bullx B505
Blade Hardware Console

User's Guide

extreme computing

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Hardware

January 2011

Trademarks and Acknowledgements

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Table of contents

List of figures

List of tables

Preface

This guide explains how to use the Blade Hardware Console (BHC) to manage your bullx B505 accelerator blades.

Note	The Bull Support web site may be consulted for product information, documentation, downloads, updates and service offers: http://support.bull.com

Intended readers

This guide is intended for use by the Administrators and Operators of bullx blade system.

Highlighting

The following highlighting conventions are used in this guide:

Bold   Identifies the following:
- Interface objects such as menu names, labels, buttons and icons
- File directory and path names
- Keywords to which particular attention must be paid

Italics   Identifies references such as manuals or URLs

Related publications

This list is not exhaustive. Useful documentation is supplied on the Resource & Documentation CD(s) delivered with your system. You are strongly advised to refer carefully to this documentation before proceeding to configure, use, maintain, or update your system.

- *bullx blade system Installation Guide*, 86 A1 48FB
  explains how to install the bullx blade system. This guide is intended for use by the qualified support personnel.

- *bullx blade Chassis Hardware Console User's Guide*, 86 A1 50FB
  explains how to use the bullx blade Chassis Hardware Console to manage the blade chassis. This guide is intended for use by system administrators and operators.

- *bullx B500 Blade Hardware Console User's Guide*, 86 A1 49FB
  explains how to use the bullx B500 Blade Hardware Console to manage accelerator blades. This guide is intended for use by system administrators and operators.

- *bullx blade system Maintenance and Troubleshooting Guide*, 86 A7 51FB
  explains how to maintain, service, and upgrade the bullx blade system. This guide is intended for use by qualified support personnel.

Note	The illustrations in this document may differ slightly from the hardware received.

Legal information

Regulatory declarations and disclaimers

Declaration of the manufacturer or importer

We hereby certify that this product is in compliance with:
- European Union EMC Directive 2004/108/EC, using standards EN55022 (Class A) and EN55024 and Low Voltage Directive 2006/95/EC, using standard EN60950
- International Directive IEC 60297 and US ANSI Directive EIA-310-E

Safety compliance statement

- UL 60950-1 USA
- EN 60950-1 international
- CSA 60950-1 Canada

European Community (EC) Council directives

This product is in conformity with the protection requirements of the following EC Council Directives:

Electromagnetic compatibility

- 2004/108/EC

Low voltage

- 2006/95/EC

EC conformity

- 93/68/EEC

Telecommunications terminal equipment

- 1999/5/EC

Neither the provider nor the manufacturer can accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product.

Compliance with these directives requires:
- An EC declaration of conformity from the manufacturer
- An EC label on the product
- Technical documentation

Mechanical structures

- IEC 60297
- EIA-310-E

FCC declaration of conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Neither the provider nor the manufacturer is responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by Bull SAS may cause harmful interference and void the FCC authorization to operate this equipment.

An FCC regulatory label is affixed to the equipment.

Canadian compliance statement (Industry Canada)

This Class A digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

This product is in conformity with the protection requirements of the following standards:

- ICES-003
- NMB-003

Safety information

For your safety, this manual contains important information, required to operate the server safely. Thoroughly review the information in this manual before using the server.

Use the following safety guidelines to ensure your personal safety and to help protect your server from potential damage. Throughout this guide, blocks of text may be accompanied by an icon which needs to be followed for your safety.

Definition of safety notices

DANGER
A Danger notice indicates the presence of a hazard that has the potential of causing death or serious personal injury.

CAUTION
A Caution notice indicates an action that could cause damage to a program, device, system, or data. A Caution notice may also indicate the presence of a hazard that has the potential of causing moderate or minor personal injury.

Read the installation instructions before connecting the system to the power source. Hazardous current and energy levels are present in areas indicated by this label. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact service technician.

