commands. To find out how to force the other user off the console to gain write access for yourself, see [Section 5.1.1, “Forcing Another User Off the Console”](#) on page 5-2.

5.1.1 Forcing Another User Off the Console

Any user with `c`-level permissions on the System Controller can access the console on a blade or switch. However, if another user is logged into the console on the server blade that you want to log into, you can force them off it (and yourself onto it) instead.

Note – The number of users with c-level access who can log into the console on a server blade is unlimited. However, only one user at a time can have write access; the rest have read-only access. This means that the other users can observe console activity but they cannot execute any commands.

- **To force yourself onto a blade console and ensure that write-access passes from any current user to you, type:**

```
sc> console -f sn
```

where *n* is the number of the slot containing the server blade you want to log into.

- **To force yourself onto a switch console and ensure that write-access passes from any current user to you, type:**

```
sc> console -f sscn/swt
```

where *n* is either 0 or 1 depending on whether the switch whose console you want to access is in SSC0 or SSC1.

Note – Of course, any other user with c-level permissions can run this command with the `-f` option. Therefore, you can have write-access taken away from you in the same way that you can take it away from someone else.

5.1.2 Logging into a Blade Console With Read-only Access

- **If you do not need write-access to the console (for example, because you are only interested in logging console output), then log into the console specifying the `-r` option.**

For example, to log into the console of the blade in slot 7 with read-only access, you would type:

```
sc> console -r s7
```

5.2 Exiting From the Switch or Blade Console to the System Controller

- To exit from the switch or blade console and return to the System Controller's `sc>` prompt, type the '#' character followed immediately by the '.' character.

Wherever you are in the switch's command-line interface or on a blade console, the '#' escape sequence will return you to the System Controller's command-line interface.

For example, in the switch console, type the following (but note that the characters are not echoed to the screen):

```
Console(config)##.
```

5.3 Viewing the Console History on a Server Blade or Switch

Note – You must have `c`-level user permission to view the console history of a server blade or switch. For more information about the user permissions available, see [Chapter 3](#).

5.3.1 Viewing Console Information From the Last Time a Server Blade or Switch Booted

- To view the information stored in the boot-time buffer of a switch console, type:

```
sc> consolehistory boot sscn/sc
```

where *n* is either 0 or 1 depending on whether the switch whose boot-time console information you want to view is in SSC0 or SSC1.

- To view the information stored in the boot-time buffer of a server blade console, type:

```
sc> consolehistory boot sn
```

where *n* is the number of the slot containing the server blade whose boot-time console data you want to view.

The boot-time buffer stores output from the last reset or power-on of the server blade or switch to the point where its operating system was fully initialized and running.

5.3.1.1 Controlling the Number of Lines of Console Information Displayed

Note – If you want to view the entire buffer, include the `-v` option on the command line after the `consolehistory` command and before the `run` or `boot` option.

By default, the `consolehistory` command displays the last 20 lines of output stored in the buffer. However, you can use the `-b`, `-g`, and `-e` options on the command line to control the quantity of information returned by this command.

You can specify the number of lines of console information that you want to see:

- Counting from the end of the file (`-e`)
To do this, you need to use the `-e n` option, where *n* is the number of lines (from the end) that you want to see.
- Counting from the beginning of the file (`-b`)
To do this, you need to use the `-b n` option, where *n* is the number of lines (from the beginning) that you want to see.

You can also have the console information grouped by a specified number of lines. In this case, the display pauses after each group has been displayed. To see the next group, just press any key. To group the information in this way, use the `-g n` option, where *n* is the number of lines you want the information to be grouped into. For example, to view the last 50 lines of run-time console information from the server blade in slot 7, and to have the information displayed in groups of 10 lines, you would type:

```
sc> consolehistory -e 50 -g 10 run s7
```

5.3.2 Viewing Information From the Run-time Console Buffer

- To view the information stored in the run-time buffer of a switch console, type:

```
sc> consolehistory run sscn/swt
```

where *n* is either 0 or 1 depending on whether the switch whose run-time console information you want to view is in SSC0 or SSC1.

- To view the information stored in the run-time buffer of a server blade console, type:

```
sc> consolehistory run sn
```

where *n* is the number of the slot containing the server blade whose run-time console data you want to view.

The run-time buffer stores the most recent console output.

You can use the `-b`, `-g`, and `-e` options on the command line to control the quantity of information returned by the `consolehistory` command (see [Section 5.3.1.1, “Controlling the Number of Lines of Console Information Displayed”](#) on page 5-5).

5.4 Accessing the Server Blade Consoles Directly Using Telnet

It is possible to connect directly to a server blade console using the telnet command. In other words, it is possible to telnet into a blade console without using the `console` command at the `sc>` prompt.

To do this you need to set up a telnet connection to the System Controller, but on the command line you need to include a blade-specific IP port number. The range of possible port numbers is 2300 through 2315, where 2300 specifies the blade in slot s0, 2301 specifies the blade in slot s1, and so on (port 2315 specifying the blade in slot 15). When you are connected, the System Controller prompts you for a user name and password before setting up the console connection to the blade.

- To telnet directly to a server blade console, type the telnet command followed by the IP address or host name of the System Controller followed by the blade-specific IP port number.

For example, to telnet into the blade in slot s0 on a chassis whose System Controller has the host name b1600_chassis_1, you would type:

```
% telnet b1600_chassis 2300
Trying 129.156.203.139...
Connected to b1600_chassis.
Escape character is '^]'.

Sun Advanced Lights Out Manager for Blade Servers 1.0 ALOM-B 1.0

username: admin
password: *****
[Connected with input enabled]

#
```

Note – If another user with write-access is already using the blade console you have connected to, your connection will be made “with input disabled”. This means that you can view activity on the console but you cannot affect it by typing commands. To find out how to force the other user off the console to gain write access for yourself, see [Section 5.1.1, “Forcing Another User Off the Console”](#) on page 5-2.

Note – Whenever you are at a switch or blade console, type #. to return to the active System Controller’s sc> prompt.

Monitoring Components

This chapter contains the following sections:

- [Section 6.1, “Introduction” on page 6-2](#)
- [Section 6.2, “Viewing System Controller Details” on page 6-2](#)
- [Section 6.3, “Checking the Date and Time” on page 6-4](#)
- [Section 6.4, “Checking the Operational Status of the Hardware Components” on page 6-5](#)
- [Section 6.5, “Checking Operating Conditions Inside the Components” on page 6-9](#)
- [Section 6.6, “Checking the Information Stored by Each Component About Itself” on page 6-14](#)
- [Section 6.7, “Turning the Locator LED On or Off” on page 6-16](#)

6.1 Introduction

This System Controller's command-line interface includes commands that provide global information about the chassis and its components. These are the `showsc`, `showplatform`, `showenvironment`, and `showfru` commands.

- `showsc` tells you the current state of the SC's configurable parameters.
- `showdate` shows you date and time settings for the System Controller.
- `showplatform` tells you the status (Ok, Faulty, Not Present) of each component (it can also tell you the MAC address of each component).
- `showenvironment` provides information about the operational state of the components in the chassis (for example, it tells you the internal temperatures, the speed of the fans, and the level of current on the supply rails).
- `showfru` provides information stored by each component about itself. This information includes static data (for example, hardware version information) and dynamic data (for example, recent events generated by the component).

6.2 Viewing System Controller Details

The `showsc` command lists all configurable properties of the System Controller:

```

sc>showsc
:
Parameter                                Running Value      Stored Value
-----
Bootable Image :                          1.2.3 (Jun 11 03)
Current Running Image :                    1.2.3 (Jun 11 03)
SC IP address:                             129.156.223.39     129.156.223.39
SC IP netmask address:                     255.255.255.0     255.255.255.0
SC IP gateway address:                     129.156.223.1     129.156.223.1
SSC0/SC (Active) IP private address:      129.156.223.41    129.156.223.41
SSC1/SC (Standby) IP private address:     129.156.223.42    129.156.223.42
DNS Server IP address:                     0.0.0.0            0.0.0.0
Management Ping IP address:                0.0.0.0            0.0.0.0
SMS IP address:                             0.0.0.0            0.0.0.0
SC VLAN:                                    Disabled            Disabled
SC DHCP:                                    Disabled            Disabled
SC Network interface is:                   Enabled             Enabled
SC Telnet interface is:                    Enabled             Enabled
NTP:                                        Disabled            Disabled
Blade OS auto restart when hung:
S12                                        Disabled            Disabled
S15                                        Disabled            Disabled
Blade auto poweron:
S12                                        Enabled             Enabled
S15                                        Enabled             Enabled
Blade Firmware Timeout Restart:
S12                                        Disabled            Disabled
S15                                        Unsupported         Disabled
Blade Boot Timeout:
S12                                        0                   0
S15                                        Unsupported         0
Blade Boot Timeout Restart:
S12                                        Disabled            Disabled
S15                                        Unsupported         Disabled
The CLI prompt generation is set as:       none                none
The CLI prompt string is set as:           sc>                 sc>
Console escape sequence:                   #.                  #.
Event Reporting via telnet interface:      Enabled             Enabled
The CLI event level is set as:             MINOR               MINOR
The CLI timeout (seconds) is set at:       0                   0
Mask password with *'s:                    Disabled            Disabled
sc>

```

where the : character indicates omitted information.

- To view all of the above details plus the version number of the currently installed firmware on the server blades, use the `-v` option as follows:

```
sc> showsc -v
:
FRU      Software Version                Software Release Date
-----
S0       v5.1.0-SUNW,Sun-Fire-B100x      Jun  5 2003 10:27:31
S1       Not Present
S2       v0.21.21-PUMA-P1                Mar 11 2003 16:13:07
S3       Not Present
S4       v1.0T29-SUNW,ServerBlade1       Feb 19 2003 13:44:23
S5       v5.0.2-SUNW,Serverblade1        Jan 17 2003 11:03:37
S6       v5.0.2-SUNW,Serverblade1        Jan 17 2003 11:03:37
S7       Not Present
S8       v5.1.0-SUNW,Sun-Fire-B200x      Jun  5 2003 10:27:31
S10      v5.1.0-SUNW,Sun-Fire-B200x      Jun  5 2003 10:27:31
S12      Not Present
S13      v5.0.2-SUNW,Serverblade1        Jan 17 2003 11:03:37
S14      v5.1.0-SUNW,Sun-Fire-B100x      Jun  5 2003 10:27:31
S15      Not Present
S16      Not Present
sc>
```

where the `:` character indicates omitted data.

Note – B200x blades occupy two slots. The second of these two slots is not shown in the output.

6.3 Checking the Date and Time

Note – Users with any of the four levels of user permission can check the date and time on the System Controller by using the `showdate` command. For information about the levels of permission available, see [Chapter 3](#).

- To check the date and time on the SC, type:

```
sc> showdate  
Wed Mar 27 11:42:40 UTC 2002
```

For information about setting the date and time, refer to the *Sun Fire B1600 Blade System Chassis Software Setup Guide*.

6.4 Checking the Operational Status of the Hardware Components

Note – Users with any of the four levels of user permission can check the operational status of the hardware by using the `showplatform` command. For information about the levels of permission available, see [Chapter 3](#).

- To check the operational status of a blade or of several blades, type `showplatform` followed by an individual blade slot or a space-separated list of blade slots. For example:

```
sc> showplatform s10 s12 s15  
FRU          Status          Type  
-----  
S10          OK              SF B200x  
S12          OK              SF B200x  
S15          Faulty          SF B10n  
  
Domain       Status  
-----  
S10          OS Running  
S12          OS Running  
S15          OS Stopped
```

- To check the operational status of a switch and System Controller, type:

```

sc> showplatform sscn
FRU          Status          Type
-----
SSC0         OK                SF B1600 SSC

Domain      Status
-----
SSC0/SWT    OS Running
SSC0/SC     OS Running (Active)

```

where *n* is either 0 or 1.

- To check a switch on its own, type:

```

sc> showplatform sscn/swt
FRU          Status          Type
-----
SSC0         OK                SF B1600 SSC
SSC0/SWT

Domain      Status
-----
SSC0/SWT    OS Running

```

where *n* is either 0 or 1.

- To check a power supply on its own, type:

```

sc> showplatform pn
FRU          Status          Type
-----
PS1          OK                SF B1600 PSU

```

where *n* is either 0 or 1.

- To check the status of a component (or of all components) without displaying information about whether the operating system is running, use the `-p` option on the command line. For example:

```
sc> showplatform -p sscn/swt
FRU          Status      Type
-----
SSC0         OK          SF B1600 SSC
```

- To check the operational status of the Switch and System Controllers, server blades, and Power Supply Units, and to see their MAC addresses and hostnames (if applicable), type:

```
sc>showplatform -v
```

FRU	Status	Type	Part No.	Serial No.
S0	OK	SF B200x	5405548	000408
S2	OK	SF B10n	5405593	000031
S3	Not Present	***	***	***
S4	OK	SF B100s	5405078	000000
S5	OK	SF B100s	5405078	000000
S6	OK	SF B100s	5405078	000467
S7	Not Present	***	***	***
S8	OK	SF B200x	5405526	000292
S10	OK	SF B200x	5405526	000549
S12	OK	SF B200x	5405526	000472
S14	OK	SF B200x	5405526	000316
SSC0	OK	SF B1600 SSC	5405185	0004703-0309000331
SSC0/SC				
SSC0/SWT				
SSC1	OK	SF B1600 SSC	5405185	000000000000000000
SSC1/SC				
SSC1/SWT				
PS0	OK	SF B1600 PSU	3001544	002555abcdef1234
PS1	OK	SF B1600 PSU	3001544	002555abcdef1234
CH	OK	SF B1600	5405082	000000

Domain	Status	MAC Address	Hostname
S0	OS Running	00:03:ba:29:ef:c0	localhost.locald>
S2	OS Running	00:03:ba:2c:73:6a	
S4	OS Stopped	00:50:c2:0b:1c:44	
:			
SSC1/SWT	OS Running	00:03:ba:19:a6:05	
SSC0/SC	OS Running (Ac	00:03:ba:1b:33:f0	
SSC1/SC	OS Running	00:03:ba:19:a6:1e	

```
sc>
```

where the : character indicates omitted data.

Note – B200x blades occupy two slots. The second of these two slots is not shown in the output.

Note – If you do not specify `-v` on the command line for this command, you will see only the operational status of each piece of hardware, not the MAC address.

6.5 Checking Operating Conditions Inside the Components

You can use the `showenvironment` command to check the operating temperatures, the fans, and the voltage supply rails inside each blade, switch, power supply unit, and SSC inside the chassis. The command also displays the warning and shutdown thresholds.

Note – Users with any of the four levels of user permission can check the health of the platform and its components by using the `showenvironment` command. For information about the levels of permission available, see [Chapter 3](#).

6.5.1 Checking the Entire Chassis

- Type:

```
sc> showenvironment -v
```

6.5.2 Checking Just the SSC

- Type:

```
sc> showenvironment sscn
```

where *n* is either 0 or 1 depending on whether you want to view information about SSC0 or SSC1.

- Alternatively, to check both SSCs, you would type:

```

sc> showenvironment ssc0 ssc1

===== Environmental Status =====

System Temperatures (Celsius)      Current      Status
-----
S0          /MB/C0/P0/T_CORE      36           OK
S0          /MB/T_ENC          32           OK
S1          /MB/C0/P0/T_CORE      46           OK
S1          /MB/T_ENC          33           OK
S2          /MB/C0/P0/T_CORE      49           OK
S2          /MB/T_ENC          34           OK

System Voltages (Volts)             Current      Status
-----
S0          /MB/5V              99%          OK
S0          /MB/3.3V         100%         OK
S0          /MB/2.5V         102%         OK
S0          /MB/V_CORE       102%         OK
S0          /MB/Vttm         102%         OK
S1          /MB/5V              99%          OK
S1          /MB/3.3V         99%          OK
S1          /MB/2.5V         102%         OK
S1          /MB/V_CORE       100%         OK
S1          /MB/Vttm         103%         OK
S2          /MB/5V              100%         OK
S2          /MB/3.3V         100%         OK
S2          /MB/2.5V         103%         OK
S2          /MB/V_CORE       100%         OK
S2          /MB/Vttm         103%         OK

System Fans (RPM)                   Current      Status
-----
S0          /MB/C0/P0/F0/TACH     100%         OK
S1          /MB/C0/P0/F0/TACH     100%         OK
S2          /MB/C0/P0/F0/TACH     100%         OK
sc>
sc>

```

6.5.3 Checking Just the Power Supply Unit

- **Type:**

```
sc> showenvironment psn
```

where *n* is either 0 or 1 depending on whether you want to view information about PSU0 or PSU1. For example, to check PSU0, you would type:

```
sc> showenvironment ps1

===== Environmental Status =====

System Temperatures (Celsius)      Current      Status
-----
PS1          /MB/C0/P0/T_CORE      33           OK
PS1          /MB/T_ENC        32           OK

System Voltages (Volts)            Current      Status
-----
PS1          /MB/5V              99%          OK
PS1          /MB/3.3V          100%         OK
PS1          /MB/2.5V          102%         OK
PS1          /MB/V_CORE        102%         OK
PS1          /MB/Vttm          102%         OK

System Fans (RPM)                  Current      Status
-----
S0           /MB/C0/P0/F0/TACH      100%         OK
sc>
```

6.5.4 Checking a Server Blade or Server Blades

- To check a single server blade type:

```
sc> showenvironment sn
```

where *n* is the number of the slot containing the blade. For example:

```
sc> showenvironment s0

===== Environmental Status =====

System Temperatures (Celsius)      Current      Status
-----
S0          /MB/C0/P0/T_CORE         33           OK
S0          /MB/T_ENC                 32           OK

System Voltages (Volts)             Current      Status
-----
S0          /MB/5V                    99%          OK
S0          /MB/3.3V                  100%         OK
S0          /MB/2.5V                  102%         OK
S0          /MB/V_CORE                102%         OK
S0          /MB/Vttm                  102%         OK

System Fans (RPM)                   Current      Status
-----
S0          /MB/C0/P0/F0/TACH         100%         OK
sc>
```

- To check a number of server blades, specify them in a space-separated list. For example:

```

sc>showenvironment s0 s1 s2

===== Environmental Status =====

System Temperatures (Celsius)      Current      Status
-----
S0          /temp/enclosure      26           OK
S0          /temp/CPU die        48           OK
S1          /temp/enclosure      26           OK
S1          /temp/CPU die        42           OK
S2          /temp/enclosure      27           OK
S2          /temp/CPU die        46           OK

System Voltages (Volts)             Current      Status
-----
S0          /VSensor/5V          100%         OK
S0          /VSensor/3V3          100%         OK
S0          /VSensor/2V5          99%          OK
S0          /VSensor/Vcore        100%         OK
S1          /VSensor/5V          100%         OK
S1          /VSensor/3V3          100%         OK
S1          /VSensor/2V5          99%          OK
S1          /VSensor/Vcore        100%         OK
S2          /VSensor/5V          99%          OK
S2          /VSensor/3V3          100%         OK
S2          /VSensor/2V5          99%          OK
S2          /VSensor/Vcore        99%          OK

System Fans (RPM)                  Current      Status
-----
S0          /fan/cpu_fan         100%         OK
S1          /fan/cpu_fan         100%         OK
S2          /fan/cpu_fan         100%         OK
sc>

```

6.5.5 Checking Just a Switch or Switches

- To check a single switch, type:

```

sc> showenvironment sscn/swt

```

where n is either 0 or 1 depending on whether you want to monitor the switch in SSC-0 or SSC1.

- To check both switches, type:

```
sc> showenvironment ssc0/swt ssc1/swt
```

System Voltages (Volts)		Current	Status
SSC0/SWT	/VSensor/VCore	1.77	OK
SSC0/SWT	/VSensor/3V3	3.28	OK
SSC0/SWT	/VSensor/1V25	1.23	OK
SSC0/SWT	/VSensor/2V5	2.48	OK
SSC0/SWT	/VSensor/1V2	1.23	OK
SSC1/SWT	/VSensor/VCore	1.75	OK
SSC1/SWT	/VSensor/3V3	3.28	OK
SSC1/SWT	/VSensor/1V25	1.24	OK
SSC1/SWT	/VSensor/2V5	2.47	OK
SSC1/SWT	/VSensor/1V2	1.22	OK

```
sc>
```

6.6 Checking the Information Stored by Each Component About Itself

You can use the `showfru` command to view a database of information stored by each component about itself.

Note – To use the `showfru` command, you need to have `c-level` user permission. For more information about permission levels, see [Chapter 3](#).

- To view the information stored by a component about itself, do the following:

```
sc> showfru FRU list
```

Where *FRU list* is a single FRU or a space-separated list of FRUs. The FRUs can be `ssc0`, `ssc1`, `ps0`, `ps1`, or `sn` (where n is a slot number from 0 through 15).

For example, to see FRUID information about SSC0, you would type:

```
sc> showfru ssc0
-----
FRUID Records for FRU SSC0
-----
/FRUID/ManR/UNIX_Timestamp32: Mon Oct 14 22:49:04 UTC 2002
/FRUID/ManR/Fru_Description: SUNW,Sun Fire B1600 SSC, 8x1GB NET,
1x10MB
NET MGT, 1 Serial MGT
/FRUID/ManR/Manufacture_Loc: Hsinchu, Taiwan
/FRUID/ManR/Sun_Part_No: 5405185
/FRUID/ManR/Sun_Serial_No:
SC>
```

where the : character on a line by itself indicates omitted data.