CAUTION
This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security. Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

- This equipment must be grounded. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available

- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating

- Use only power cables that are approved for use in the respective country. The power cable must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the product

- If any of the following conditions occur, unplug the equipment from the electrical outlet and replace the part or contact your trained service technician:

  – The power cable, extension cable, or plug is damaged

  – An object has fallen into the equipment

  – The equipment has been exposed to water

- The equipment does not operate correctly when you follow the operating instructions

- Allow the equipment to cool before removing covers or touching internal components

- Suitable disconnect device must be provided as part of the building installation. The purpose of the disconnect device is to provide an easy and accessible means for removing power from the product for servicing

- Opening or removing covers that are marked with the triangle symbol with a caution mark may expose you to risk of electrical shock. Components inside these compartments should be serviced only by a trained service technician

- Ensure that the voltage and frequency of your power source match the voltage and frequency inscribed on the equipment's electrical rating label

- Hazardous energy is present when the blade is connected to the power source. Always replace the blade cover before installing the blade

- When removing the accelerator blade/power supply, dummy blade, filler covers, do not insert your hand into the open slots. Doing so may cause electric shock

- Do not operate your equipment with any filler covers removed

- Do not push any objects into the openings of your system components. Doing so can cause fire or electric shock by shorting out interior components

- Do not use top blade handle to lift the blade chassis. These are used only to install and remove the blade only

- Do not restrict airflow into the equipment by blocking any vents or air intakes

- Cleaning: Unplug your system from wall outlet before cleaning

- Do not spill food or liquids on your system components. Never operate the product in a wet environment

CAUTION

When connecting or disconnecting power to hot-pluggable power supplies observe the following guidelines:

- Install the power supply before connecting the power cable to the power supply

- Unplug the power cable before removing the power supply

- If the equipment has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies to reduce shock hazard

- Never open the power supply module for any reason

- The power supplies in your system may produce high voltages and energy hazards. Only trained service technicians are authorized to remove the covers and access any of the components inside the system

CAUTION

Incorrectly installing a battery or using an incompatible battery may increase the risk of fire or explosion. Replace the battery only with the same or equivalent type recommended by the manufacturer, carefully following installation instructions. Dispose of used batteries properly. Handle batteries carefully. Do not disassemble, crush, or puncture batteries.

Electrical safety

DANGER

The Customer is responsible for ensuring that the AC electricity supply is compliant with national and local recommendations, regulations, standards and codes of practice.
An incorrectly wired and grounded electrical outlet may place hazardous voltage on metal parts of the system or the devices that attach to the system and result in an electrical shock. It is mandatory to remove power cables from electrical outlets before relocating the system.

CAUTION

This unit has more than one power supply cable. Follow procedures for removal of power from the system when directed.

CAUTION

For Europe, connect the plug through Pluggable type B inlet only.
Do not employ Pluggable type A type Plug in European market. Replacement of power cord shall be done only by Service person and the same type cord and plug configuration shall be utilized.

CAUTION

The following must be applied for, in end-system:
Pluggable Type A Equipment, is only accepted where the installation fuse is limited to 16 A; due to the mains fuse rating of 25 A, the following must be applied for:
- Connection through Pluggable Type B inlet
- Permanent Connection

Data integrity and verification

⚠️ CAUTION

Products are designed to reduce the risk of undetected data corruption or loss. However, if unplanned outages or system failures occur, users are strongly advised to check the accuracy of the operations performed and the data saved or transmitted by the system at the time of outage or failure.

Waste management

This product has been built to comply with the Restriction of Certain Hazardous Substances (RoHS) Directive 2002/95/EC.

This product has been built to comply with the Waste Electrical and Electronic (WEEE) Directive 2002/96/EC.

Chapter 1. Getting to know the accelerator blade

This chapter gives an overview of the accelerator blade architecture and a high-level description of each of the accelerator blade components.

The accelerator blades provide the server motherboard functionality based on dual Nehalem-EP / Westmere-EP processors from Intel® and two Nvidia graphic cards and ensure maximum performance/watt for datacenter infrastructures and highly dense deployments. Each processor interconnects with the other processors through the Intel Quick Path Interconnect (QPI) feature. Each accelerator blade interconnects with the other accelerator blades through an embedded ConnectX QDR component and the Quad Switch Module.