- **To find the chassis serial number, run the `showfru ch` command on the System Controller's command line and inspect the field for `/ManR/Sun_serial_No`.**

```
sc> showfru ch
sc>showfru ch
/ManR/UNIX_Timestamp32: Tue Oct 22 08:56:15 UTC 2002
/ManR/Fru_Description: SUNW,Sun Fire B1600
/ManR/Manufacture_Loc: Hsinchu,
Taiwan
/ManR/Sun_Part_No: 5405082
/ManR/Sun_Serial_No: 000051
/ManR/Vendor_Name: Mitac International
/ManR/Initial_HW_Dash_Level: 01
/ManR/Initial_HW_Rev_Level: 03
/ManR/Fru_Shortname: SF B1600
/SpecPartNo: 885-0069-04
:
sc>
```

where the : character above the `sc>` prompt indicates omitted data.

6.7 Turning the Locator LED On or Off

If there is a problem with any of the components on your chassis and you need to locate the chassis so that you can service it, use the following command to turn on the locator LED.

- To turn on the locator LED, type:

```
sc> setlocator on
```

- To turn off the locator LED, type:

```
sc> setlocator off
```

For an illustration of the locator and other LEDs on the front and rear of the system chassis, see [Appendix A](#).

Making the Standby System Controller Take Over as Active

This chapter contains the following sections:

- [Section 7.1, “Causing the System Controllers to Swap Roles”](#) on page 7-2

7.1 Causing the System Controllers to Swap Roles

This chapter tells you how to make the standby System Controller take over from the active one if the active one.

Note – To perform the procedure, you must have r-level permissions for the System Controller. For information about user privileges, see [Chapter 3](#).

There might be occasions when you want to force the standby System Controller to take over from the active System Controller even though there has been no failure of the active System Controller. You would need to do this, for example, in order to upgrade the System Controller firmware. (You cannot upgrade firmware on a standby System Controller.)

- **To make the standby System Controller take over from the active System Controller, at the `sc>` prompt, type:**

```
sc> setfailover
SSC0 is in Active Mode
SSC1 is in Standby Mode.
Are you sure you want to failover to SSC1?
All connections and user sessions will now be lost on SSC0 (y/n)? y

System Controller in SSC0 is now in Standby mode
```

- **To check which System Controller is active, type:**

```
sc>showsc
:
Parameter                                Running Value          Stored Value
-----
:
SSC0/SC (Active) IP private address: 129.156.223.146    129.156.223.146
SSC1/SC (Standby) IP private address:129.156.223.147    129.156.223.147
DNS Server IP address:                        129.156.223.7         129.156.223.7
:
```

where the : characters indicate omitted information.

Controlling the Booting Behavior of a Server Blade

This chapter contains the following sections:

- [Section 8.1, “Introduction” on page 8-2](#)
- [Section 8.2, “Boot Modes Available” on page 8-2](#)

8.1 Introduction

Note – You must have r-level user permission on the System Controller to use the `bootmode` command. For information about user privileges, see [Chapter 3](#).

You can control the booting behavior of a server blade by using the `bootmode` command at the `sc>` prompt on the System Controller. The functionality of this command is similar to the functionality available on Sun keyboards via the L1 key combinations. However, the `bootmode` command is provided because the L1 key combinations are not available for server blades.

The syntax for the `bootmode` command is as follows:

```
bootmode [reset_nvram|diag|skip_diag|normal|bootscript="string"]
{blade list}
```

where the blade list is a space-separated list of the blades (each identified by the character 's' followed by a slot number) whose booting you want to configure.

The command-line options (`reset_nvram`, `diag`, `skip_diag`, `normal`, and `bootscript="string"`) are as described in [Section 8.2, "Boot Modes Available" on page 8-2](#).

8.2 Boot Modes Available

If you use the `bootmode` command without arguments, the System Controller reports the current boot mode for each blade and the time that it will expire.

Note – If you use the `bootmode` command to make any change to the booting behavior of a blade, you must reset the blade or blades concerned within 10 minutes of running the `bootmode` command. Otherwise the boot mode for the blade or blades will revert to the parameter setting `normal`. For information about resetting a server blade, see [Chapter 2](#).

The boot modes available are listed in [TABLE 8-1](#).

TABLE 8-1 Boot Modes Available for the Server Blades

Mode	Description
normal	If you run <code>bootmode</code> with this parameter, the server blade or server blades specified will boot using the settings that are currently configured for their OpenBoot™ PROM parameters or BIOS parameters. For the command to take effect, you must reset the blade or blades within 10 minutes of executing the command (to reset blades, see Chapter 2).
reset_nvram	If you run <code>bootmode</code> with this parameter, the server blade or server blades specified will have their nvram or CMOS settings restored to their factory default settings. The command is equivalent to the L1-N key combination for Sun keyboards. For the command to take effect, you must reset the blade or blades within 10 minutes of executing the command (to reset blades, see Chapter 2).
diag	If you run <code>bootmode</code> with this parameter, the server blade or server blades specified will perform full self-diagnostics as part of the boot process. With Solaris, the command is equivalent to the L1-D key combination for Sun keyboards. For the command to take effect, you must power cycle the blade or blades within 10 minutes of executing the command (to reset blades, see Chapter 2).
skip_diag	If you run <code>bootmode</code> with this parameter, the server blade or blades will skip the diagnostics part of the boot process. For the command to take effect, you must reset the blade or blades within 10 minutes of executing the command (to reset blades, see Chapter 2).
<code>bootscript=</code> <code>scriptboot net</code> <code>boot disk</code> <code>boot hdd0</code> <code>boot snet0</code> <code>boot snet1</code>	<p>If you run <code>bootmode</code> with this parameter, you must specify a string containing the OBP commands that you want the blade or blades to execute before starting to boot. In the following example, the <code>bootscript</code> parameter is used to make the blades in slots <code>s0</code>, <code>s1</code>, and <code>s2</code> boot from the network:</p> <pre>sc>bootmode bootscript="boot net - install" s0 s1 s2 sc>poweron s0 s1 s2</pre> <p>For blades running Linux or Solaris x86, only the following <code>bootscript</code> parameters are supported:</p> <pre>boot net boot disk boot hdd0 boot snet0 boot snet1</pre>

What To Do If You Have Lost The Password to Your System Controller

If you lose your password to the System Controller, do the following:

1. **Remove and then re-insert one of the power supplies.**
2. **Within five minutes of re-inserting the power supply, set up a serial connection to the SSC containing the active System Controller and log in as user `admin`.**

For information about setting up a serial connection to the SSC, see the *Sun Fire B1600 Blade System Chassis Hardware Installation Guide*.

To log in, type the default user name `admin` and when prompted for a password, press [ENTER].:

```
username: admin
password: [ENTER]
```

3. **At the `sc>` prompt, set a new password for the default user (`admin`).**

To set a new password for user `admin`, type:

```
sc>password
Enter new password:*****
Enter new password again: *****
New password set for user admin successfully
sc>
```

The password you specify can be up to eight characters long. It must begin with an alphabetic character, and it must contain at least one lower-case alphabetic character. You can use any of the following characters in the password:

- Alphabetic
- Numeric
- Period (.)
- Underscore (_)
- Hyphen (-)

4. **Set up a new user name and password for yourself.**

To do this, follow the instructions in [Chapter 3](#) of this manual.

Firmware Upgrade Procedures

This chapter contains the following sections:

- [Section 10.1, “Introduction” on page 10-2](#)
- [Section 10.2, “Setting up a TFTP Server” on page 10-3](#)
- [Section 10.3, “Installing Firmware Images Onto the TFTP Server” on page 10-5](#)
- [Section 10.4, “Upgrading the System Controller Firmware” on page 10-6](#)
- [Section 10.5, “Upgrading the Blade Support Chip Firmware on One or More Blades” on page 10-10](#)
- [Section 10.6, “Upgrading OpenBoot PROM \(OBP\) Firmware on a B100s Server Blade” on page 10-12](#)
- [Section 10.7, “Upgrading the Integrated Switch Firmware” on page 10-15](#)

10.1 Introduction

Note – To perform the update procedures in this chapter, you need to have a connection from the NETMGT port to the management network. This is because you need to transfer the new firmware from a location on your network.

This chapter tells you how to upgrade the firmware on:

- One or both System Controllers
- One or more Blade Support Chips (each server blade contains a single one of these, called a BSC for short)
- One or more blade OpenBoot PROMs (OBP)
- One or both switches

The chapter also tells you how to set up a TFTP (Trivial File Transfer Protocol) server if you do not already have one set up on your network. The firmware upgrade procedures require you to use TFTP.

The BSC on each server blade is a management agent for the System Controller. It communicates information about the server blade it resides in to the System Controller. It also receives and processes any commands that you type into the System Controller's command-line interface.

Follow the instructions in this chapter if you have been advised by a Sun support engineer to download new firmware onto a System Controller, server blade, or integrated switch.

New firmware for System Controllers and server blades is available on the following website:

`www.sun.com/software/download/network.html`

These patches are not operating system patches and are not installed using the standard Solaris `patchadd(1m)` utility. Once the patches have been unpacked they deliver the firmware images with the filename format shown in [TABLE 10-1](#).

TABLE 10-1 The Filenames of the Firmware

Firmware Image	Filename
System Controller application	SunFireB1600-sc- <i>vxxxx</i> .flash ¹
Integrated Switch firmware	SunFireB1600-switch- <i>vxxxx</i> .flash ¹
Blade Support Chip firmware	SunFireB100s-bsc- <i>vxxxx</i> .flash ¹
	SunFireB100x-bsc- <i>vxxxx</i> .flash ¹
	SunFireB200x-bsc- <i>vxxxx</i> .flash ¹
OpenBoot PROM firmware upgrade utility	SunFireB100s-obp- <i>vxxxx</i> .sh ¹

1. Note that *-vxxxx* represents the version number of the firmware. For example the file SunFireB1600s-switch-v1.0.0.10.flash would be the image for version 1.0.0.10 of the switch firmware.

In addition to following the instructions in this chapter, please perform any special instructions that are provided in the patch README files.

10.2 Setting up a TFTP Server

The procedures for upgrading firmware on the different components of the Sun B1600 blade system chassis involve using TFTP. This means that to perform them you need to have a TFTP server available on your network.

The instructions in this section assume that you are setting up a TFTP server on a Solaris system. For instructions on setting up a TFTP server on a Linux system, see chapter 4 of the *B100x and B200x Blade Server Installation and Setup Guide*.

Note – If you are using separated data and management networks, you need a TFTP server available on both networks.

To configure a Solaris system on your network to serve TFTP requests, do the following:

1. On the system that you intend to set up as the TFTP server, log in as root.
2. Use a text editor to un-comment the following line in the file `/etc/inetd.conf`:

```
tftp dgram udp6 wait root /usr/sbin/in.tftpd in.tftpd -s /tftpboot
```

3. On the same system create a TFTP home directory by typing the following at the Solaris prompt:

```
# mkdir /tftpboot
# chown root /tftpboot
# chmod 755 /tftpboot
# cd /tftpboot
# ln -s . tftpboot
```

4. Restart `inetd` by typing:

```
# pkill -HUP inetd
```

5. Verify that TFTP is working.

To do this, use TFTP to get a file from the `/tftpboot` directory. Follow the instructions below:

- a. On the system that you are using as the TFTP server, copy any file (for example, the Solaris `/etc/release` file) to the `/tftpboot` directory.

Type the following command at the Solaris prompt:

```
# cp /etc/release /tftpboot/filename
```

where *filename* is the name of the file you intend to make available on the TFTP server.

- b. Make the file you have just copied read-only:

```
# chmod 444 /tftpboot/filename
```

where *filename* is the name of the file you intend to make available on the TFTP server.

Note – Note that TFTP is not the same as FTP. It does not display the same error messages as FTP, and you cannot use the `cd` or `ls` commands (or indeed most other commands) that FTP allows you to use.

- c. Change directory to a temporary directory:

```
# cd /tmp
```

- d. Use TFTP to get the file from the `tftpboot` directory:

```
# tftp localhost
tftp> get filename
Received xxx bytes in x.x seconds
tftp> quit
```

where *filename* is the name of the file you intend to make available on the TFTP server.

- e. Ensure that the file is in the `tmp` directory.

10.3 Installing Firmware Images Onto the TFTP Server

When you have downloaded the Sun Fire B1600 firmware patches (and unpacked the firmware images), you need to install them onto the correct directory on the TFTP server. This makes them available to the System Controller's `flashupdate` command.

- To install the firmware onto the TFTP server, at that system's # prompt, type the following:

```
# cd /tftp-root-dir
# mkdir firmware
# cp SunFireB1600-sc-vxxxx.flash /tftp-root-dir/firmware
# chmod 444 /tftp-root-dir/firmware/SunFireB1600-sc-vxxxx.flash

# cd switch-firmware-patch-dir
# cp SunFireB1600-switch-vxxxx.flash /tftp-root-dir/firmware
# chmod 444 /tftp-root-dir/SunFireB1600-switch-vxxxx.flash

# cd bsc-firmware-patch-dir
# cp SunFireB100x-bsc-vxxxx.flash /tftp-root-dir/firmware
# chmod 444 /tftp-root-dir/SunFireB100x-bsc-vxxxx.flash
```

where:

- *vxxxx* is the version of the firmware,
- *tftp-root-dir* is the TFTP root directory on the TFTP server. On Solaris systems this directory is typically called */tftpboot*. On Linux systems it is called */tftp*.
- *sc-firmware-patch-dir* is the directory into which you unpacked the contents of the System Controller firmware packages.
- *switch-firmware-patch-dir* is the directory into which you unpacked the contents of the switch firmware packages.
- *bsc-firmware-patch-dir* is the directory into which you unpacked the contents of the BSC firmware packages. Note that this example shows the location of BSC firmware for a B100x server blade.

10.4 Upgrading the System Controller Firmware

Note – You must have a-level user privileges to perform an update of the System Controller firmware. For information about the levels of user permission that are available, see [Section 3.5, “Setting up Named User Accounts for Other People” on page 3-5](#)).

Note – To make the standby System Controller take over as the active one so that you can upgrade the firmware on it, use the `setfailover` command (see [Chapter 7](#)).

To perform the upgrade, do the following:

1. Check the current version of the System Controller firmware.

Type:

```
sc>showsc

Sun Advanced Lights Out Manager for Blade Servers 1.1
Copyright 2003 Sun Microsystems, Inc. All Rights Reserved.
ALOM-B 1.1

Release: 1.1.8

Parameter                                Running Value      Stored Value
-----
Bootable Image :                          1.0.97 (Jan 06 03)
Current Running Image :                   1.0.97 (Jan 06 03)
...
```

The current version of the System Controller firmware appears in the line labeled “Current Running Image”.

2. Read the patch README file supplied with the System Controller firmware image and note the version of the firmware it describes.

Also note any special instructions and cautions.

3. Establish that the upgrade is necessary.

If the current System Controller firmware revision matches the version numbers listed in the patch README file, the upgrade is not necessary for this System Controller.

If the current System Controller firmware revision is lower than the latest firmware revision specified in the patch README file, proceed to [Step 4](#).

4. At the `sc>` prompt, type:

```
sc> flashupdate -s ipaddress -f path [-v] [-y] sscn/sc
```

where:

path specifies the path and filename of the new firmware you intend to download,

ipaddress specifies the IP address of the computer on which the new firmware is stored (in other words, of the TFTP server),

n is either 0 or 1 depending on whether you are downloading new firmware onto SSC0 or SSC1,

and where the `-v` (verbose) option displays detailed screen output to enable you to observe the progress of the firmware update, and the `-y` option causes the update command to execute without prompting you for confirmation to proceed.

For example:

```
sc> flashupdate -s 129.156.237.102 -f /firmware/SunFireB1600-  
sc-vxxxx.flash -v -y sscn/sc
```

5. When the update operation has completed, you must reset the System Controller for the new firmware to come into use.

Type:

```
sc> resetsc -y
```

where the `-y` option causes the System Controller to reset without prompting you for confirmation to proceed.

6. Confirm that the System Controller is now running the new firmware.

Type:

```
sc>showsc

Sun Advanced Lights Out Manager for Blade Servers 1.2
Copyright 2003 Sun Microsystems, Inc. All Rights Reserved.
ALOM-B 1.2

Release: 1.2.1

Parameter                                Running Value      Stored Value
-----
Bootable Image :                          1.2.1 (Jun 29 03)
Current Running Image :                    1.2.1 (Jun 29 03)
```

7. Upgrade the firmware on the standby System Controller:

- a. Follow the instructions in [Chapter 7](#) to make the standby System Controller take over as the active one.
- b. Repeat [Step 1](#) through [Step 6](#) above.

10.4.1 Example for Upgrading the System Controller Firmware

- To download a new image (called `SunFireB1600-sc-v1.1.8.flash`) onto the System Controller in SSC0 from a TFTP server whose IP address is 129.156.237.102, you would need to type the following at the SC's command line:

```
sc> flashupdate -s 129.156.237.102 -f /firmware/SunFireB1600-sc-v1.1.8.flash ssc0/sc
Warning: Are you sure you want to update the flash image (y/n)? y
Erasing segment 2f Programming address ffaeffef
Update of SSC0/SC complete.
The system must be reset (using resetsc) for the new image to be loaded
sc> resetsc -y
```

10.5 Upgrading the Blade Support Chip Firmware on One or More Blades

1. Check the current version of the blades' BSC firmware.

The current version of the firmware running on each blade is listed at the end of the output from the `showsc -v` command. Type:

```
sc>showsc -v

Sun Advanced Lights Out Manager for Blade Servers 1.2
Copyright 2003 Sun Microsystems, Inc. All Rights Reserved.
ALOM-B 1.2
:
:
FRU      Software Version                Software Release Date
-----
S0       v1.1T30-SUNW,Serverblade1      Oct 24 2002 16:22:24
S1       v1.1T30-SUNW,Serverblade1      Oct 24 2002 16:22:24
S2       v1.1T30-SUNW,Serverblade1      Oct 24 2002 16:22:24
S3       v1.1T30-SUNW,Serverblade1      Oct 24 2002 16:22:24
S4       v4.1.1-SUNW,Sun-Fire-B200x     May 27 2003 10:36:23
S6       v4.1.1-SUNW,Sun-Fire-B200x     May 27 2003 10:36:23
S8       v4.1.1-SUNW,Sun-Fire-B200x     May 27 2003 10:36:23
S10      v4.1.1-SUNW,Sun-Fire-B200x     May 27 2003 10:36:20
S12      v5.1.0-SUNW,Sun-Fire-B100x     Oct 7 2003 11:03:20
S13      v5.1.0-SUNW,Sun-Fire-B100x     Oct 7 2003 11:03:20
S14      v5.1.0-SUNW,Sun-Fire-B100x     Oct 7 2003 11:03:20
S15      v5.1.0-SUNW,Sun-Fire-B100x     Oct 7 2003 11:03:20

sc>
```

(Note that the `:` character indicates omitted information.)

2. Read the patch README file supplied with the BSC firmware image and note the version of the firmware that it describes.

Also note any special instructions and cautions.

3. Establish that the upgrade is necessary.

If the current BSC firmware revision for a blade matches the version numbers given in the patch README file, the upgrade is not necessary for that blade.

If the current BSC firmware revision is lower than the latest firmware revision specified in the patch README file, proceed to [Step 4](#).

4. At the `sc>` prompt, type:

```
sc> flashupdate [-v] [-y] -s ipaddress -f path sn [sn...]
```

where:

the `-v` (verbose) option displays detailed screen output to enable you to observe the progress of the firmware update, and the `-y` option causes the update command to execute without prompting you for confirmation to proceed.

ipaddress specifies the IP address of the computer on which the new firmware is stored (in other words, of the TFTP server),

path specifies the path and filename of the new firmware you intend to download,

n specifies the blade whose firmware you want to upgrade,

and where `[sn...]` indicates an optional space-separated list of blades to be updated.

5. Check that the new firmware is running on the blades.

To do this, repeat [Step 1](#) to see an updated list of the firmware on the blades.

10.5.1 Example of Upgrading Firmware on a Single Blade

- To download a new image (called `SunFireB100x-bsc-v5.0.0.flash`) onto the blade in slot 3 from the firmware directory on a TFTP server whose IP address was 129.156.237.102, you would need to type:

```
sc> flashupdate -s 129.156.237.102 -f /firmware/SunFireB100x-bsc-v5.0.0.flash s3  
Warning: Are you sure you want to update S3 bsc image;  
all console connections to the fru will be reset (y/n)? y  
131072 bytes of 131072 completed on S3  
Update of S3 complete  
sc>
```

10.5.2 Examples for Upgrading Firmware on a Number of Blades

- To download a new image (called `SunFire100x-bsc-v5.0.0.flash`) onto the blades in slots 5, 10, and 13 from a TFTP server whose IP address was 129.156.237.102, you would need to type:

```
sc> flashupdate -s 129.156.237.102 -f /firmware/SunFireB100x-bsc-  
v5.0.0.flash s5 s10 s13  
Warning: Are you sure you want to update s5 bsc image;  
all console connections to s5 will be reset (y/n)? y  
131072 bytes of 131072 completed on s5  
Update of s5 complete  
Warning: Are you sure you want to update s10 bsc image;  
all console connections to s10 will be reset. (y/n)? y  
131072 bytes of 131072 completed on s10  
Update of s10 complete  
Warning: Are you sure you want to update s13 bsc image;  
all console connections to s13 will be reset (y/n)? y  
131072 bytes of 131072 completed on s13  
Update of s13 complete  
sc>
```

10.6 Upgrading OpenBoot PROM (OBP) Firmware on a B100s Server Blade

This section tells you how to upgrade the OBP firmware on a SPARC Solaris server blade. You need to do this from the Solaris operating environment on the blade itself.

1. Check the current version of the OBP firmware on the blade.

From the Solaris prompt type:

```
# /usr/sbin/prtconf -v
   OBP  4.7.3 2002/12/09 08:30
```

Alternatively, from the PROM monitor's ok prompt on the blade, type:

```
ok .version
   Release  4.7.3 created 2002/12/09 08:30
   OBP  4.7.3 2002/12/09 08:30 Sun Serverblade1
```

2. Copy the OBP firmware upgrade to a known location on the blade.

3. Change to the directory that you have put the new firmware into, and extract the contents of the zip file containing it.

```
# cd /var/tmp
# unzip patchnumber-rev.zip
# cd patchnumber-rev
```

An example is as follows:

```
# cd /var/tmp
# unzip 123456-01.zip
# cd 123456-01
```

4. Read the patch README file and note the version of the OBP firmware that it describes. Also note any special instructions.

5. Establish whether it is necessary to proceed with the OBP firmware upgrade for the particular blade.

If the current Flash PROM revision matches the version numbers given in the patch README file then the upgrade is not necessary for this blade.

If the current Flash PROM firmware revision is lower than the latest firmware revision specified in the patch README file, then proceed to [Step 6](#).

6. Prepare the blade for the OBP firmware upgrade.

Close and exit all applications. You need to do this because the OBP upgrade utility you will run in [Step 8](#) reboots the blade's operating environment.

7. Become root user.

8. Execute the OBP upgrade utility.

Type:

```
# cd /var/tmp/patchnumber-rev
# chmod +x SunFireB100s-obp-vxxxxxx.sh
# ./SunFireB100s-obp-vxxxxxx.sh
```

where *vxxxxxx* is the firmware version information.

A sample command is as follows:

```
# ./SunFireB100s-obp-v4.7.3.sh

Flash Update 2.4: Program and system initialization in progress...

Current System Flash PROM Revision:
-----
OBP 4.7.0.stlo.v111 2002/11/01 17:44 Sun

Available System Flash PROM Revision:
-----
OBP 4.7.3 2002/12/09 08:30

NOTE: The system will be rebooted (reset) after the firmware has been
updated. However, if an error occurs then the system will NOT be
rebooted.

Do you wish to update the firmware in the system Flash PROM? yes/no:
yes

Erasing the top half of the Flash PROM.
Programming OBP into the top half of the Flash PROM.
Verifying OBP in the top half of the Flash PROM.

Erasing the bottom half of the Flash PROM.
Programming OBP into the bottom half of Flash PROM.
Verifying OBP in the bottom half of the Flash PROM.

Erasing the top half of the Flash PROM.
Programming POST into the top half of Flash PROM.
Verifying POST in the top half of the Flash PROM.

The system's Flash PROM firmware has been updated.

Please wait while the system is rebooted...
```

9. Repeat [Step 1](#) to confirm that the upgrade was successful.

10.7 Upgrading the Integrated Switch Firmware

Note – To enable you to perform the instructions in this section, the switch you are downloading new firmware onto must have an IP address set. For instructions about setting the IP address, see the *Sun Fire Blade System Chassis Software Setup Guide*.

To download new firmware onto the switch belonging to one of the SSCs:

1. **Access the console of the switch you want to download new firmware onto.**

To do this, type:

```
sc> console sscn/swt
```

where *n* is either 0 or 1 depending on whether the switch you want to upgrade belongs to SSC0 or SSC1.

2. **When prompted, type your switch user name and password.**

For information about accessing the switch using the default user name (`admin`) and password (`admin`), and about setting passwords, see the *Sun B1600 Blade System Chassis Software Setup Guide*.

3. **Read the patch README file supplied with the switch firmware image and note the version of the firmware that it describes. Also note any special instructions and cautions.**

4. Establish that the upgrade is necessary.

Find out the version number of the currently installed operation code firmware.

To do this, type the following:

```
Console# show version

Unit1
Serial number :
Service tag :
Hardware version :
Number of ports :24
Main power status :up
Redundant power status :not present
Agent(master)
Unit id :1
Loader version :0.0.6.5
Boot rom version :0.0.7.3
Operation code version :0.0.0.7
```

The version of the operating code appears on the last line of the screen output.

If the current operating code firmware revision matches the version numbers given in the patch README file then the upgrade is not necessary for this switch.

If the current operating code firmware revision is lower than the latest firmware revision specified in the patch README file, then proceed to the next step.

5. Find out if there is more than one version of the operation code firmware stored on the switch.

To do this, type:

```
Console#dir

          file name      file type startup size (byte)
-----
          diag_v0073     Boot-Rom image      Y  114228
          runtime_v0005  Operation Code      N 1012032
          runtime_v0007  Operation Code      Y 1018048
Factory_Default_Config.cfg  Config File        Y   2574
-----
                                Total free space:  6230132
```


6. Delete any operation code files marked 'N'.

In the example in [Step 5](#), you would type the following to delete the piece of firmware not being used:

```
Console#delete runtime_v0005
```

7. Perform the download by typing the following:

```
Console#copy tftp file
```

8. When prompted, specify:

- The IP address of the TFTP server
- '2' as the type of firmware you are downloading (this indicates that it is operation code and not a configuration file)
- The name of the source file containing the new operation code
- The name you want the new operation code to have when it is copied onto the switch.

```
Console#copy tftp file  
  
TFTP server ip address: 129.156.223.5  
Choose file type:  
  1. config: 2. opcode: <1-2>: 2  
Source file name: SunFireB1600-switch-v1.0.0.10.flash  
Destination file name: runtime_v10010  
-Write to FLASH Programming.  
/Write to FLASH finish.  
Success.  
  
Console#
```

For more information about downloading firmware to the switch, refer to the description of the "copy" command in the *Sun B1600 Blade System Chassis Switch Administrator's Guide* (816-3365).

9. Confirm that the new file has been stored in the switch's flash memory.

To do this, type:

```
Console#dir
          file name      file type startup size (byte)
-----
          diag_v0073 Boot-Rom image      Y      114228
          runtime_v0007 Operation Code    Y      1018048
          runtime_v10010 Operation Code    N      1018056
          Factory_Default_Config.cfg      Config File    Y          2574
-----
                                          Total free space:  4980736
```

10. Make the new firmware into the default boot-image for the switch.

```
Console#configure
Console(config)#boot system opcode: runtime_v10010
Console(config)#end
```

11. Reset the switch by typing:

```
Console#reload
System will be restarted, continue <y/n>? y
```

12. When you have reset the switch, log into it again and confirm that the switch is using the new operating code.

Type:

```
Console#show version
Unit1
Serial number :
Service tag :
Hardware version :r0b
Number of ports :24
Main power status :up
Redundant power status :not present
Agent(master)
Unit id :1
Loader version :0.0.6.5
Boot rom version :0.0.7.3
Operation code version :1.0.0.10
```

13. Repeat [Step 1](#) through [Step 12](#) to upgrade the operating code on the other switch in the chassis.

Troubleshooting

This chapter documents contains the following sections:

- [Section 11.1, “Introduction” on page 11-2](#)
- [Section 11.2, “Things to Check Before You Phone Sun” on page 11-2](#)
- [Section 11.3, “Assembling Information to Provide to a Sun Support Engineer” on page 11-3](#)

11.1 Introduction

This chapter tells you how to perform basic troubleshooting on your Sun Fire B1600 blade system chassis, and how to gather the information you need to supply to a Sun engineer if you call Sun support.

For information about contacting Sun support in your area, contact your local Sun service representative.

11.2 Things to Check Before You Phone Sun

Before contacting a Sun engineer, check that:

- All power, network, and serial cables are correctly fitted in to their connectors and they all lead to the devices you intend them to lead to.
- All cables have the correct pin connections for the connectors they are inserted into. To check the pin-outs of the different connectors, refer to the *Sun Fire B1600 Blade System Chassis Hardware Installation Guide*.
- All components of the blade system chassis are configured to use the correct netmask and default gateway for the subnets you are introducing them into.
- All components that require an IP address have one correctly configured.
- All VLANs are correctly configured.
- The switch is running; try logging in to its console. If it is not running, you will not be able to log in.
- You are not unknowingly logged into one of the switch or blade consoles. Type the #. escape sequence to see whether this returns you to the sc> prompt.
- None of the ports you are using on the switch has been disabled.

If you are:

- Trying to access the System Controller using a serial connection, make sure you are using the correct baud rate (9600), parity setting (no), stop bits (1) and data bits (8) settings.
- Trying unsuccessfully to access the System Controller using a telnet connection, try logging into it using a serial connection, then run the `showsc` command to check that the telnet interface is enabled. If it is not, run the `setupsc` command, and when prompted, enable the telnet interface.

- Unable to access the System Controller from the management network, make sure that cable from the management network is connected to the NETMGT port on the correct Switch and System Controller. (Note that there is no network connection between the two System Controllers. Therefore, you must have network cable from the management network to the NETMGT port of the System Controller you want to reach.)
- Using VLANs and you have removed any blades from their slots, make sure that you replaced the blades in their correct slots. Otherwise you might find that server blades intended for one VLAN are inserted in to ports configured for another VLAN.
- Using tagged VLANs, make sure that the interfaces on the server blades are correctly named. For information about naming the interfaces, refer to the *Sun Fire B1600 Blade System Chassis Software Setup Guide*.

11.3 Assembling Information to Provide to a Sun Support Engineer

This section tells you how to gather the information that will help the Sun engineer to diagnose and fix your problem. As well as passing to the engineer the system output from the commands mentioned later in this section, please tell the engineer whether it is possible to ping the malfunctioning components of the chassis. Attempt to perform the ping operation from a workstation on the same subnet as each malfunctioning component.

11.3.1 Gathering Information About the Whole Chassis

You need to capture output from the following System Controller commands:

```
sc>showsc -v
```

```
sc>showplatform -v
```

```
sc>showfru ssc0 ssc1
```

```
sc>showfru ps0 ps1
```

```
sc>showenvironment -v
```

```
sc>showfru sn
```

where *n* is the number of the slot containing the blade that is not operating properly.

It will also be useful to the Sun engineer you talk to if you can tell him or her which serial port, if any, you are receiving output from the System Controller on.

11.3.2 Gathering Information About a Switch

You need to capture output from the following switch console commands:

```
console#show system
```

```
console#show version
```

```
console#show vlan
```

```
console#show mac-address-table
```

```
console#show bridge-ext
```

```
console#show interface status
```

```
console#show interface switchport
```

```
console#show interface counters
```

```
console#show running-config
```



```
console#show startup-config
```

```
console#show logging flash
```

```
console#show logging ram
```

```
console#show spanning-tree
```

11.3.3 Gathering Information About a Server Blade by Using Sun Explorer

The Sun support engineer you talk to about a malfunctioning server blade will need to see output from the Sun Explorer diagnostic tool. This section tells you how to obtain this tool and how to run it.

For information about performing preliminary diagnostics on a server blade, refer to the chapter on blade setup in the *Sun Fire B1600 Blade System Chassis Software Setup Guide*.

1. **Download a copy of Sun Explorer either to the server blade or to a location on the network that is accessible from the server blade.**

To obtain the Explorer software, visit the following web site:

<http://sunsolve.sun.com>

2. **After downloading the `SUNWexplo.tar.Z` file from `sunsolve.sun.com`, copy it to the `/var/tmp` directory on the server blade.**
3. **Log into the server blade's console as `root`.**

4. Extract the contents of the Explorer package.

Type:

```
#cd /var/tmp
#uncompress SUNWexplo.tar.Z
#tar xvf SUNWexplo.tar
```

Alternatively, if you have `gzip` installed on the server blade, type:

```
#zcat SUNWexplo.tar.Z | tar xvf -
```

5. Add the Explorer package to the server blade.

```
#pkgadd -d . SUNWexplo
```

6. Run Explorer on the server blade.

Type:

```
# /opt/SUNWexplo/bin/explorer
```

7. Submit the Explorer output to Sun by E-mail using the following e-mail addresses:

- **The Americas**
explorer-database-americas@sun.com
- **Asia and the Pacific**
explorer-database-apac@sun.com
- **Europe, the Middle East, Africa**
explorer-database-emea@sun.com

Replacing Optional Hardware Components

This chapter provides details of how to replace existing components or install new components into the Sun Fire B1600 blade system chassis, and includes the following sections:

- [Section 12.1, “Installing A New Blade” on page 12-2](#)
- [Section 12.2, “Installing a New SSC” on page 12-10](#)
- [Section 12.3, “Installing a New Power Supply Unit” on page 12-22](#)
- [Section 12.4, “Installing a New Chassis” on page 12-28](#)

12.1 Installing A New Blade

This section provides the information required to install or replace a blade in the Sun Fire B1600 blade system chassis.

The system chassis contains 16 slots. It can hold a combination of single-width blades, double-width blades and filler panels. Double-width blades occupy two adjacent slots in the system chassis.

The existing blade or filler panel must be removed immediately prior to installing the new blade. Do not leave the blade slot empty for an extended period of time.

FIGURE 12-1 shows a system chassis containing single-width blades and a double-width blade.

Note – Be aware that the system chassis contains three internal dividing walls. Double-width blades must be installed in two available slots between these internal dividing walls.

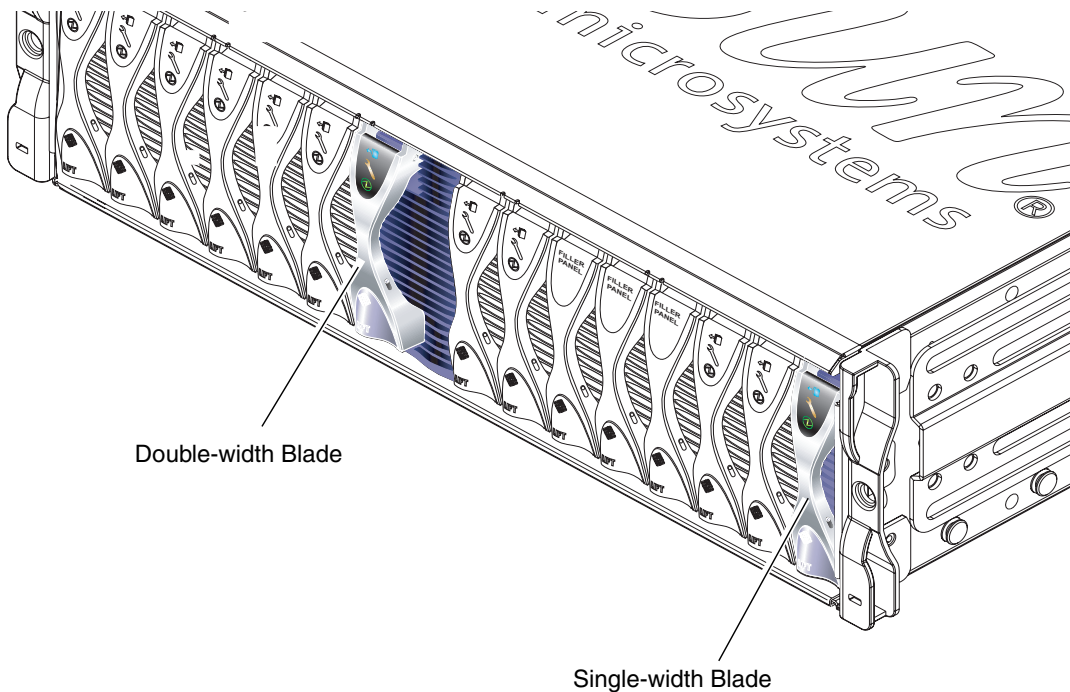


FIGURE 12-1 B1600 System Chassis with Single-width and Double-width Blades

12.1.1 Disabling the Existing Blade Prior to Removal

- To shutdown the blade in preparation for removal, and to cause the blue “Ready to Remove” LED to be lit, type:

```
sc> removefru sn
```

Where n is the number of the slot containing the blade you are removing.

Note – If the Solaris Operating environment is executing on the blade the System Controller will cause it to shut down in an orderly manner before it powers it off.

12.1.2 Removing the Existing Blade or Filler Panel

The steps in this section refer to removal of a single-width blade. The same steps apply when installing a double-width blade or filler panel.

1. **If you are removing a blade, check that the blue “Ready to Remove” LED is lit.**

Note – Do not remove the blade until the blue LED is lit.

2. **Insert your finger in the pull recess located at the bottom front of the blade lever and pull gently to disengage the locking mechanism (FIGURE 12-2).**

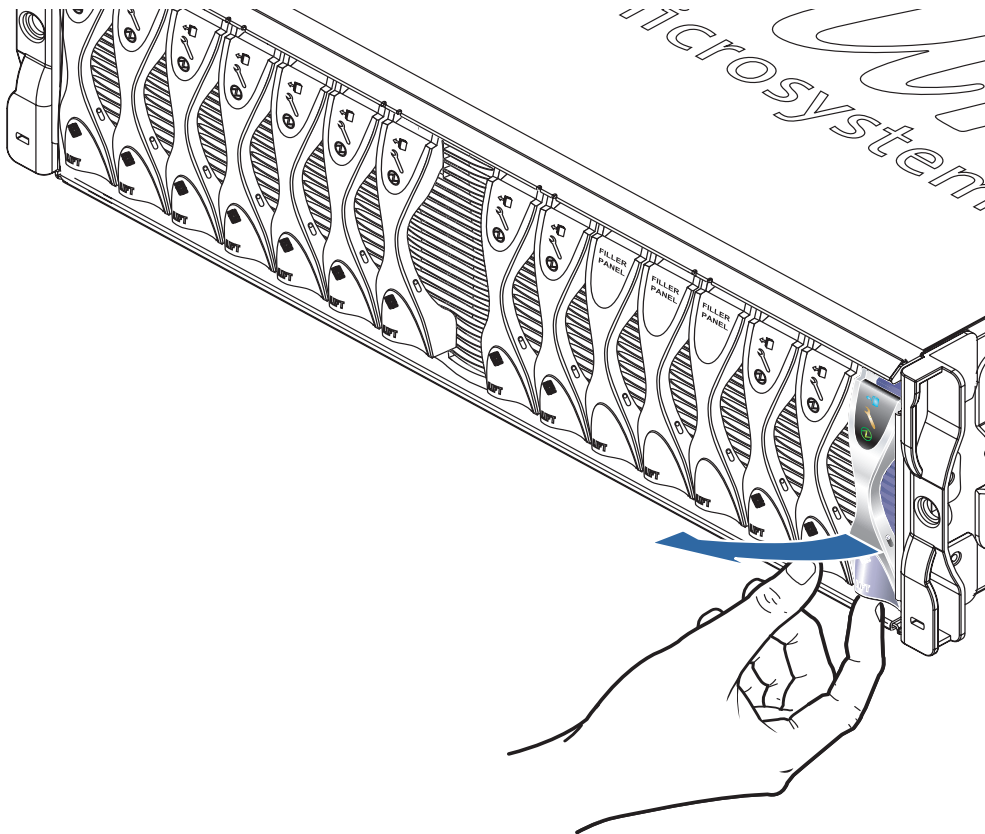


FIGURE 12-2 Disengaging the Blade Locking Mechanism

3. Pull the lever in a forward and upward motion, causing the blade lever to unlatch and eject the blade partially from the system chassis (FIGURE 12-3).