The blade system can host up to nine accelerator blades distributed in two rows, four on the top row and five on the bottom row. All the blades are inserted from the front of the blade system and plugged into the Midplane.
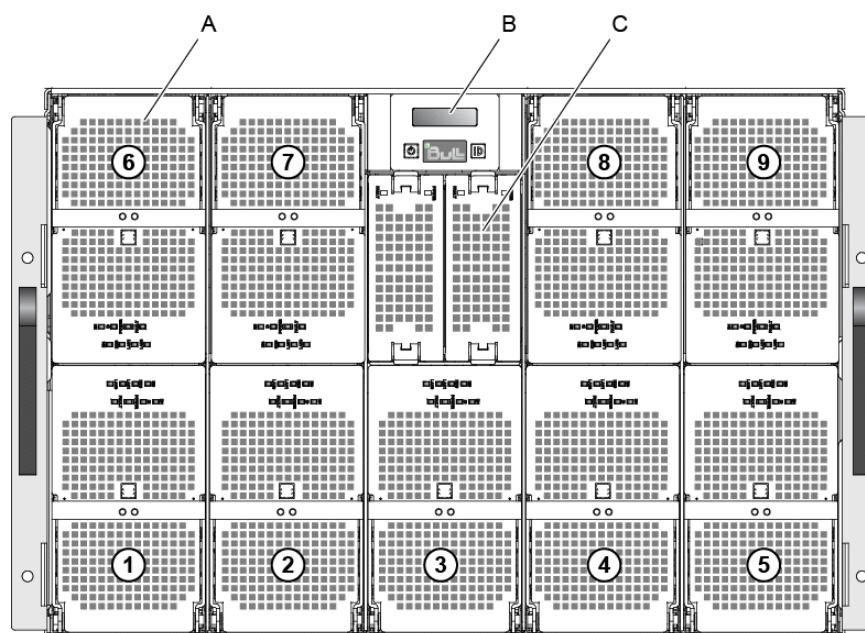
Figure 1-1.   Accelerator blades (GPU)

Note   Compute blades (NCB) and accelerator blades (GPU) can be installed in the same chassis.

The accelerator blades present the following features:

- Hot-plug / hot-swap supported

- Dual-processor sockets for up to two processors

- All processor SKUs supported up to 80W

- Six DDR3 DIMM slots (3 per socket) at 800, 1066, 1333 MHz

- Two PCI Express Gen2x16 slots

- SATA drive (HDD or SSD) form factor 1.8 inch

- Sleep state four (Suspend to disk) supported on HDD/SSD when available

- Front status LEDs

1.1   Reliability, Availability, and Serviceability (RAS)

The following is a list of RAS features that the accelerator blade supports:

- Advanced Configuration and Power Interface (ACPI)

- Automatic BIOS Recovery (ABR)

- Automatic Server Restart (ASR)

- Built-in monitoring for board level temperature and power status

- Customer-upgradeable BIOS

- Diagnostic support of Ethernet controllers

- Error codes and messages

- On board support for 1.8"/3.3V SATA HDD or SSD

- Built-in self-test (BIST) during power-on self-test (POST)

- Microprocessor serial number access

- Registered ECC DDR3 800/1066/1333, 240-pin DIMM

- Embedded Management Controller that communicates with the Chassis Management Module (CMM) for accelerator blade management

- System error logging

- Wake-on LAN capability

1.2 Accelerator blade components, controls, and LEDs

This section identifies the components, controls, and LEDs on the accelerator blades.

1.2.1 Accelerator blade - front view

A. LEDs	B. Blade fan outlets
C. Latch	D. Latch release button
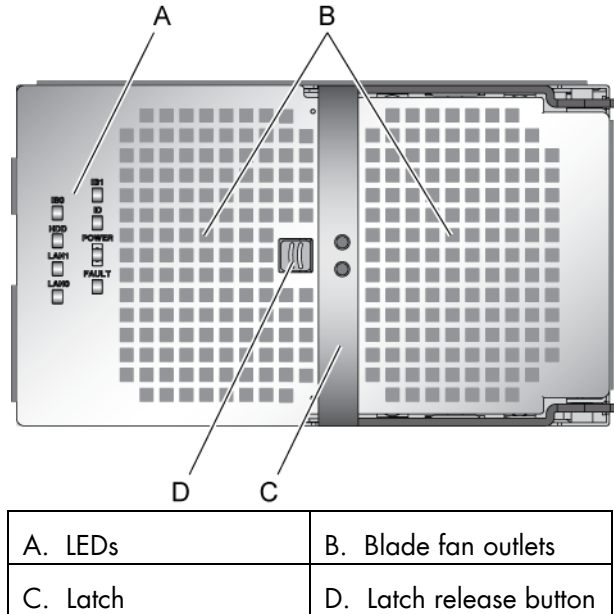
Figure 1-2.   Accelerator blade – front view

1.2.2 Accelerator blade fans

Four counter-rotating fans are mounted in each blade for cooling. The speed of the PWM fans is controlled by the accelerator blades.

A. Accelerator blade fans	B. Fan holder
C. Plastic reverts	
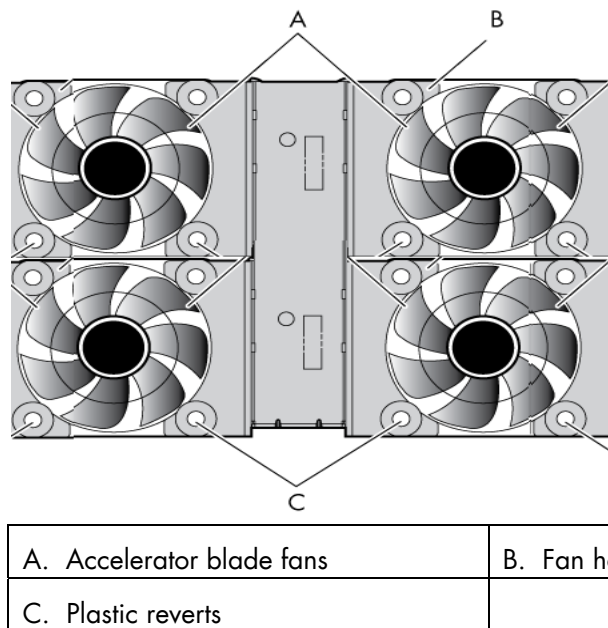
Figure 1-3.   Accelerator blade fans

1.2.3   Accelerator blade – rear view
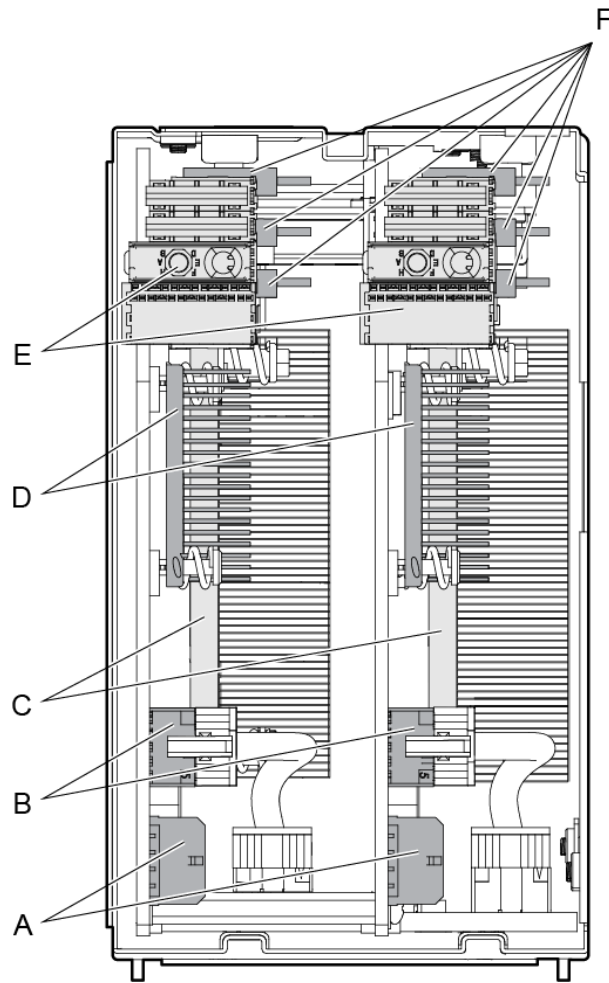
Figure 1-4.   Accelerator blade – rear view

A nVidia power connector	B Planar to SSUP power connector
C CPU heat sinks	D Connectx heat sinks
E Mid Plane connector	F DIMM slots