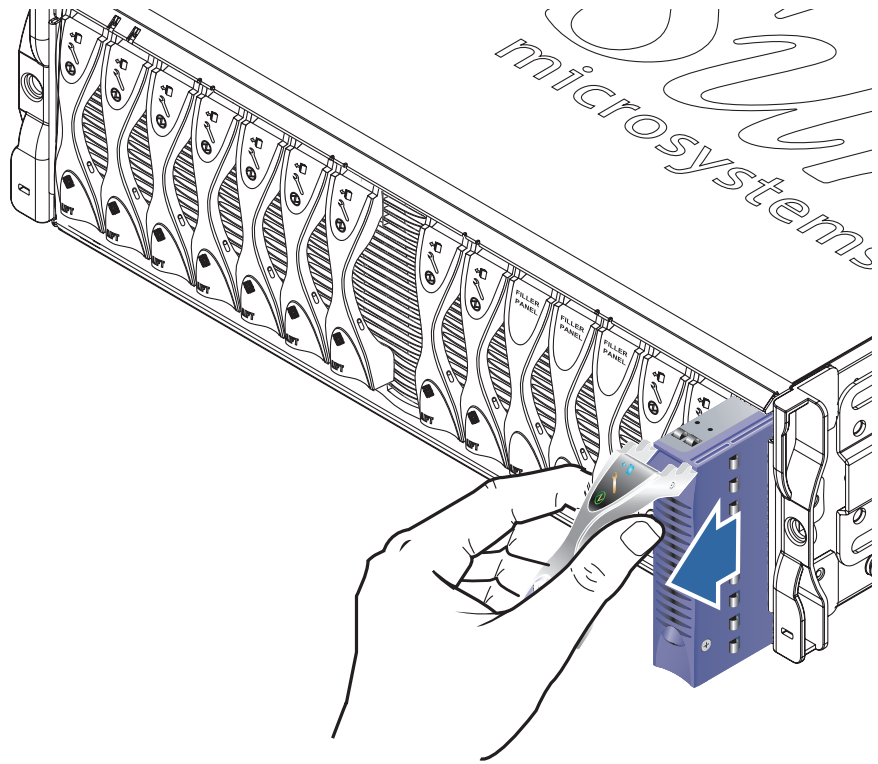


FIGURE 12-3 Ejecting the Blade

4. Pull the lever to remove the filler panel from the system chassis (FIGURE 12-4).
Support the bottom of the filler panel with your free hand while lifting the filler panel clear of the system chassis.

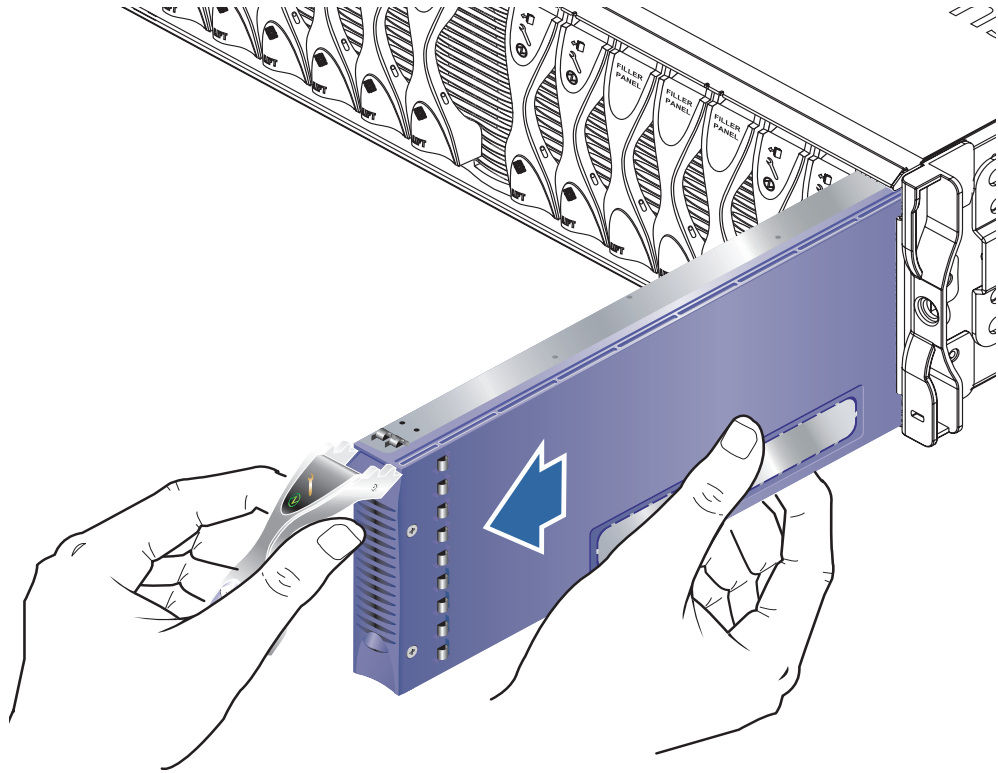


FIGURE 12-4 Removing the Blade or Filler Panel

5. Install a blade or filler panel into the empty slot.

See [Section 12.1.3, “Inserting the New Blade or Filler Panel”](#) on page 12-7.



Caution – Do not leave any slots empty as this can disrupt airflow through the system and compromise EMC performance.

12.1.3 Inserting the New Blade or Filler Panel

The system chassis is designed to operate with a total of up to 16 blades and filler panels installed.

Note – Be aware that the system chassis contains three internal dividing walls. Double-width blades must be installed in two available slots between these internal dividing walls.

The steps below refer to installation of a single-width blade. The same steps apply when installing a filler panel or double-width blade.

1. If required, open the blade lever by inserting a finger in the pull recess located in lower portion of the blade lever and pull the lever in a forward and upward motion, causing the lever to unlatch ([FIGURE 12-5](#)).

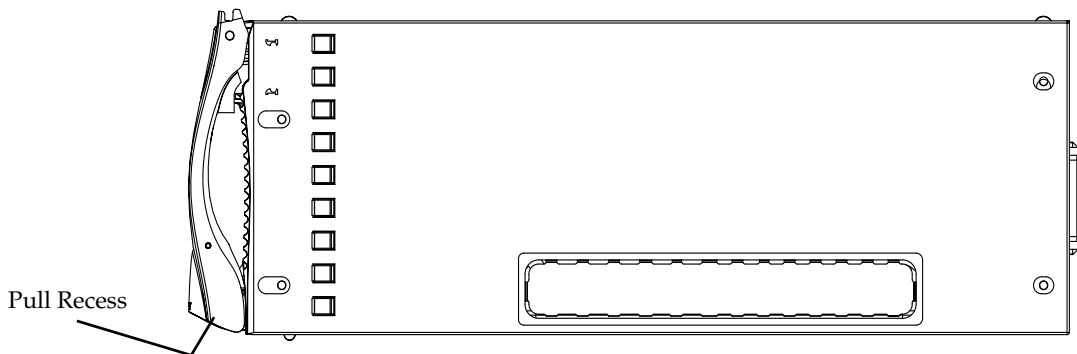


FIGURE 12-5 The Blade Locking Mechanism

2. Align the blade with the empty slot.

Ensure that the blade connector is facing towards the system chassis, with the hinge point of the lever mechanism at the top. Support the bottom of the blade with your free hand while lifting the blade up to the system chassis (FIGURE 12-6).

3. Insert the blade into the selected system chassis slot (FIGURE 12-6).



Caution – Ensure that the blade engages with the system chassis guidance system. Failure to align the blade correctly can result in damage to the chassis midplane or the blade connection.

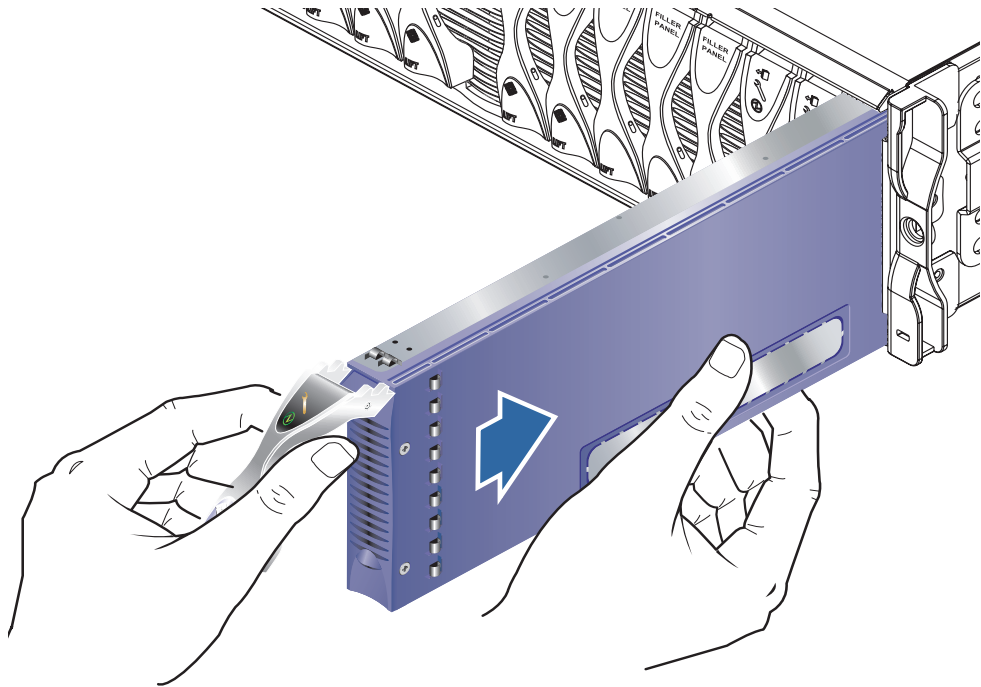


FIGURE 12-6 Aligning and Inserting the Blade

- 4. Gently push the blade into the slot until the blade latch ears, on top of the lever, are positioned in the chassis.**
- 5. Close the blade lever fully by pushing it down until you feel the latch click in place.**

This engages the blade with the connectors in the chassis slot (FIGURE 12-7). When you do this, the LEDs on the blade flash several times.

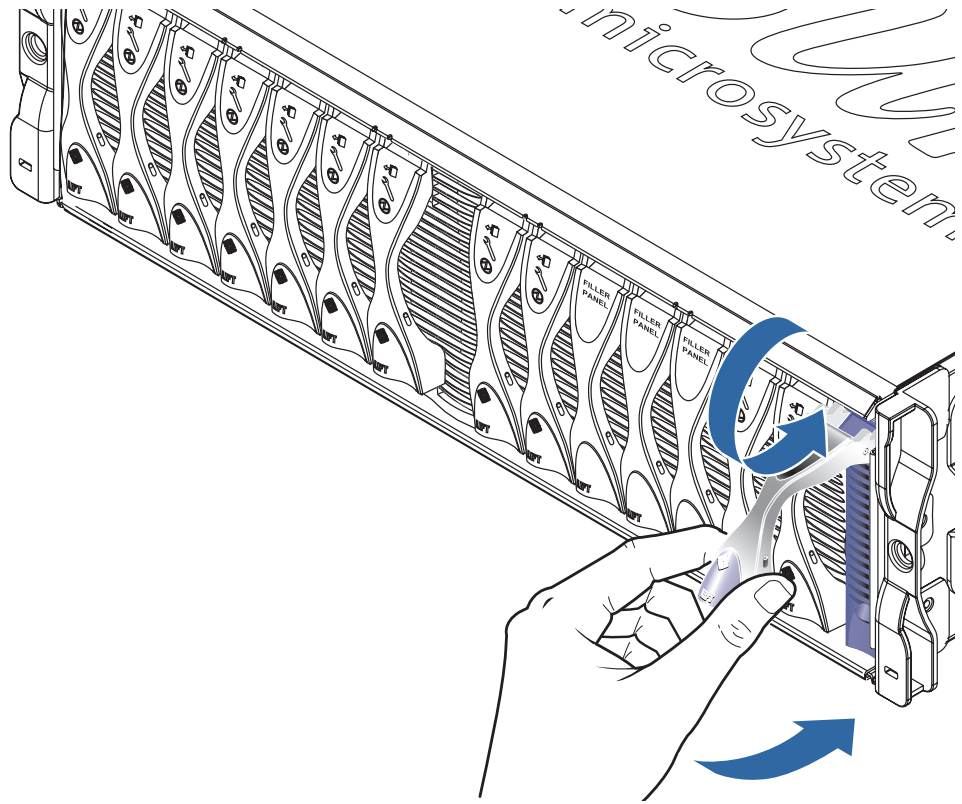


FIGURE 12-7 Closing the Blade Lever Mechanism

12.1.4 Bringing up the Blade You Have Inserted

1. From the System Controller's `sc>` prompt, console into the server blade by typing:

```
sc> console sn
```

where n is the number of the slot containing the blade you have just installed.

2. Follow the instructions in the *Sun Fire B1600 Blade System Chassis Software Setup Guide* for powering on the blade and loading the operating environment.

12.2 Installing a New SSC

This section provides the steps required to replace an SSC in the system chassis. For information about how the chassis's midplane and the SSCs cooperate to preserve System Controller login information and server blade host ID information for the chassis as a whole, see [Section 12.5, "User Login and Host ID Information for a Replacement Chassis or SSC"](#) on page 12-34.

Note – When you replace an SSC, you must ensure that the latest version of the System Controller firmware is installed on the new SSC. For information on checking the System Controller version and on how to upgrade the System Controller firmware, see [Chapter 10](#).

12.2.1 Adding a Second SSC to a Chassis That Was Supplied With Only One SSC

Note – Do not install a second SSC module until you have upgraded the firmware on the existing SSC. Both SSCs must be running System Controller firmware release 1.2 (or later) before they will inter-operate to provide the failover facility.

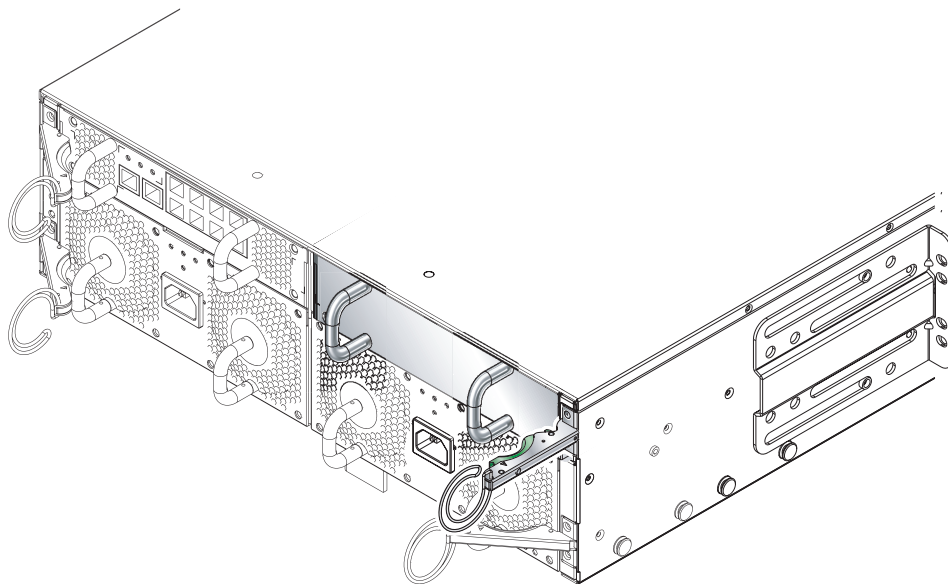


FIGURE 12-8 Rear View of the Chassis Showing a Filler Module in Slot SSC1

Note – Release 1.2 is the first firmware release to support failover (in other words, to support the ability of two System Controllers to monitor each other's health, and of the standby System Controller to take over from the active one in the event of a critical failure). Therefore, before adding the new SSC module into the chassis, make sure the currently installed SSC is using release 1.2 (or later) of the System Controller firmware (see [Step 3](#) below). If the module you are installing as a redundant SCC is not a new one but is taken from another chassis and does not have release 1.2 (or later) firmware installed on it, upgrade its firmware while it is still in the old chassis before installing it as a redundant SSC.

The mechanical procedures for removing and installing an SSC filler module are the same as those for removing and installing an actual SSC module (except there are no LEDs to indicate when the module is ready to remove - it is always ready).

Note – Do not install the new SSC hardware until you have upgraded the firmware on the currently installed SSC to release 1.2 (or later).

1. **Download release 1.2 of the System Controller firmware from the following website onto a TFTP server:**

```
http://www.sun.com/software/download/network.html
```

2. **Upgrade the currently installed SSC to firmware release 1.2.**

For instructions on using a TFTP server to upgrade the firmware on an SSC, see [Chapter 10](#). A sample upgrade command is as follows:

```
sc> flashupdate -s 129.156.223.100 -f /tftpboot SunFireB1600-sc-  
v1.2.7.flash ssc0/sc
```

When you complete the upgrade procedure described in [Chapter 10](#), make sure you reset the System Controller by typing:

```
sc>resetsc
```

3. **To confirm that the SSC now has the correct firmware installed (version 1.2.x), type:**

```
sc>showsc  
  
Sun Advanced Lights Out Manager for Blade Servers 1.2  
Copyright 2003 Sun Microsystems, Inc. All Rights Reserved.  
ALOM-B 1.2  
  
Release: 1.2.7  
  
Parameter                               Running Value       Stored Value  
-----  
Bootable Image :                         1.2.7 (Jul 10 03)  
Current Running Image :                  1.2.7 (Jul 10 03)  
:  
:
```

4. **Remove the SSC filler panel (if present) from the spare SSC slot.**

For instructions on removing this, see [Section 12.2.3, “Removing an SSC Enclosure”](#) on page 12-15.

5. Insert the new SSC and wait (approximately 30 seconds) for it to boot.

For instructions on inserting an SSC module, see [Section 12.2.4, “Inserting the New SSC” on page 12-18](#). Make sure you connect network and serial cables for the second SSC.

To confirm that the new SSC is installed and in standby mode, type showsc:

```
sc>showsc

Sun Advanced Lights Out Manager for Blade Servers 1.2
Copyright 2003 Sun Microsystems, Inc. All Rights Reserved.
ALOM-B 1.2

Release: 1.2.7

Parameter                                Running Value                            Stored Value
-----
Bootable Image :                          1.2.7 (Jul 10 03)
Current Running Image :                    1.2.7 (Jul 10 03)
SC IP address:                             129.156.223.145                          129.156.223.145
SC IP netmask address:                     255.255.255.0                            255.255.255.0
SC IP gateway address:                     129.156.223.1                            129.156.223.1
SSC0/SC (Active) IP private address: 129.156.223.146 129.156.223.146
SSC1/SC (Standby) IP private address:129.156.223.147 129.156.223.147
DNS Server IP address:                     129.156.223.7                            129.156.223.7
:
:
```

6. Check that the new standby SSC has the correct firmware installed (version 1.2.x) to support failover.

- a. To do this, first make the standby SSC into the active one by using the `setfailover` command as follows:

```
sc> setfailover
SSC0 is in Active Mode
SSC1 is in Standby Mode.
Are you sure you want to failover to SSC1?
All connections and user sessions will now be lost on SSC0 (y/n)? y

System Controller in SSC1 is now in Standby mode
```

b. Then type:

```
sc>showsc

Sun Advanced Lights Out Manager for Blade Servers 1.2
Copyright 2003 Sun Microsystems, Inc. All Rights Reserved.
ALOM-B 1.2

Release: 1.2.7

Parameter                                Running Value      Stored Value
-----
Bootable Image :                          1.2.7 (Jul 10 03)
Current Running Image :                    1.2.7 (Jul 10 03)
:
:
```

c. If the newly active SSC does not have the correct firmware installed, then repeat [Step 2](#) to upgrade the firmware.

For more information on performing a manual failover from one SSC to the other, see [Chapter 7](#).

7. Your chassis is now operating with redundant System Controllers and switches.

If you want to revert back to using the original SSC as the active one, run the `setfailover` command again.

To check which of the SSCs is the active one run the `showsc` command again.

8. Configure the chassis to take full advantage of the network redundancy provided by the second SSC module.

For information on how to do this if you are using Solaris server blades, refer to the *Sun Fire B1600 Blade System Chassis Software Setup Guide* (Chapters 5, 6, and 7).

12.2.2 Disabling an SSC You Are Going to Remove

1. Make sure the SSC you are removing is the one containing the standby System Controller.

To do this, type the `showsc` command at the `sc>` prompt. For example:

```
sc>showsc
:
Parameter                               Running Value           Stored Value
-----
:
SSC0/SC (Active) IP private address: 129.156.223.146      129.156.223.146
SSC1/SC (Standby) IP private address:129.156.223.147      129.156.223.147
DNS Server IP address:                  129.156.223.7          129.156.223.7
:
```

where the `:` characters indicate omitted information.

2. If the SSC you intend to remove is not the standby one, then force it to become the standby one.

Type `yin` in response to the prompt.

3. To disable the standby SSC prior to removal, and to cause the blue “OK to remove” LED on the SSC to be lit, type:

```
sc> removefru sscn
```

where `n` is either 0 or 1 depending on which SSC you are about to remove.

12.2.3 Removing an SSC Enclosure

1. Check that either the blue ‘OK to Remove’, or amber ‘service required’ LED is lit.

Note – Do not remove the SSC until one of these LED states is displayed.

2. Disconnect all network and management cables from the SSC and disengage the cables from the cable management system, if necessary.
3. Squeeze the green SSC ejector lever to unlatch it, and then pull the lever towards you to disconnect the SSC from the system chassis (FIGURE 12-9).

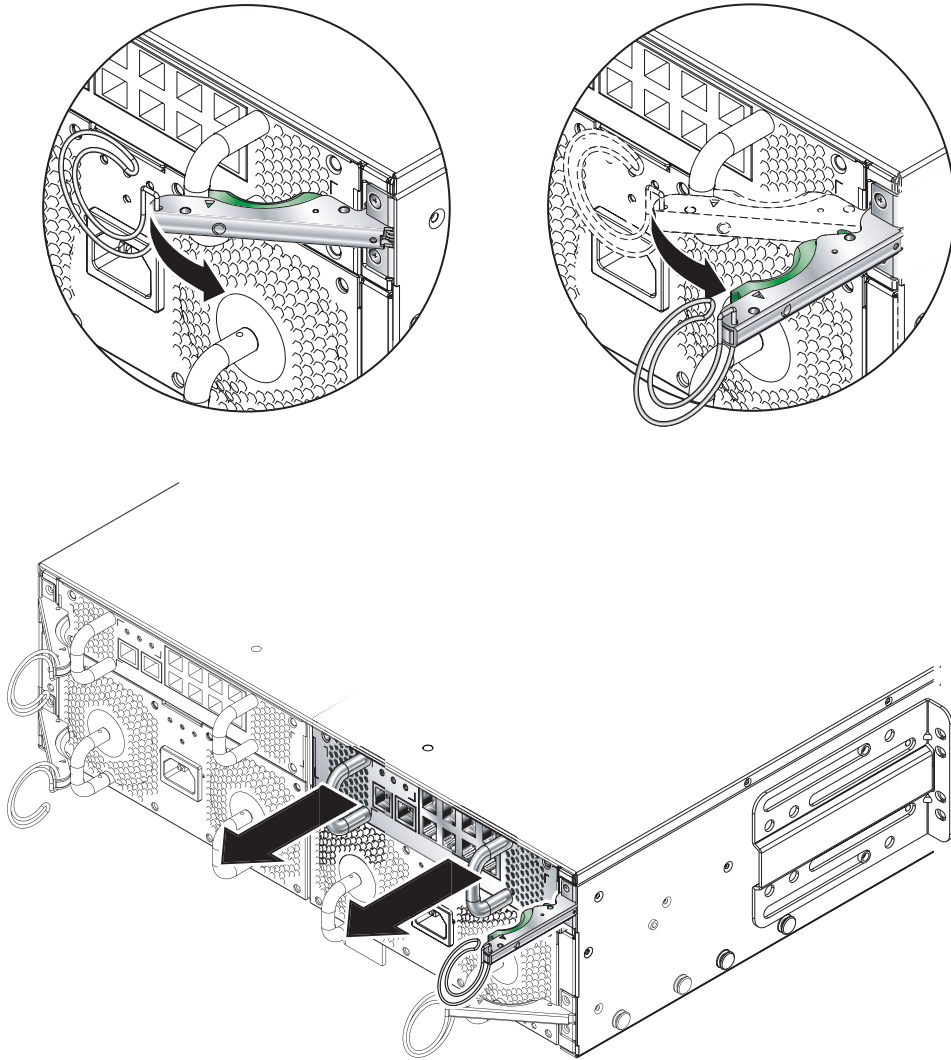


FIGURE 12-9 The SSC Ejector Lever

- 4. Check that the ejector lever is open fully and clear of the SSC module (FIGURE 12-9).**
- 5. Remove the SSC from the system chassis by pulling on the vertical handles attached to the back of the SSC (FIGURE 12-10).**

Support the bottom of the SSC while removing the module from the system chassis.

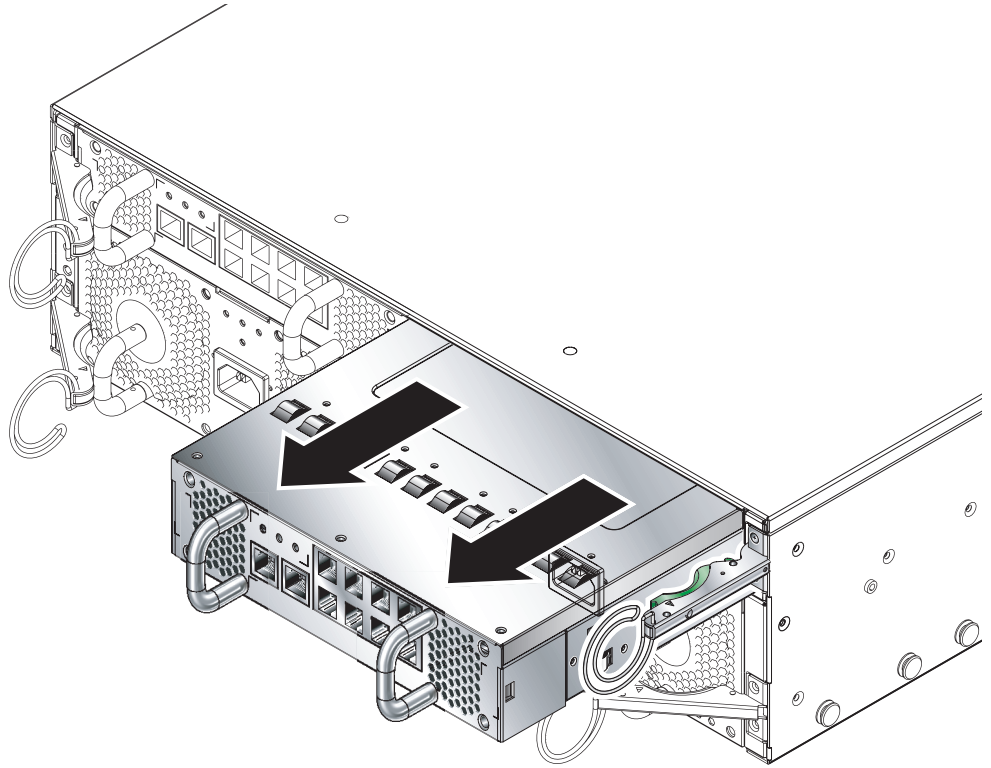


FIGURE 12-10 Removing the SSC from the System Chassis

12.2.4 Inserting the New SSC

1. **Align the SSC with the system chassis.**

SSC connectors must face towards the system chassis and be located on the lower half of the SSC.

2. **Ensure that the chassis ejector lever is opened fully and does not obstruct the chassis opening (FIGURE 12-11).**

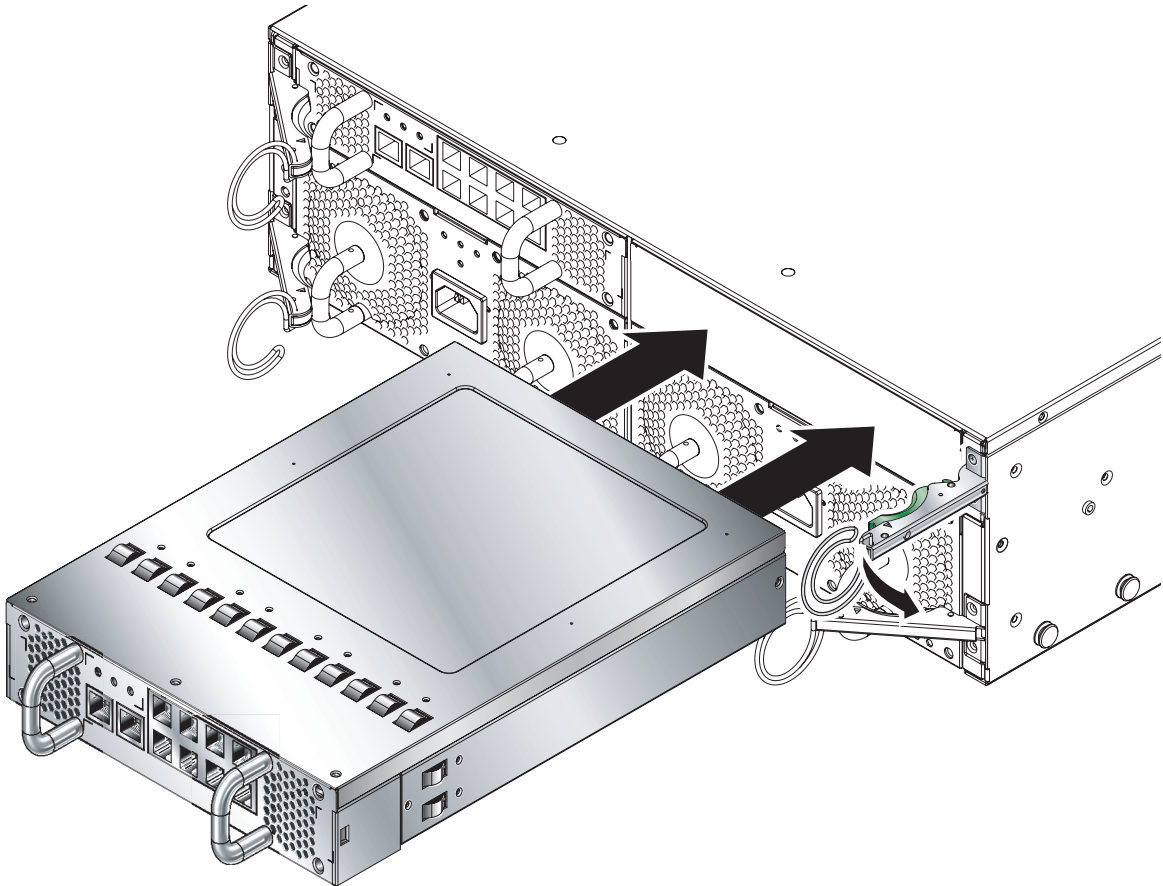


FIGURE 12-11 Aligning the SSC Before Insertion

3. Slide the SSC into the empty chassis slot.

Push the SSC into the slot until the ejector lever engages ([FIGURE 12-12](#)).

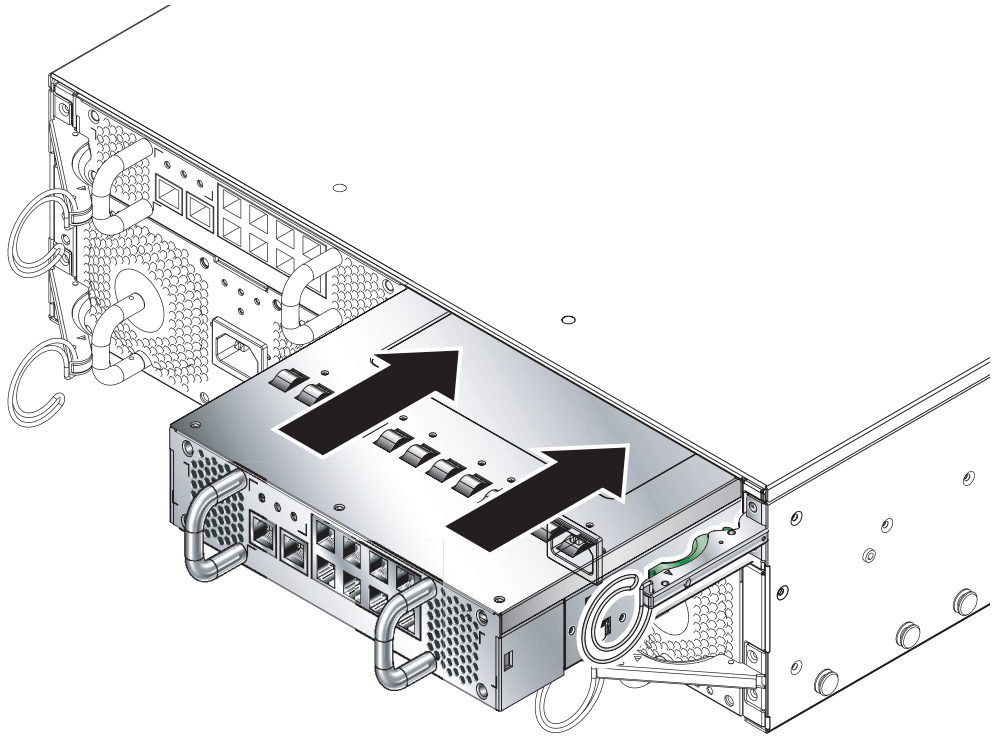


FIGURE 12-12 Inserting the SSC

4. Complete insertion by closing the ejector lever.

Check that the latch engages onto the SSC pull handle. This engages the SSC into the system chassis ([FIGURE 12-13](#)).

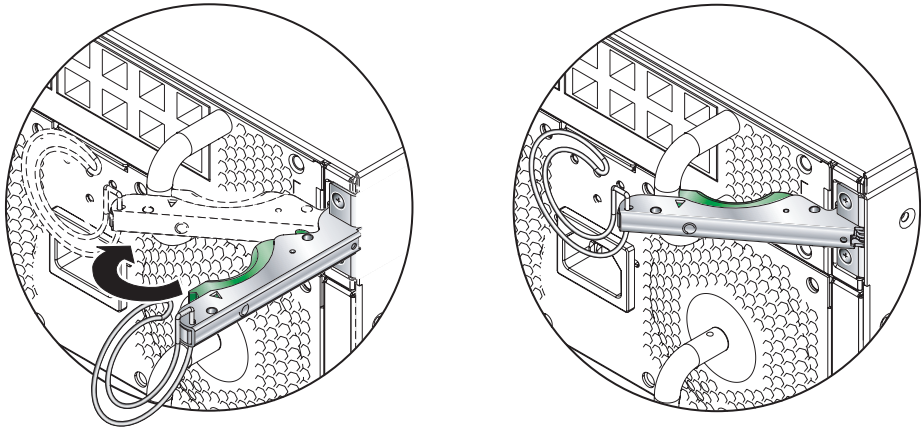
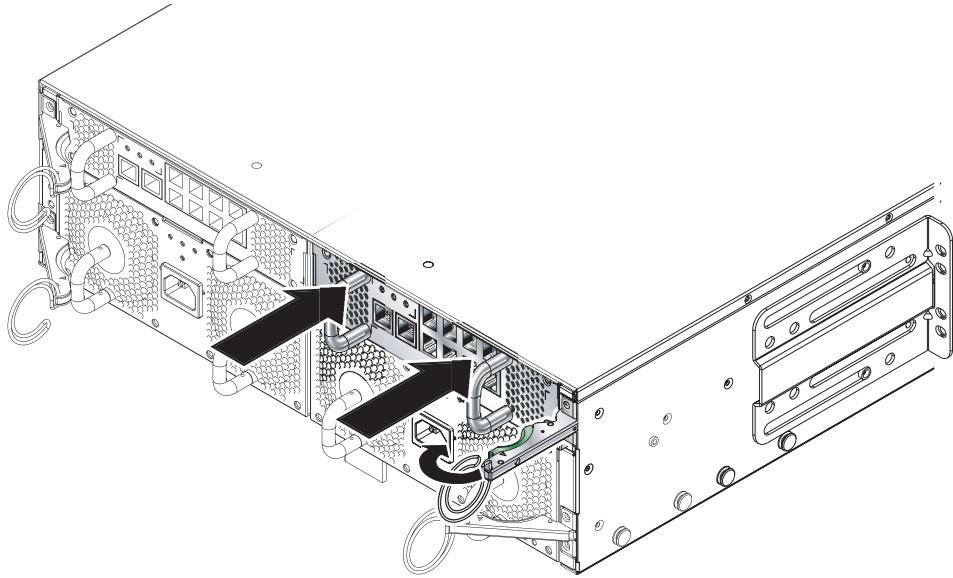


FIGURE 12-13 Closing the SSC Ejector Lever

- 5. Reconnect all network and management cables to the SSC and, if necessary, place the cables in the cable management system.**
- 6. Check that the green 'Activity' LED is lit.**

7. Log into the active SSC and power on the new standby SSC.

At the `sc>` prompt, type:

```
sc> poweron sscn
```

where n is either 0 or 1 depending on whether you have replaced SSC0 or SSC1.

12.3 Installing a New Power Supply Unit

This section provides the steps required to replace a Power Supply Unit in the Sun Fire B1600 system chassis.



Caution – The Sun Fire B1600 system chassis requires two Power Supply Units (PSUs) to be installed and powered to ensure that the chassis remains within an acceptable range of operating temperatures. You must insert and power a new PSU within 10 minutes of removing the old one, otherwise there is a danger of the server blades overheating. When you remove a PSU, the white Locator LED starts to flash. It continues to flash until you have inserted the new PSU.



Caution – Do not connect an IEC power cord to the Power Supply Unit until the PSU is installed.

12.3.1 Disabling the Existing PSU Prior to Removal

1. To disable the PSU prior to removal, at the `sc>` prompt, type:

```
sc> removefru psn
```

where n is either 0 or 1 depending on whether you are removing PSU 0 or PSU 1.

2. Removing the Existing PSU

1. Check that either the blue 'OK to Remove', or amber Fault LED is lit.

Note – Do not remove the PSU until one of these LED states is displayed.

2. Disconnect the power cable from the PSU and disengage the cable from the cable management system, if necessary.
3. Squeeze the green PSU ejector lever to unlatch it and pull the lever towards you to disconnect the PSU from the system chassis ([FIGURE 12-14](#)).

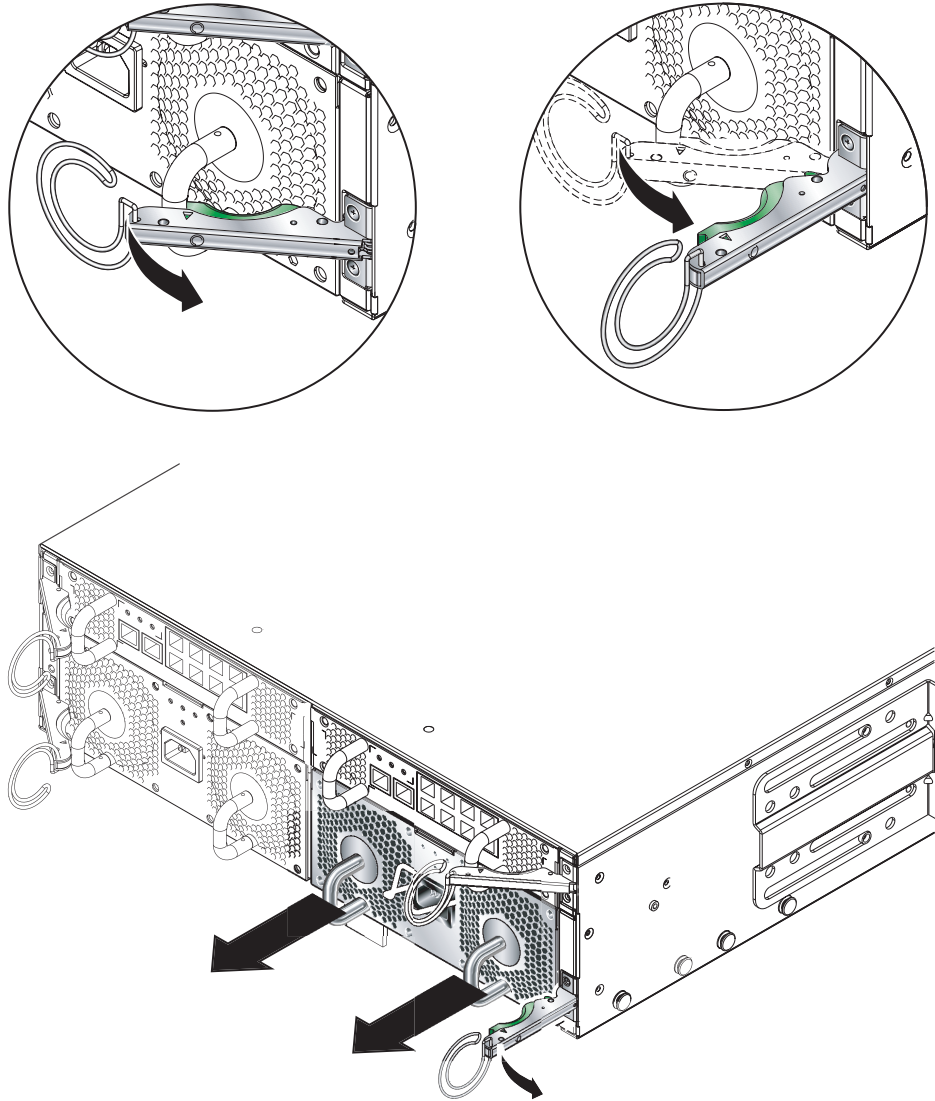


FIGURE 12-14 The PSU ejector lever

4. Check that the ejector lever is open fully and clear of the PSU module.
5. Remove the PSU from the system chassis by pulling on the vertical handles attached to the rear of the PSU (FIGURE 12-15).
Support the bottom of the PSU while removing the module from the system chassis.