1.2.4   Accelerator blade components - exploded view

You must first remove the accelerator blade from the chassis and then remove the blade cover to access internal components.
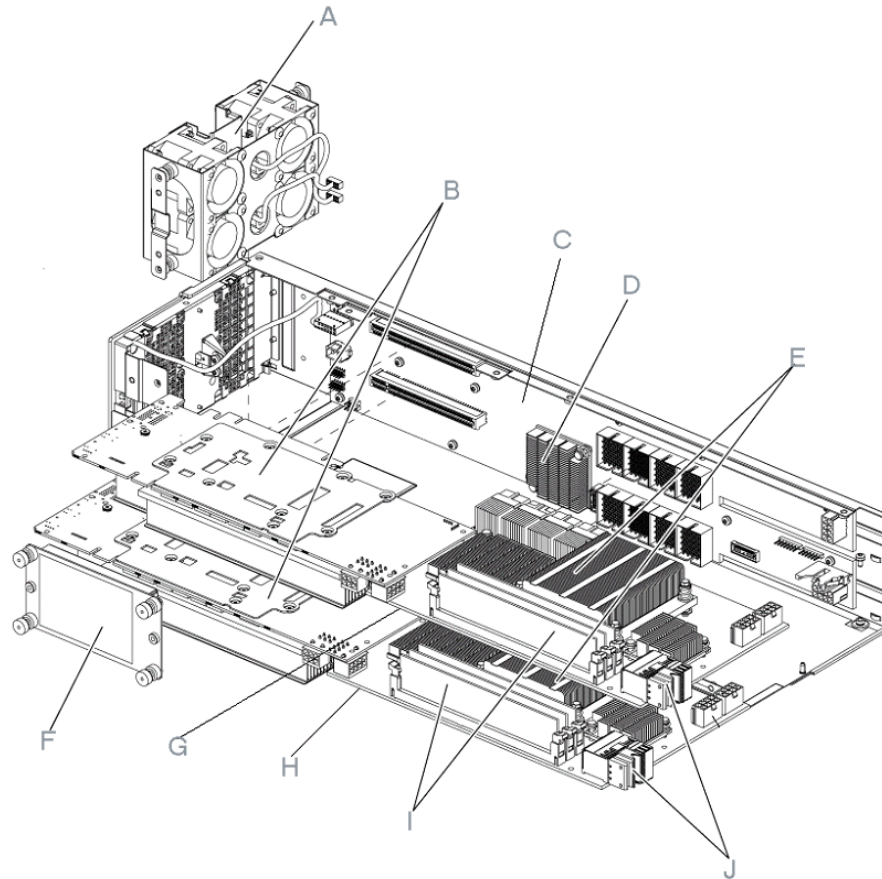
A. GPU host blade fans	B. Graphic cards
C. Planar	D. ICH heat sink
E. CPU heat sinks	F. HDD/SSD
G. SSUP0	H. SSUP1
I. DIMMs	J. Midplane connector

Figure 1-5.   Accelerator blade components

1.2.5 Accelerator blade LEDs

Each accelerator blade is equipped with the following LEDs:
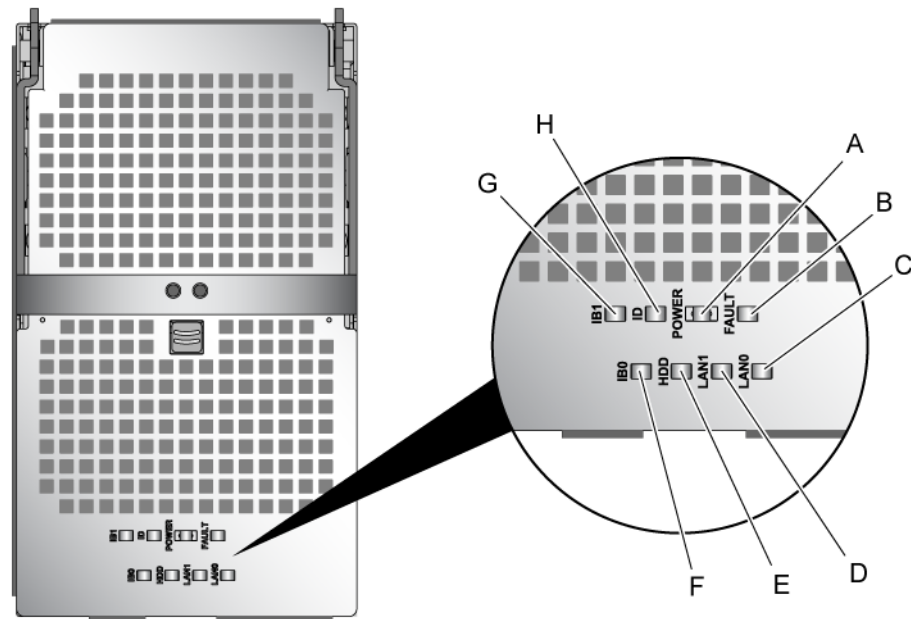
A. Power LED	B. Fault LED
C. LAN0 activity LED	D. LAN1activity LED
E. HDD activity LED	F. IB0 activity LED
G. IB1 activity LED	H. Identification LED