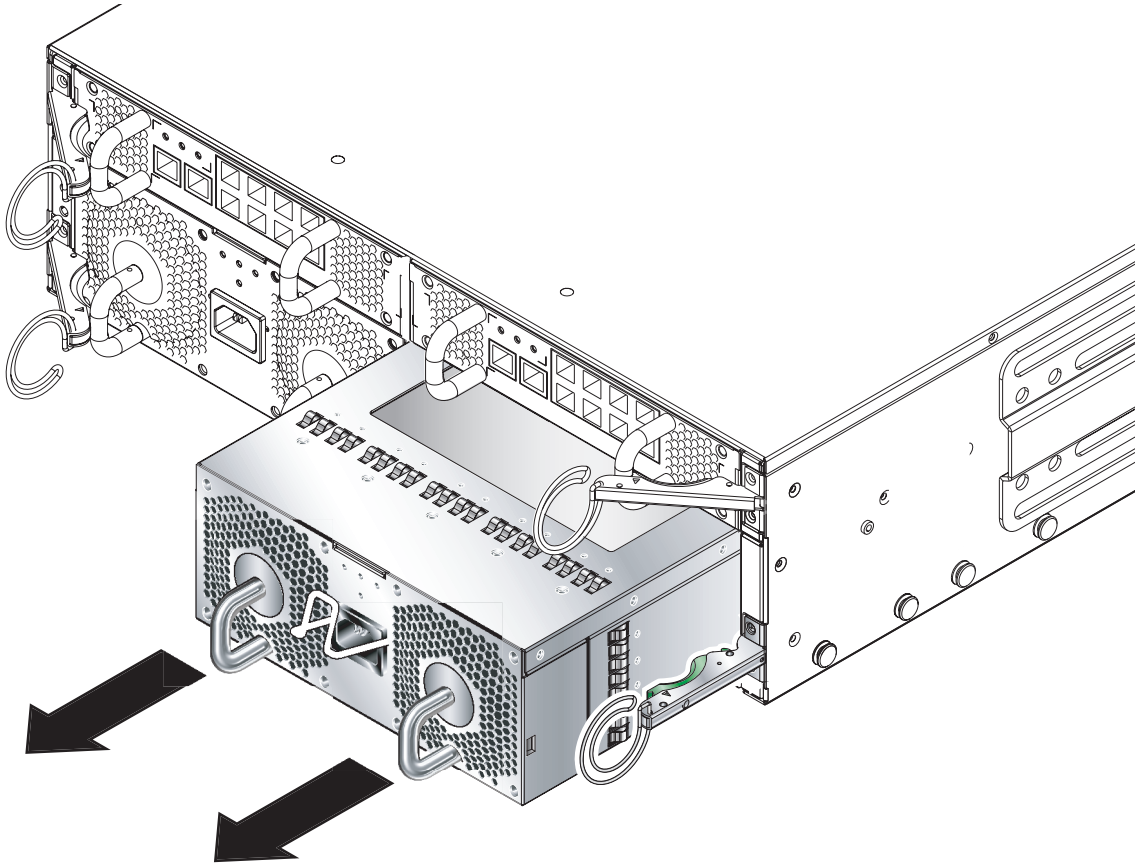


FIGURE 12-15 Removing the PSU from the system chassis



Caution – When you remove a PSU, the white Locator LED on the chassis’s front and back panels starts to flash. You must insert a new PSU within 10 minutes of removing the old one, otherwise there is a danger that the server blades in the chassis will overheat. When you have inserted the new PSU, the Locator LED will stop flashing.

12.3.2 Inserting the New PSU



Caution – To ensure that it remains within an acceptable range of operating temperatures the Sun Fire B1600 system chassis requires two PSUs.



Caution – Do not install a PSU with the IEC power cord already attached. Only connect the power cord when the PSU is installed.

1. Correctly align the PSU with the empty PSU slot in the system chassis.

PSU connectors must face towards the system chassis and be located on the lower half of the PSU.

2. Check that the chassis ejector lever is opened fully and does not obstruct the opening to the PSU slot in the chassis.

3. Slide the PSU into the empty PSU slot in the chassis.

Push the PSU into the slot until the ejector lever engages ([FIGURE 12-16](#)). You must push the PSU firmly to raise the system flap within the system chassis.

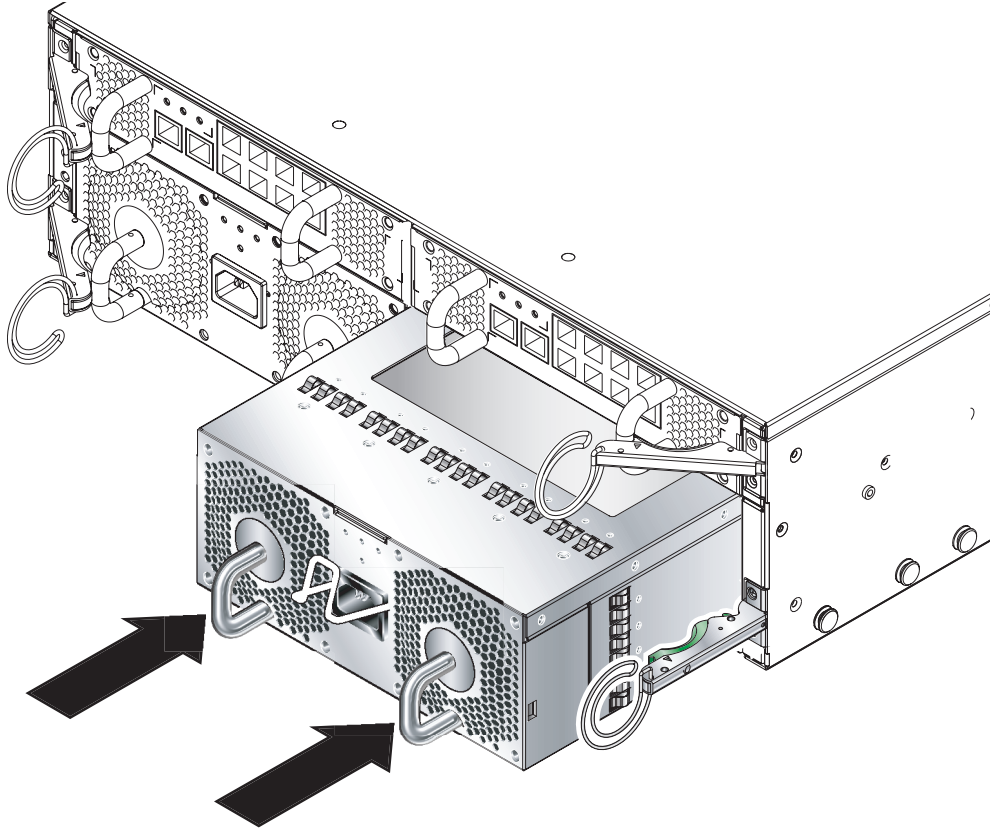


FIGURE 12-16 Sliding a PSU Module Into the Chassis

4. Complete the installation by closing the ejector lever fully.

Check that the ejector lever engages onto the PSU pull handle. This engages the PSU into the system chassis ([FIGURE 12-17](#)).

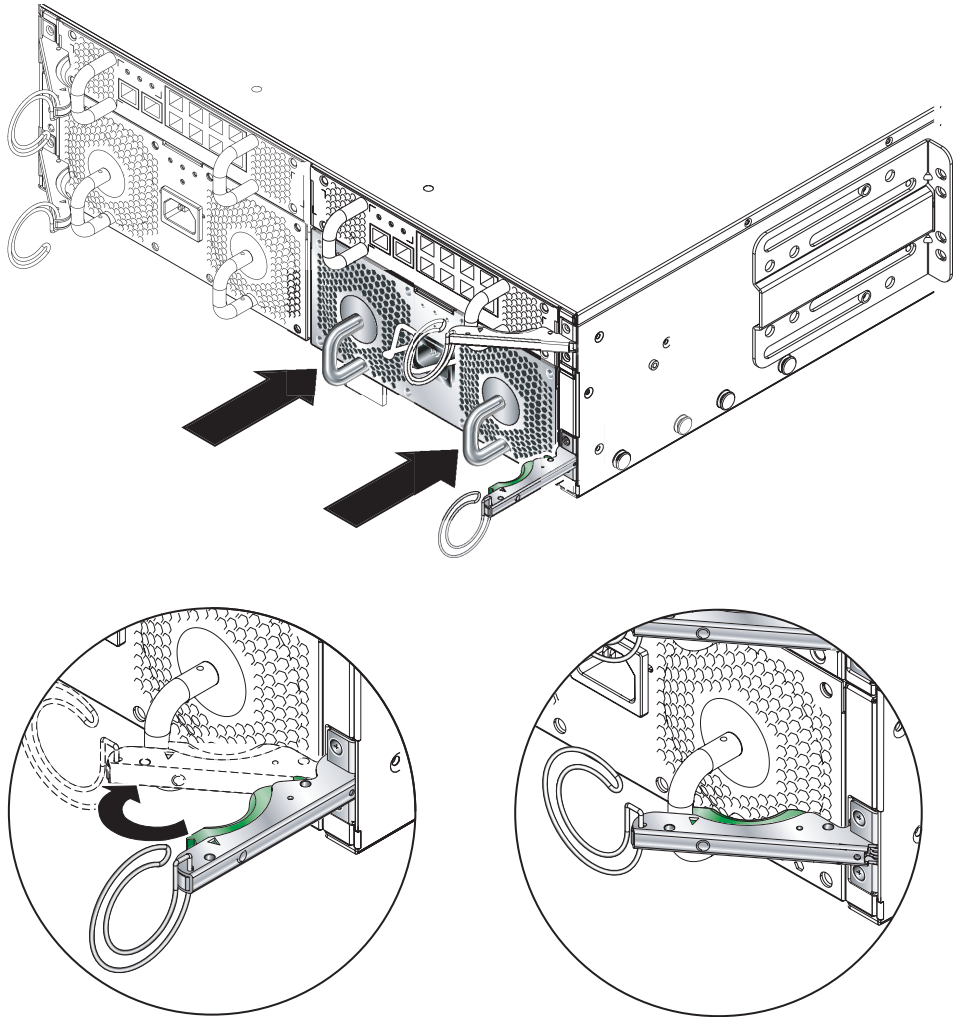


FIGURE 12-17 Closing the PSU Ejector Lever

- 5. Connect the power cable to the PSU.**
- 6. Check that the green 'Activity' LED is lit.**

12.4 Installing a New Chassis

This section tells you how to shut down one chassis, remove its components, remove the chassis from the rack, and install the new chassis into the rack. It then tells you how to install the components from the old chassis into the new one.

This section contains the following sub-sections:

- [“Shutting Down All Components” on page 12-28](#)
- [“Removing the Chassis’s Components” on page 12-29](#)
- [“Removing the System Chassis from a Four Post Rack” on page 12-30](#)
- [“Removing the System Chassis from a Two Post Rack” on page 12-31](#)
- [“Installing the New System Chassis Into the Rack” on page 12-34](#)
- [“Populating the New System Chassis” on page 12-34](#)

Note – The new chassis will use the same host ID and user login information as the old chassis. For information about the behavior of the midplane in the new chassis with respect to login information and server blade host ID information on SSCs from another (previously configured) chassis, see [Section 12.5, “User Login and Host ID Information for a Replacement Chassis or SSC” on page 12-34](#).

12.4.1 Shutting Down All Components

- To shut down all components of the chassis that can be powered down (that is, all blades, the standby SSC, and both switches, type:

```
sc> poweroff ch
```

12.4.2 Removing the Chassis's Components



Caution – The PSUs provide the only reliable connection to earth for the system chassis. Do not remove the PSUs until all other components have been removed.

We recommend you note the position of the SSCs and server blades before removing them from the old chassis. This enables you to install them into the corresponding enclosures and blade slots in the new chassis.

Remove the system components in the following order:

1. Blades and filler panels. See [“Removing the Existing Blade or Filler Panel” on page 12-3](#).
2. SSCs. See [“Removing an SSC Enclosure” on page 12-15](#).
3. PSUs. See [“Removing the Existing PSU” on page 12-22](#).

12.4.3 Removing the System Chassis from a Four Post Rack

1. Unscrew the system chassis captive retaining screws.
2. Slide the system chassis out of the rack (FIGURE 12-18).

The system chassis will stop when the retaining catches positioned on the chassis runners meet the rack. You must depress the retaining catches before you can remove the system fully from the rack.

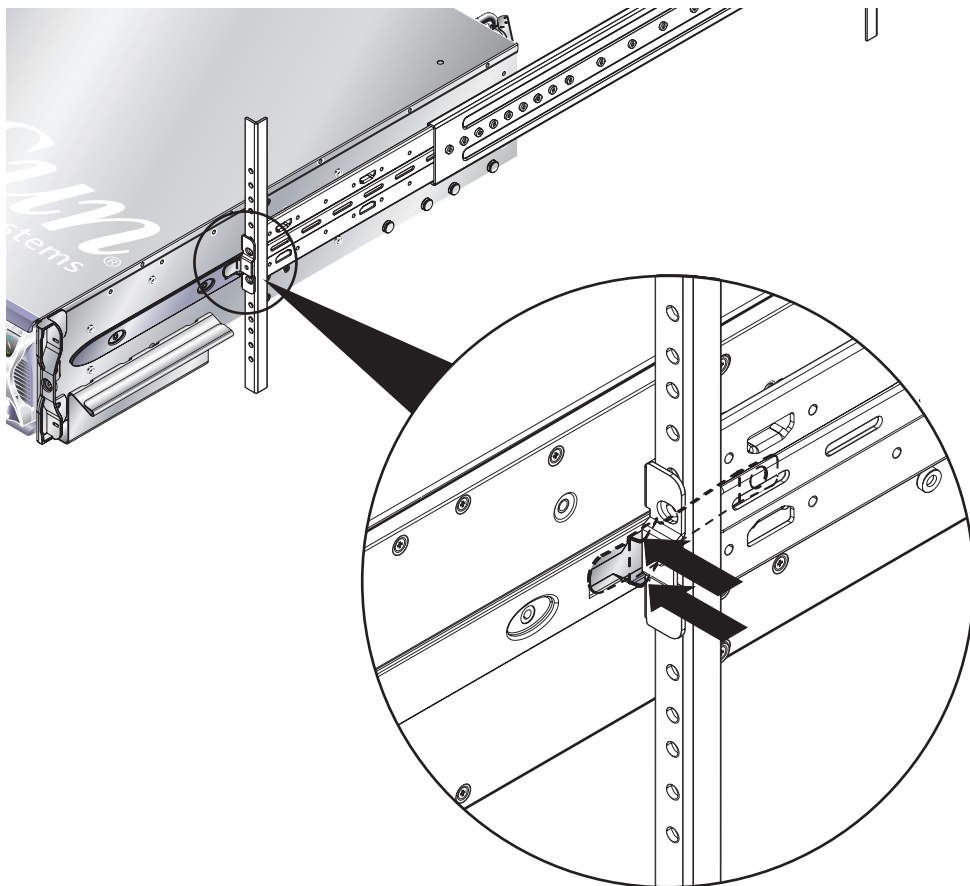


FIGURE 12-18 Releasing the Slide Retaining Catches

12.4.4 Removing the System Chassis from a Two Post Rack

1. Remove the rear brackets from the system chassis and rack (FIGURE 12-19).

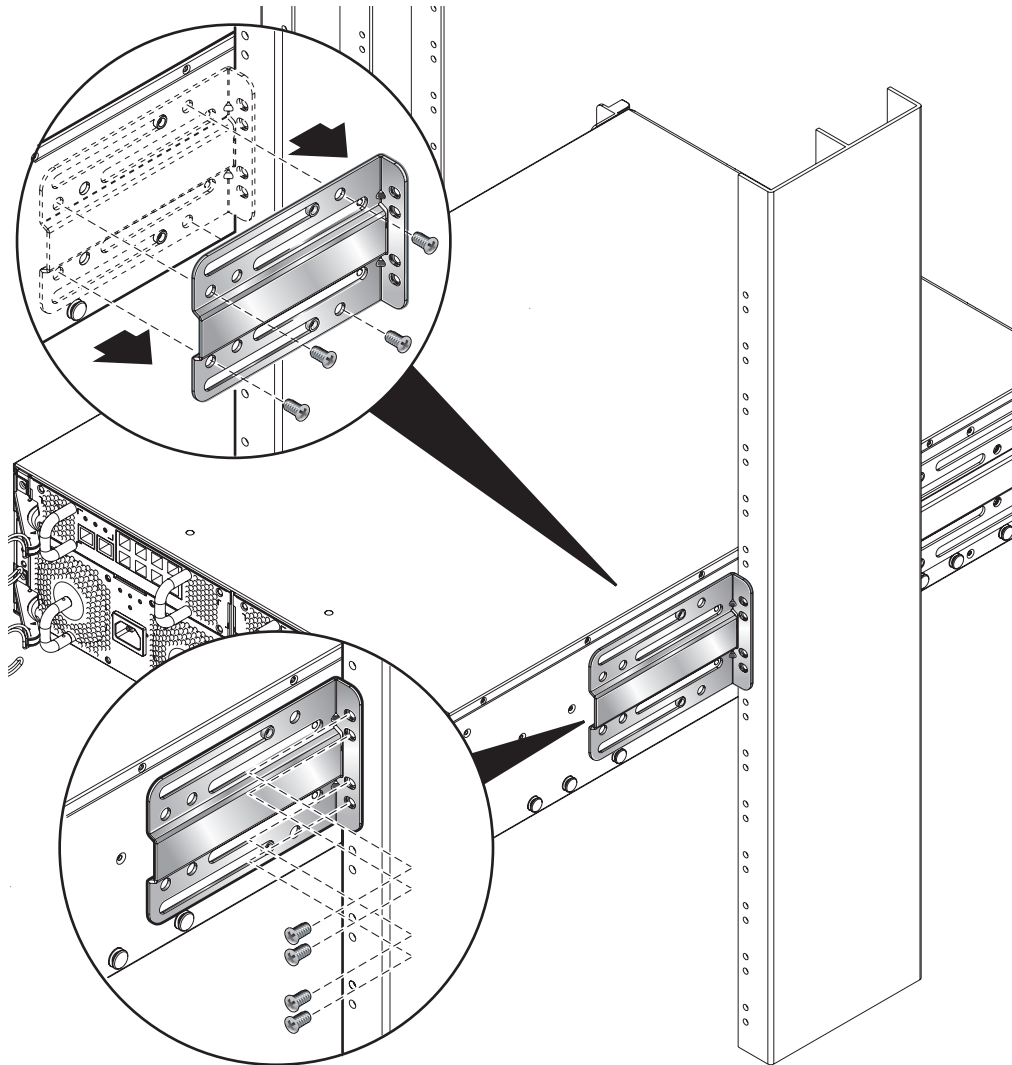


FIGURE 12-19 Detaching the Rear Brackets

2. Detach the front brackets from the rack (FIGURE 12-20).

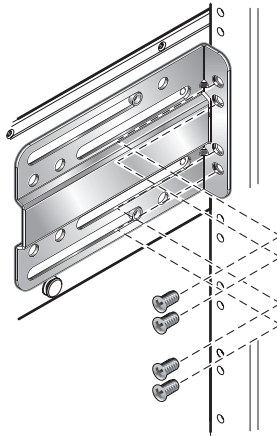


FIGURE 12-20 Detaching the Front Brackets From the Rack

3. Remove the front rack bracket from the system chassis (FIGURE 12-21).

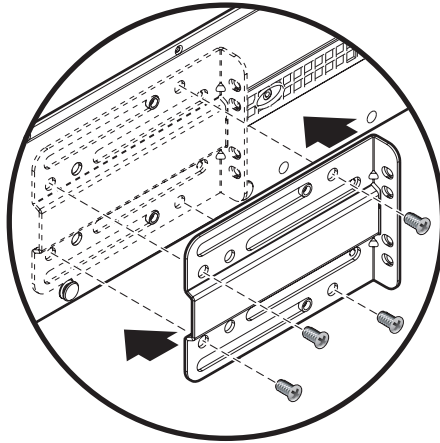


FIGURE 12-21 Removing the Front Rack Bracket From the System Chassis

12.4.5 Installing the New System Chassis Into the Rack

For information about installing the chassis into a rack, refer to the *Sun Fire B1600 Blade System Chassis Hardware Installation Guide* (Part No. 816-7614). This tells you how to install into the following racks:

- 19Inch four post rack
- 19Inch two post rack
- 23Inch four post rack
- 23Inch two post rack

12.4.6 Populating the New System Chassis

When the new chassis is installed in the rack, you can install the system components. Remember to install the SSC and server blades into the enclosures and blade slots that correspond with their original locations in the old chassis.

Install the chassis components in the following order:

1. PSUs. See [“Installing a New Power Supply Unit” on page 12-22](#).



Caution – The PSUs provide the only reliable connection to earth for the system chassis. Therefore install the PSUs and insert the power cables before you install the other components. There might be residual current present in the chassis if you install and cable up an SSC before installing the PSUs and connecting them to an external power supply.

2. SSCs. See [“Installing a New SSC” on page 12-10](#).
3. Blades and filler panels. See [“Installing A New Blade” on page 12-2](#).

12.5 User Login and Host ID Information for a Replacement Chassis or SSC

Read this information if you are replacing a chassis or if you are replacing an SSC.

Where a new SSC (in its factory default state) is introduced into a chassis that is already in use, the new SSC inherits the user login information (for the System Controllers) and the host ID information (for the server blades) that is currently stored on the midplane.

In the reverse case, where the chassis is new (and its user login and host ID information are therefore unconfigured) but the SSC has been previously in use, the midplane takes the user login and host ID information from the System Controller.

However, in the case where an SSC is introduced into a chassis and both already contain user login and host ID information but the SSC and chassis differ in respect of either or both the outcome is more complicated to predict. In this case the standby System Controller, if it is available, plays an arbitrating role. It compares its own user login and host ID information with the information held on the SSC containing the active System Controller and with the information held on the midplane. If its own host ID information agrees with that stored on either the active SSC or the midplane, then that information prevails. Similarly if its own user login information agrees with that stored on either the active SSC or the midplane, then that information prevails. For both sets of information, if the standby System Controller finds that its own information differs from that of both the active SSC and the midplane, then the information in the midplane prevails.