Figure 1-6.   Accelerator blade (GPU) LEDs

⚠ **DANGER**
Hazardous energy is present when the blades are connected to the power source. Never insert a blade into the chassis with its cover removed.

Identification LED

The identification LED indicator is **blue**.

This indicator is a unit identifier dedicated to maintenance operations and used to physically localize an accelerator blade.

The LED is switched On/Off by the maintenance operator from the Chassis Hardware Console web interface.

Power LED

The power LED indicator is bicolor: **amber/green**.

This indicator provides the accelerator blade power state:
- **Amber**: 3.3V stand-by power presence (the blade is in the stand-by/off mode)
- **Green**: 12V main power presence

This indicator is managed by the hardware.

Fault LED

The fault LED indicator is **red**.

This indicator displays faults detected by the integrated Baseboard Management Controller (iBMC) firmware.

This indicator is managed by the iBMC firmware.

LAN 0 activity LED

The LAN 0 activity LED indicator is **green**.

This indicator flashes On and Off to indicate accelerator blade traffic (Tx and Rx data) on the Ethernet network channel 0 (to/from CMM).

This indicator is managed by the hardware.

LAN 1 activity LED

The LAN 1 activity LED indicator is **green**.

This indicator flashes On and Off to indicate accelerator blade traffic (Tx and Rx data) over the Ethernet network channel 1 (to/from ESM / TSM) through the Ethernet component.

This indicator is managed by the hardware.

IB0 activity LED

The IB0 activity LED indicator is **amber**.

This indicator flashes On and Off to indicate accelerator blade traffic over the IB0 network channel 0 through the SSUP0 ConnectX component.

This indicator is managed by the hardware

IB1 activity LED

The IB1 activity LED indicator is **amber**.

This indicator flashes On and Off to indicate accelerator blade traffic over the IB1 network channel 1 through the SSUP1 ConnectX component.

This indicator is managed by the hardware

HDD activity LED

The HDD activity LED indicator is **amber**.

This indicator flashes On and Off to indicate traffic over the SATA link.

This indicator is managed by the hardware.

Chapter 2.   Introducing the Blade Hardware Console

This chapter describes Blade Hardware Console (BHC) features and explains how to start and stop the console from a Web browser.

2.1   Starting the Blade Hardware Console

The Blade Hardware Console is launched from a Web browser using a standard or secure IP address or host name, according to settings.

Prerequisites

- The drawer is connected to the site power supply and to the enterprise LAN
- Your web browser is configured to accept cookies

Procedure

1. Launch your web browser and enter the standard or secure IP address or host name (example: https://myconsole.mydomain), as per settings. The authentication page opens.
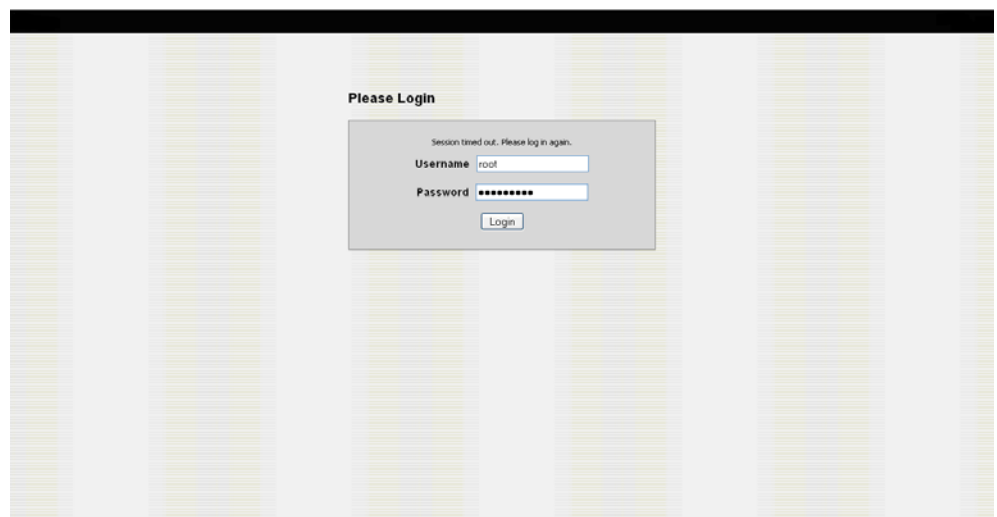
Username	Factory-default username: root
Password	Factory-default password: superuser

Figure 2-1.   Authentication page

2. Complete the **Username** and **Password** fields and click **Login**.
   Once you are authenticated, the **System Information** page opens.

> ❗ **Important**
>
> **You are advised to change factory-default authentication settings once initial setup is completed, taking care to record your new account details for subsequent connections. If you lose your account details, contact your Customer Service Representative.**

If you cannot connect to the console or if the web pages are displayed incorrectly, it may be due to network failure or incorrect network or browser settings.

2.2 Viewing system information

The **System Information** page opens as soon as you log on to the console. If you want to open this page at any other time, select the **System Information** tab.
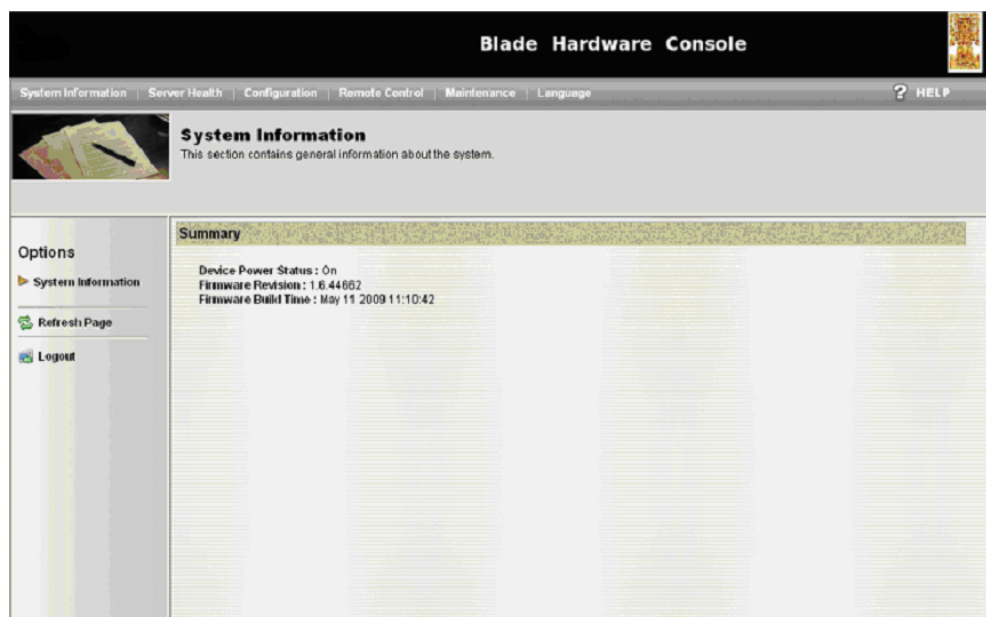
System Information	
Device Power Status	– On
	– Off
Firmware Revision	Indicates the firmware revision number
Firmware Build Time	Indicates the firmware build time