Replacing DIMMs

This chapter provides procedures for installing DIMMs in the Sun Fire B100x and B200x blades. It contains the following sections:

- [“Replacing DIMMs for the B100x Server Blade” on page 13-2](#)
- [“Replacing DIMMs for the B200x Server Blade” on page 13-10](#)

13.1 Replacing DIMMs for the B100x Server Blade

This document provides the procedures for installing DIMMs in the Sun Fire B100x blade, and contains the following sections:

- [“Before You Start” on page 13-2](#)
- [“Replacing the DIMM” on page 13-2](#)
- [“Installing the Blade” on page 13-9](#)

13.1.1 Before You Start

Check that the blue ‘Ready to Remove’ LED is lit on the blade you want to remove from the system chassis.

Note – Do not remove the blade until this LED state is displayed.

See the *Sun Fire B1600 Blade System Chassis Administration Guide* for details of how to shut down the blade safely.



Caution – Operating the system chassis with empty blade slots might disrupt airflow through the system chassis and will compromise EMC compliance.



Caution – Do not touch, or apply pressure to, any part of the blade server’s main printed circuit board assembly.

13.1.2 Replacing the DIMM

This section provides the following procedures:

- [“To Remove the Existing DIMM” on page 13-3](#)
- [“To Install the New DIMM” on page 13-6](#)

▼ To Remove the Existing DIMM



Caution – Use proper ESD grounding techniques when handling components. Wear an antistatic wrist strap and use an ESD-protected mat. Store ESD-sensitive components in antistatic bags before placing them on any surface.

1. Remove the blade cover screws (FIGURE 1).

Use a Phillips No. 2 screwdriver to remove the screws.

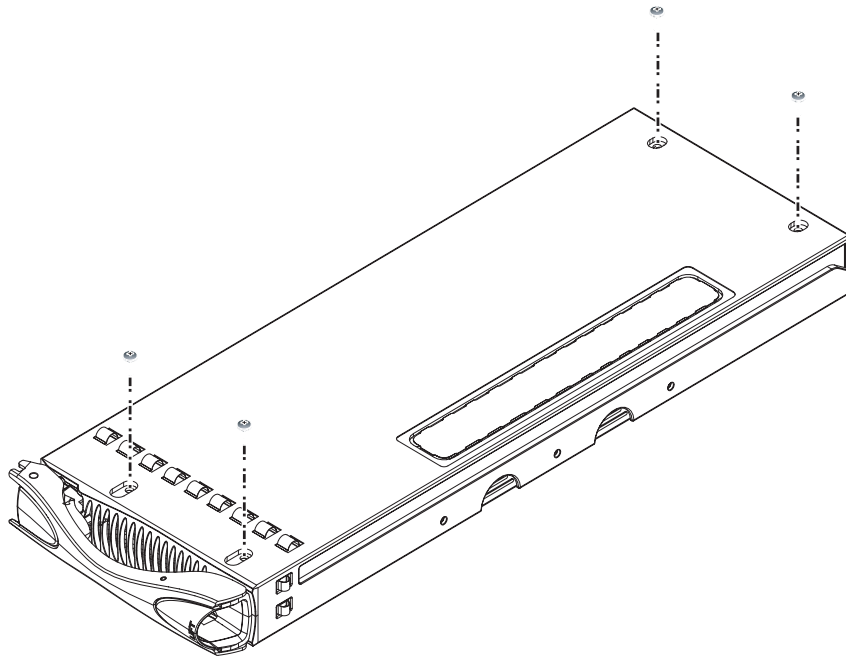


FIGURE 1 Removing the Blade Cover Screws

2. Lift the blade cover away from the blade (FIGURE 2).

Gently hinge open the blade cover and lift it away from the blade.



Caution – Do not use excessive force in hinging open the blade cover, as this might damage the blade EMI fingers and the physical enclosure itself.

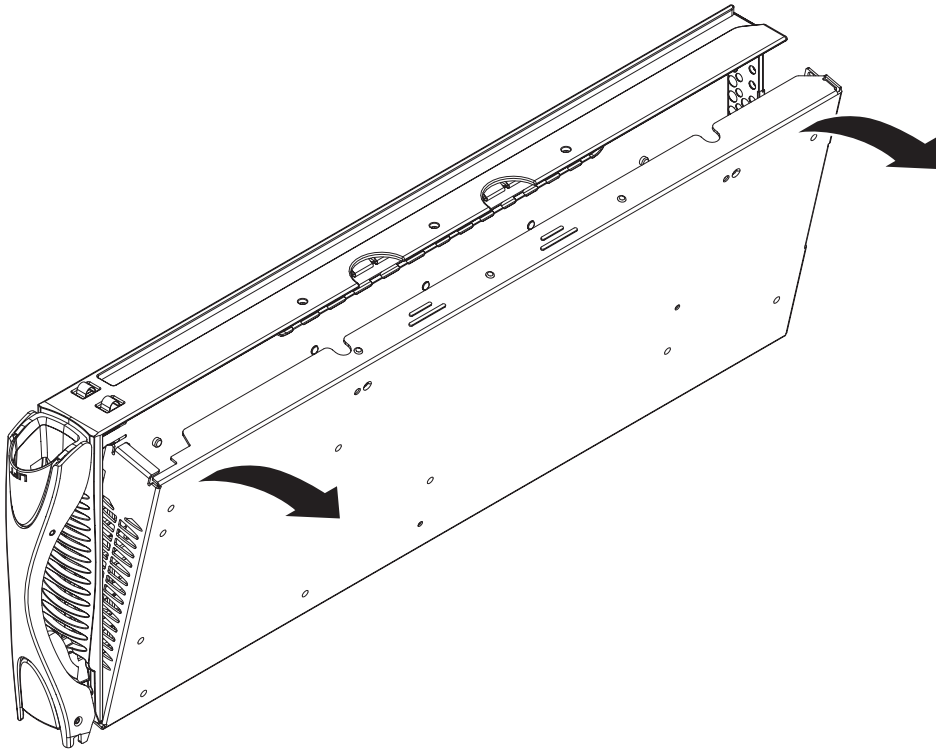


FIGURE 2 Lifting the Blade Cover Away From the Blade

3. Remove the DIMMs by pressing the DIMM ejectors firmly (FIGURE 3). Press against the back of the DIMM riser card for support.

Note – You must remove the top DIMM if you require access to the bottom DIMM.



Caution – Do not press against the metal blade enclosure when you remove the DIMM as you will place excessive strain on the DIMM riser card. Place your thumbs on the back of the DIMM riser card if you require additional leverage.

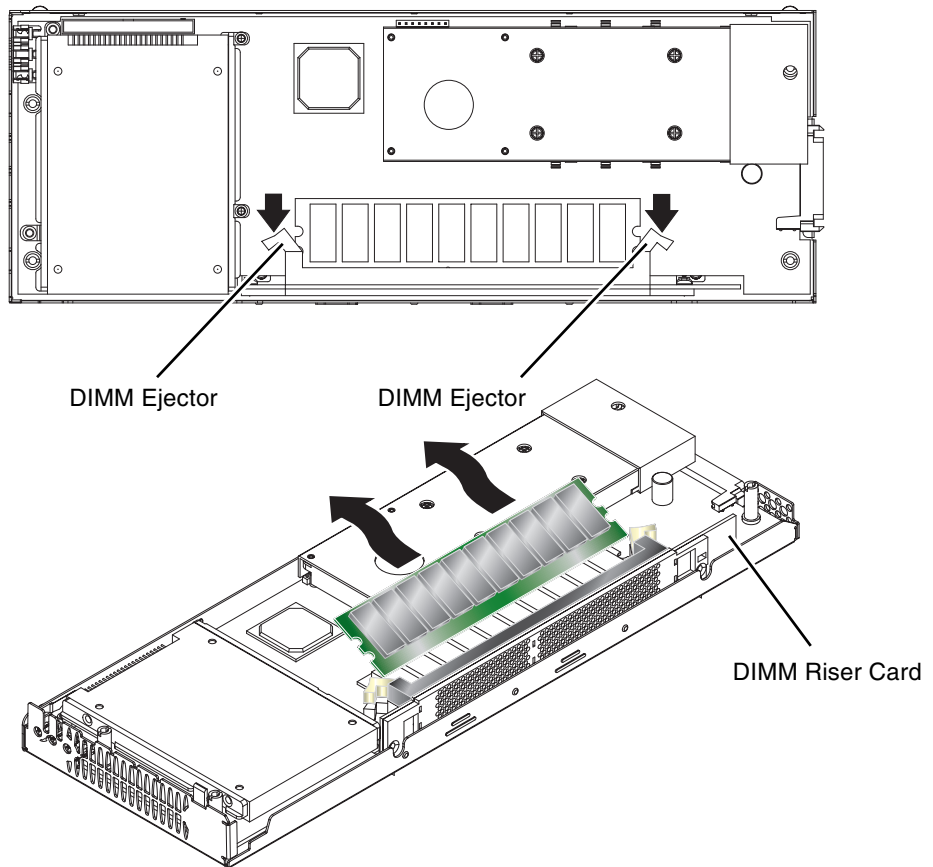


FIGURE 3 Removing the Existing DIMM

▼ To Install the New DIMM

Note – The top DIMM slot must be vacant before you to install a DIMM in the bottom slot.

1. **Unpack the replacement DIMM.**
2. **Insert the DIMM into the vacant DIMM slot.**
3. **Press the DIMM until the DIMM ejectors engage on the edges of the DIMM (FIGURE 4).**

Press against the back of the DIMM riser card for support when you insert the DIMM.

Note – The DIMM ejectors might not engage fully. Press the ejectors to engage them fully with the DIMM.



Caution – Do not press against the metal blade enclosure when you insert the DIMM as you will place excessive strain on the DIMM riser card. Place your thumbs on the back of the DIMM riser card if you require additional leverage.

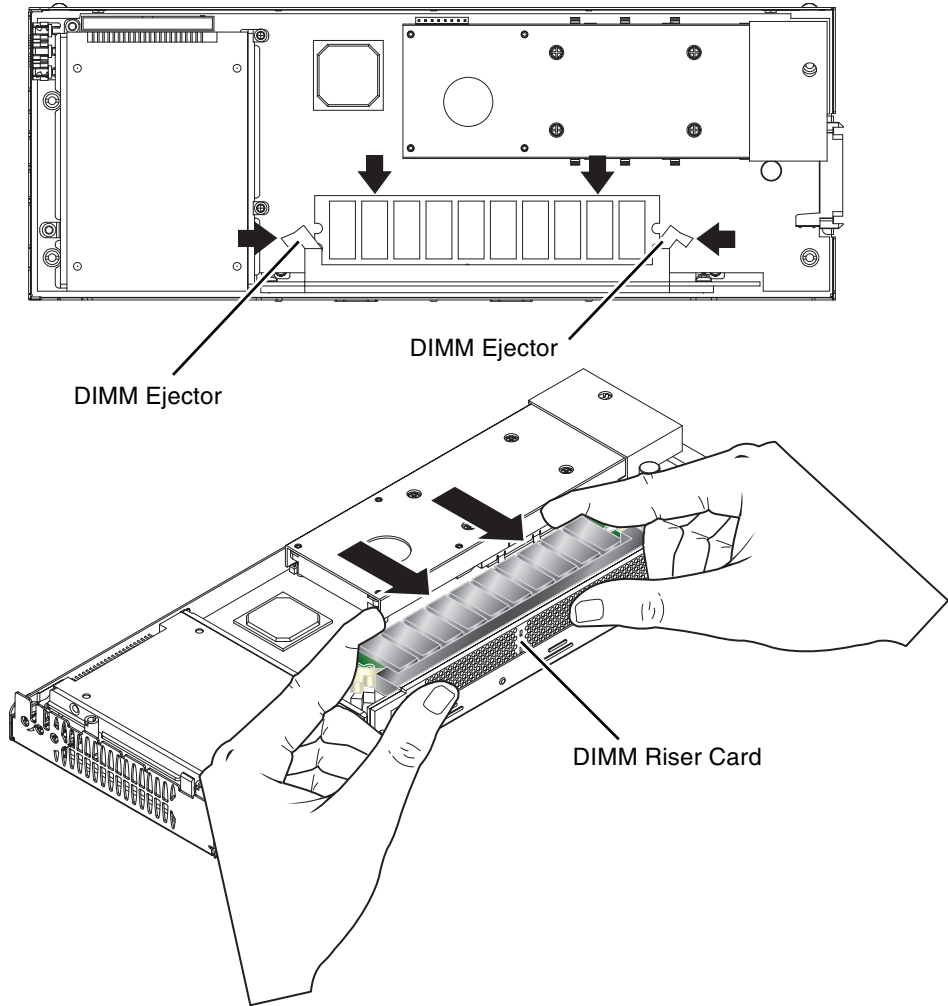


FIGURE 4 Engaging the DIMM Ejectors

4. Lower the blade cover on to the blade (FIGURE 5).

Keep the blade cover level with the blade enclosure. Check that the front of the blade cover is flush with the metal grille at the front of the blade enclosure.

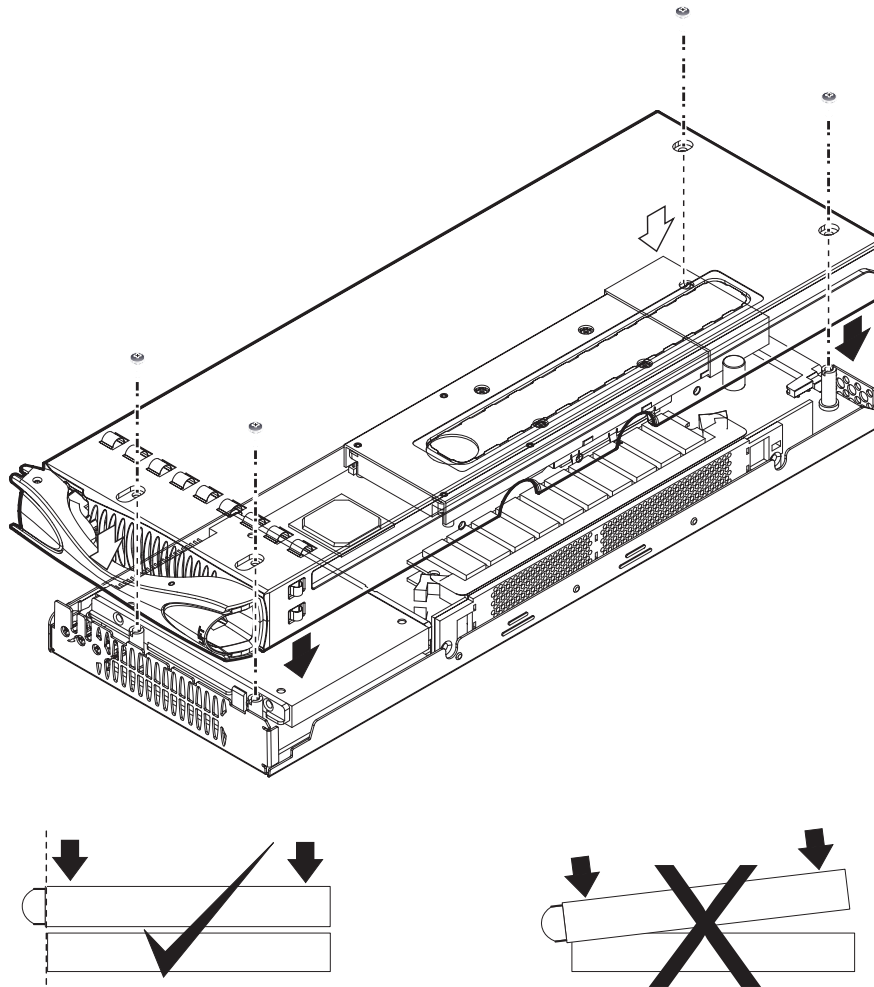


FIGURE 5 Lowering the Blade Cover on to The Blade Enclosure

5. Attach the blade cover to the blade enclosure with the blade cover screws.

13.1.3 Installing the Blade

The system chassis is designed to operate with a total of up to 16 blades and filler panels installed.



Caution – Operating the system chassis with empty blade slots might disrupt airflow through the system chassis and will compromise EMC compliance.

See [Chapter 12](#) for details of how to install the blade into the system chassis, and how to bring the blade online.

13.2 Replacing DIMMs for the B200x Server Blade

This document provides the procedures for installing DIMMs in the Sun Fire B200x blade, and contains the following sections:

- “Before You Start” on page 13-2
- “Replacing the DIMM” on page 13-2
- “Installing the Blade” on page 13-9

13.2.1 Before You Start

Check that either the blue ‘Ready to Remove’, or amber ‘service required’ LED is lit on the blade you want to remove from the system chassis.

Note – Do not remove the blade until one of these LED states is displayed.

See the *Sun Fire B1600 Blade System Chassis Administration Guide* for details of how to shut down the blade safely.



Caution – Operating the system chassis with empty blade slots might disrupt airflow through the system chassis and will compromise EMC compliance.

13.2.2 Replacing the DIMM

This section provides the following procedures:

- “To Remove the Existing DIMM” on page 13-3
- “To Install the New DIMM” on page 13-6

▼ To Remove the Existing DIMM



Caution – Use proper ESD grounding techniques when handling components. Wear an antistatic wrist strap and use an ESD-protected mat. Store ESD-sensitive components in antistatic bags before placing them on any surface.

1. Remove the blade cover screws (FIGURE 1).

Use a Phillips No. 2 screwdriver to remove the screws.

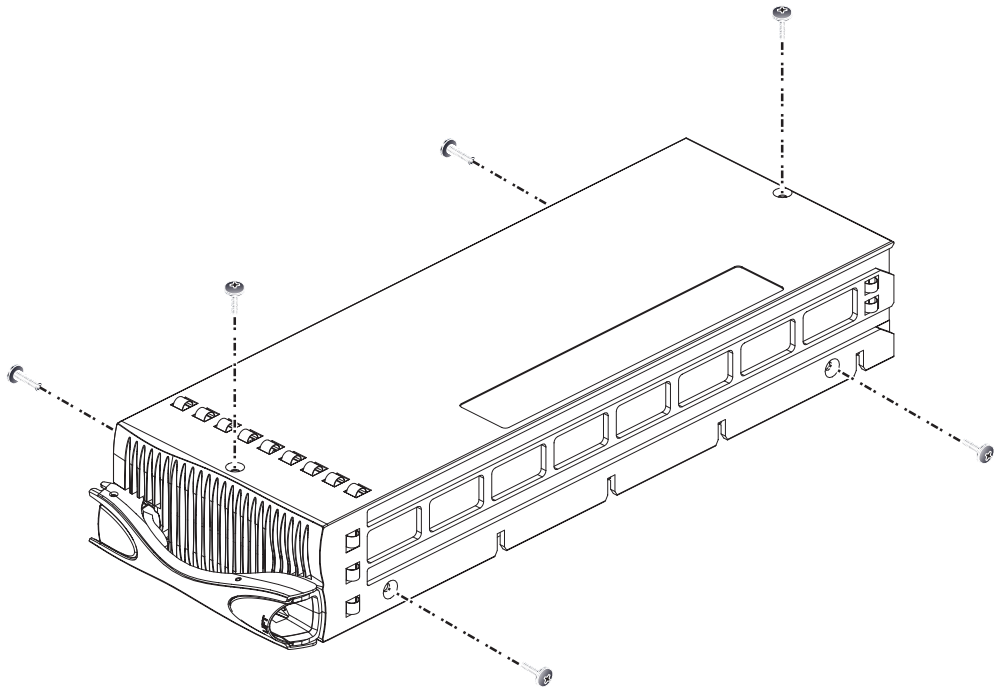


FIGURE 1 Removing the Blade Cover Screws

2. Lift the blade cover away from the blade (FIGURE 2).

Slide the cover off and then lift it away from the blade body.

Caution – Lift the blade cover perpendicularly away from the blade to ensure that the integrity of the blade EMI fingers is not affected.

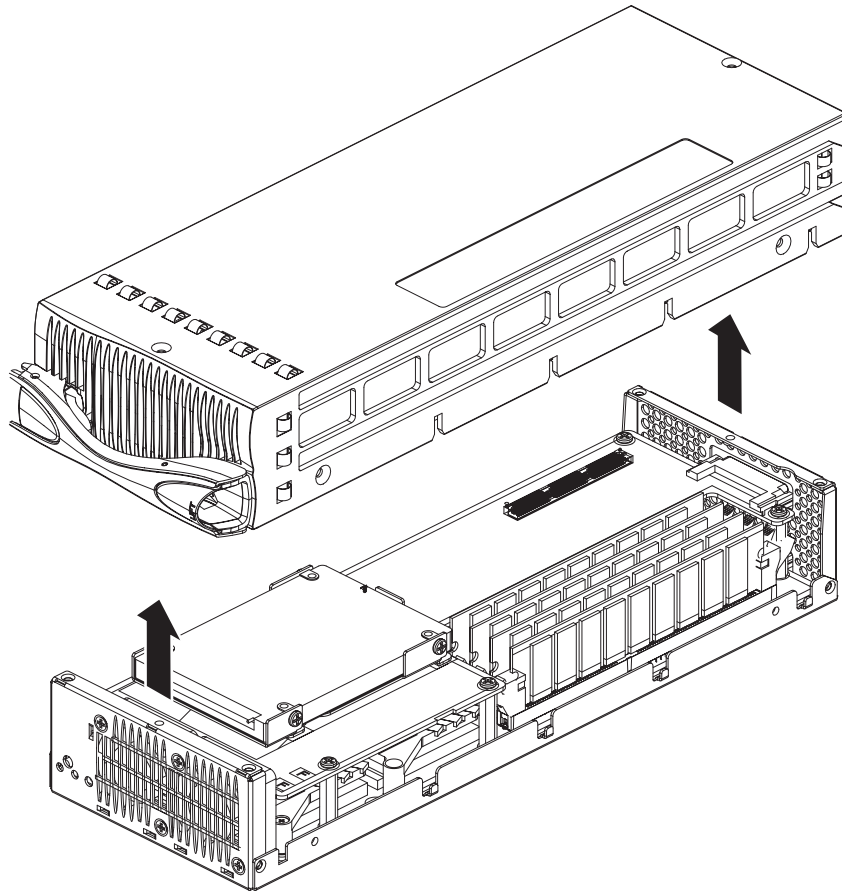


FIGURE 2 Lifting the Blade Cover Away From the Blade

3. Remove the DIMMs by pressing the DIMM ejectors firmly (FIGURE 3).

Note – You must remove the front DIMMs if you require access to the back DIMMs.



Caution – Do not use a screwdriver to lever the ejectors. The use of excessive force might cause damage to both the ejector and other blade components.

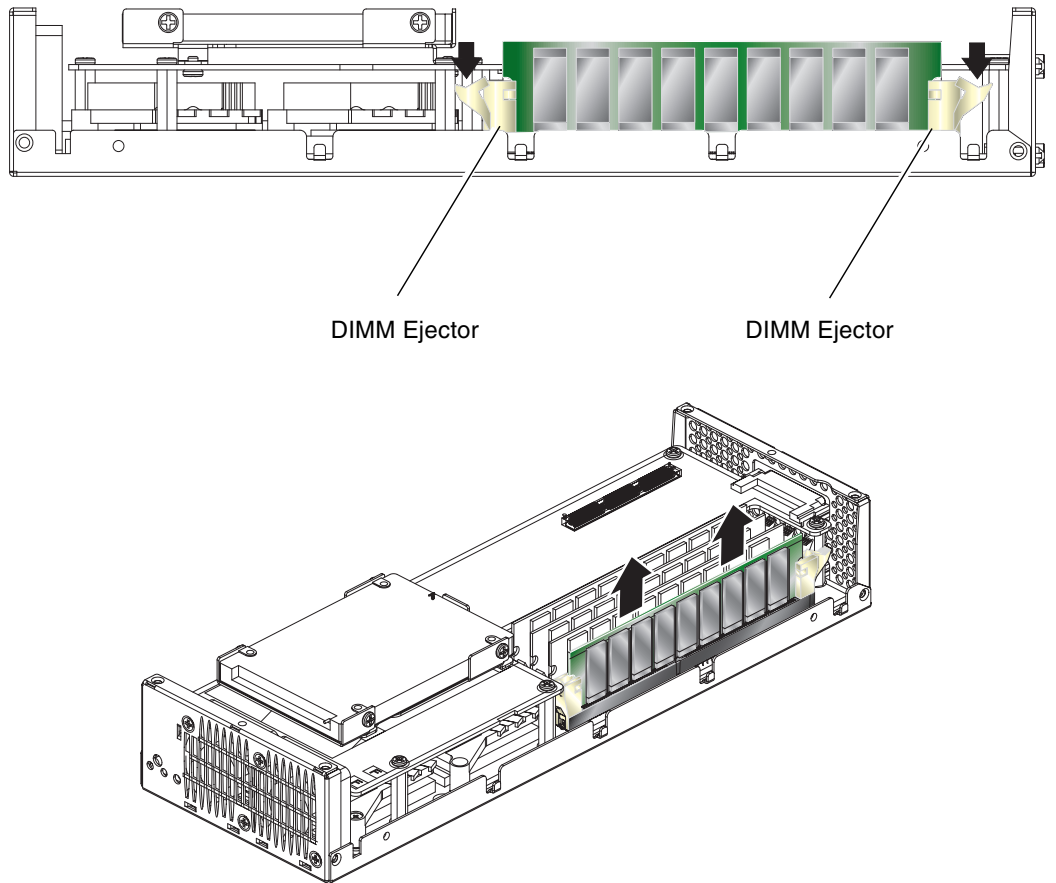
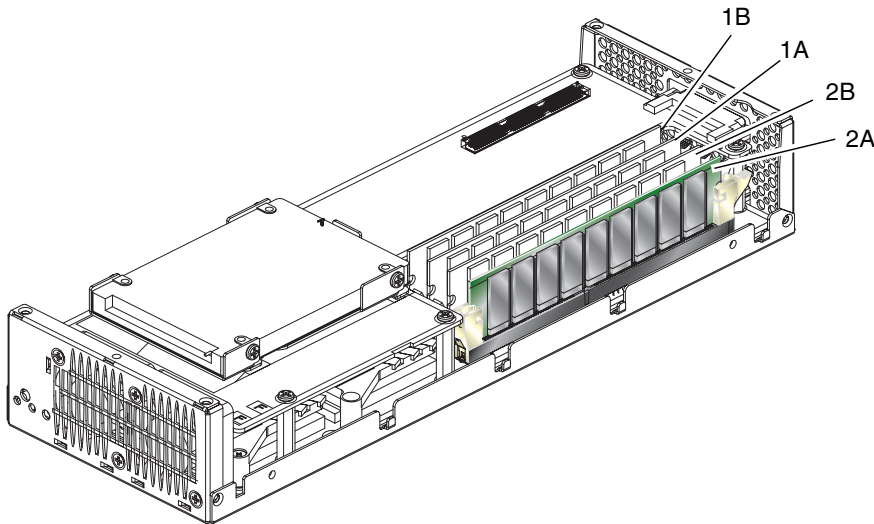


FIGURE 3 Removing the Existing DIMM

▼ To Install the New DIMM

The B200x blade has four DIMM slots. In a standard configuration, slots 2A and 2B are populated. Additional DIMM pairs should be installed in slots 1A and 1B.

Note – DIMM slot 2A must always be populated.



1. **Unpack the replacement DIMM.**
2. **Insert the DIMM into the vacant DIMM slot.**
3. **Press the DIMM until the DIMM ejectors engage on the edges of the DIMM (FIGURE 4).**

Note – The DIMM ejectors might not engage fully. Press the top of the DIMM firmly to until each ejector is in place.



Caution – Do not use a screwdriver to lever the ejectors in place. The use of excessive force might cause damage to both the ejector and other blade components.

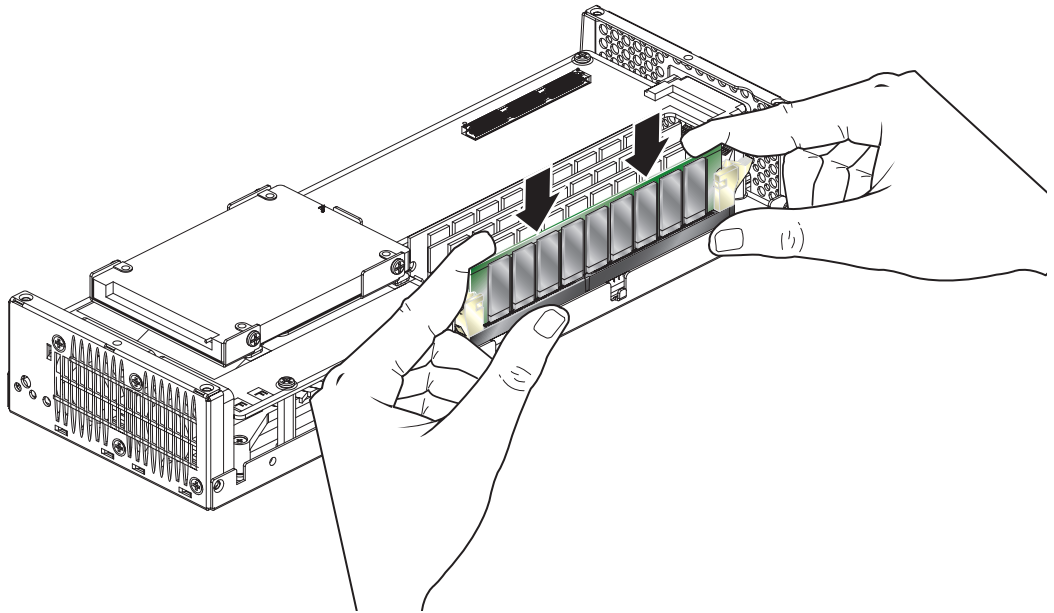
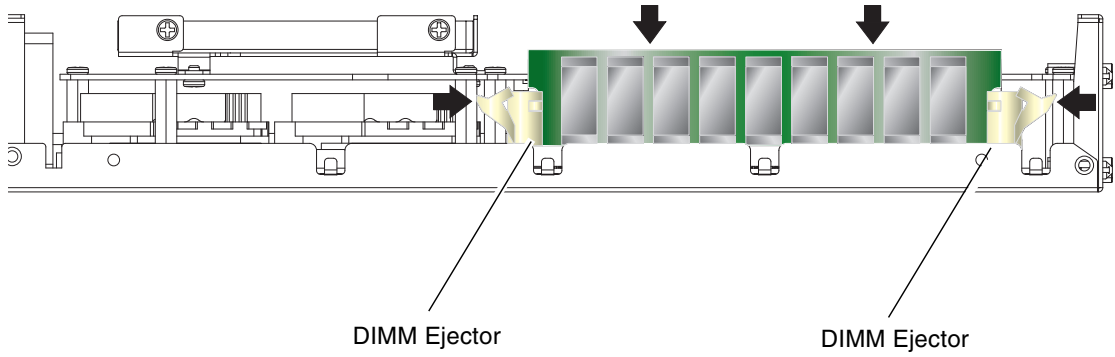


FIGURE 4 Engaging the DIMM Ejectors

4. Place the blade cover on to the blade (FIGURE 5).

Keep the blade cover level with the blade chassis and slide the cover in position. Check that the bottom retention lugs of the chassis engage in the blade cover.

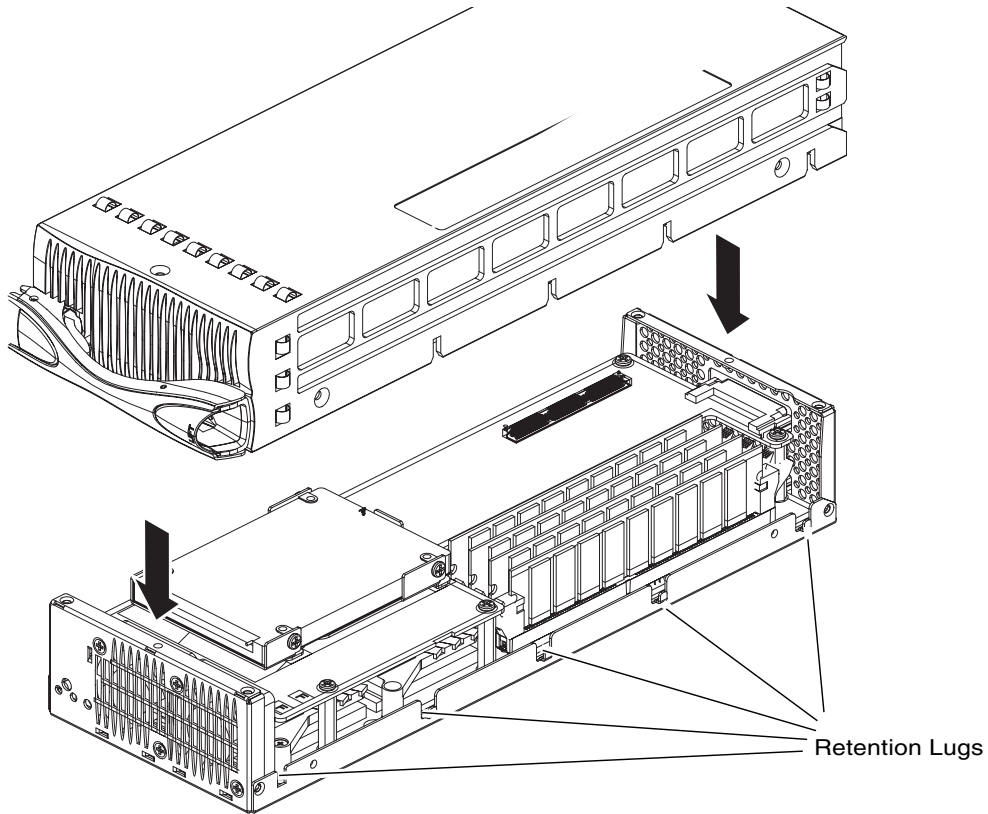


FIGURE 5 Lowering the DIMM Cover on to The Blade Enclosure

5. Attach the blade cover to the blade enclosure with the blade cover screws.

13.2.3 Installing the Blade

The system chassis is designed to operate with all blade slots populated with either blades and/or filler panels.



Caution – Operating the system chassis with empty blade slots might disrupt airflow through the system chassis and will compromise EMC compliance.

See [Chapter 12](#) for details of how to install the blade into the system chassis, and how to bring the blade online.

The Meaning of the LEDs

This appendix describes the LEDs on the front and back of the Sun Fire B1600 blade system chassis and tells you the meanings of their different states. It contains the following section:

- [Section A.1, “Interpreting the LEDs” on page A-2](#)

A.1 Interpreting the LEDs

Use the LEDs on the individual system components to determine if the system is operating normally. We recommend you monitor the LEDs routinely on the SSCs, Power Supply Units, and server blades.

The LEDs can be off, on, or in some cases blinking slowly or flashing. When the Service Required LED is on (lit), this indicates that a fault has occurred in the component. A fault is any condition that is considered to be unacceptable for normal operation. When the Service Required LED is lit, you must take immediate action to clear the fault.

You can only remove a hot-swappable component when the blue Ready to Remove LED is lit.

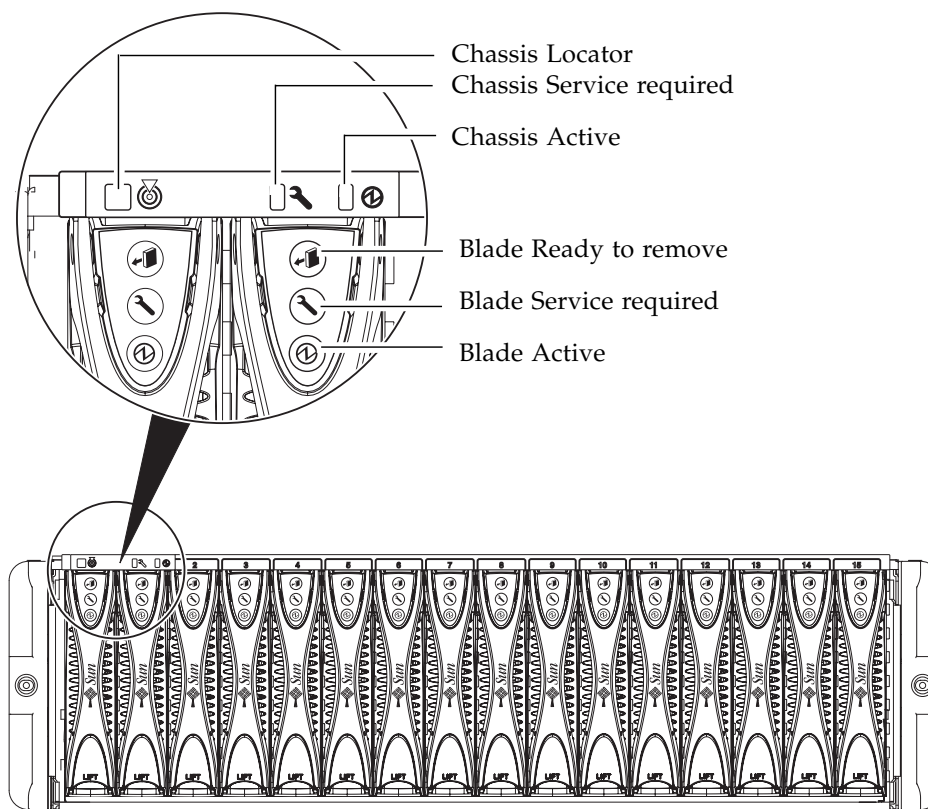


FIGURE A-1 Front Panel LEDs

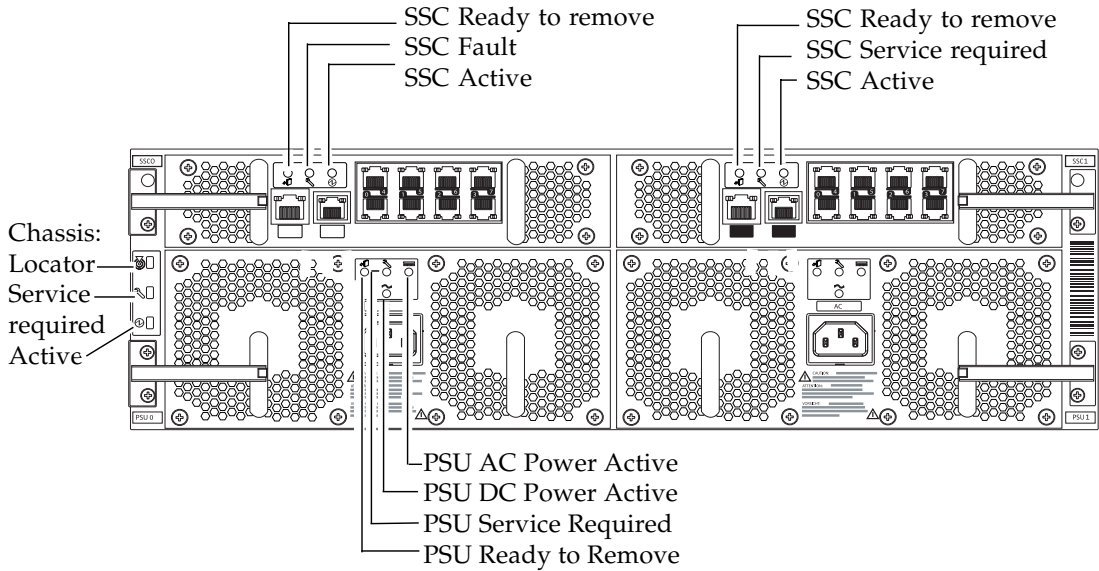


FIGURE A-2 Rear Panel LEDs

TABLE A-1 SSC, Blade, Chassis, and Power Supply Status Codes







Ready to Remove  (blue)	Service Required  (amber)	Active  (green)	Indication	Corrective Action
Off	Off	Off	Component not operating. Fault condition unknown	If all LEDs are off on the chassis, check your external power source. If the LEDs are all off on a particular component, issue the <code>poweron</code> command to that component.
Off	On	Off	Component not operating. Fault present.	Do not remove a component from the system.
On	Off	Off	Component ready to remove. No fault present.	Remove the component from the chassis.
On	On	Off	Service is required to the component and the component is ready to remove.	Remove the faulty component and replace it.
Off	Off	On	Normal component operation.	No action required.

TABLE A-1 SSC, Blade, Chassis, and Power Supply Status Codes (Continued)

Ready to Remove  (blue)	Service Required  (amber)	Active  (green)	Indication	Corrective Action
On	Off	On	This combination is most likely to be seen on a PSU. It indicates that the PSU is providing power to the chassis (note that a PSU cannot be powered off) but that it has been prepared for removal.	Remove the PSU and insert the replacement PSU within 10 minutes (see the Caution box below).
On	On	On	This combination is most likely to be seen on a PSU. It indicates that the PSU requires service and has been prepared for removal, but that it is providing power to the chassis (note that a PSU cannot be powered off).	Remove the PSU and insert the replacement PSU within 10 minutes (see the Caution box below).
Off	On	On	Component operating. Fault present.	Issue the <code>poweroff -r</code> or the <code>removefru</code> command to the faulty component. Then remove the component.
Off	Off	Slow blink (blades)	Blade is in standby mode.	No action required, but type <code>poweron sn</code> (where <code>n</code> is the number of a blade) when you want to power on the blade. If the blade is at the <code>ok</code> prompt, type <code>boot</code> to load the operating system. If it is not at the <code>ok</code> prompt, wait until it is. If it does not return to the <code>ok</code> prompt or the Solaris prompt, reset the blade from the <code>sc></code> prompt.
Off	Off	Flashing (blades)	Blade is self-testing, initialising, or booting. It is powered on, but the Operating System is not running.	No action required.



Caution – When you remove a PSU, the white Locator LED on the chassis’s front and back panels starts to flash. This is to alert you to insert a new PSU within 10 minutes of removing the old one, otherwise there is a danger that the server blades in the chassis will overheat. When you have inserted the new PSU, the Locator LED will stop flashing.

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