Figure 2-2. System Information page

2.3   Console overview

The Blade Hardware Console is a web-based administration application embedded on the management controller. It allows you to remotely operate, monitor and maintain hardware and to configure the embedded management controller. The Blade Hardware Console can be accessed via the Ethernet network using a Microsoft Internet Explorer or a Mozilla Firefox browser.
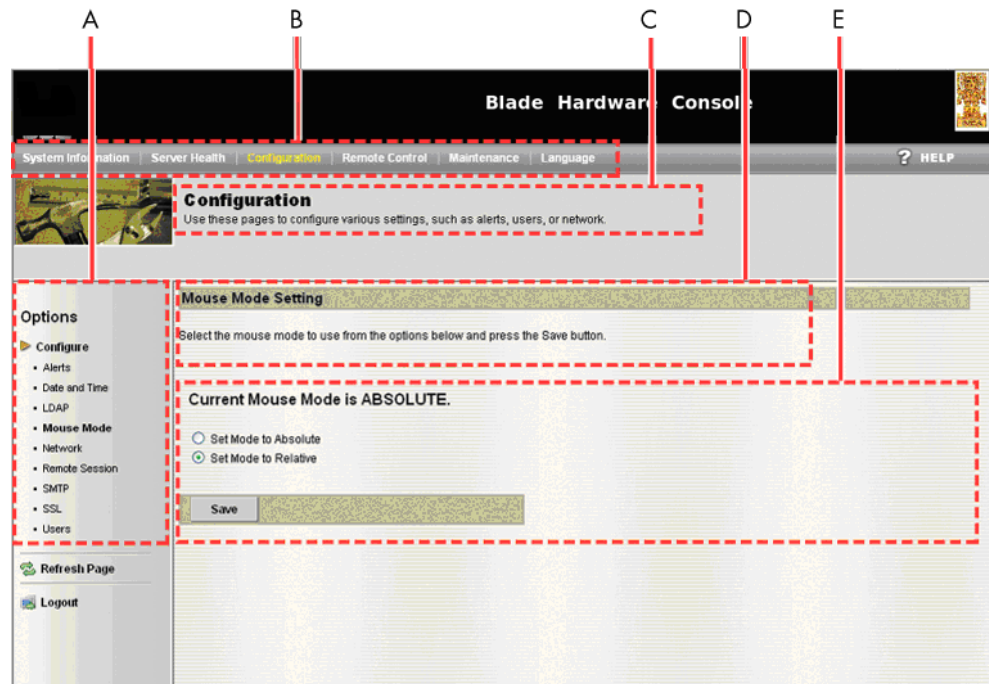
Figure 2-3.   Blade Hardware Console overview

Console overview	
A	The navigation tree provides access to console features. Note that the displayed features differ according to the tab selected.
B	Six tabs allow access to families of features accessible from the associated navigation trees: System Information, Server Health, Configuration, Remote Control, Maintenance, and Language.
C	The selected tab.
D	Current feature name and description.
E	The control pane displays the commands and information associated with the item selected in the navigation tree.
E	The control pane displays the commands and information associated with the item selected in the navigation tree.

Table 2-1.   Blade Hardware Console overview

2.4 Console features and permissions

The following table lists the features available from the interface and the permissions required to use them.

Tab	Tree node	Features	Permission
System Information	System Information	System Information	All users
Server Health	Server Heatlh	Sensor Readings	All users
		Server Readings with Thresholds	All users
		Event Log	Viewing: all users Operation: root users
Configuration	Configure	Alerts	Viewing: all users Operation: root users
		Date and Time	Viewing: all users Operation: root users
		LDAP	Viewing: all users Operation: root users
		Mouse Mode	Viewing: all users Operation: root users
		Network	Viewing: all users Operation: root users
		Remote Session	Viewing: all users Operation: root users
		SMTP	Viewing: all users Operation: root users
		SSL	Viewing: all users Operation: root users
		Users	Viewing: all users Operation: root users
Remote Control	Remote Control	Console Redirection	Viewing: all users Operation: root users
		Server Power Control	Viewing: all users Operation: root users
Maintenance	Maintenance	Hardware update	Root users
Language	Language	Language setting	Viewing: all users Operation: root users

Table 2-2.   Blade Hardware Console features and permissions

2.5 Refreshing the console display

You can refresh the console display at any time to display updated information.

Procedure

To refresh the console, click the **Refresh Page** button in link in the navigation tree.
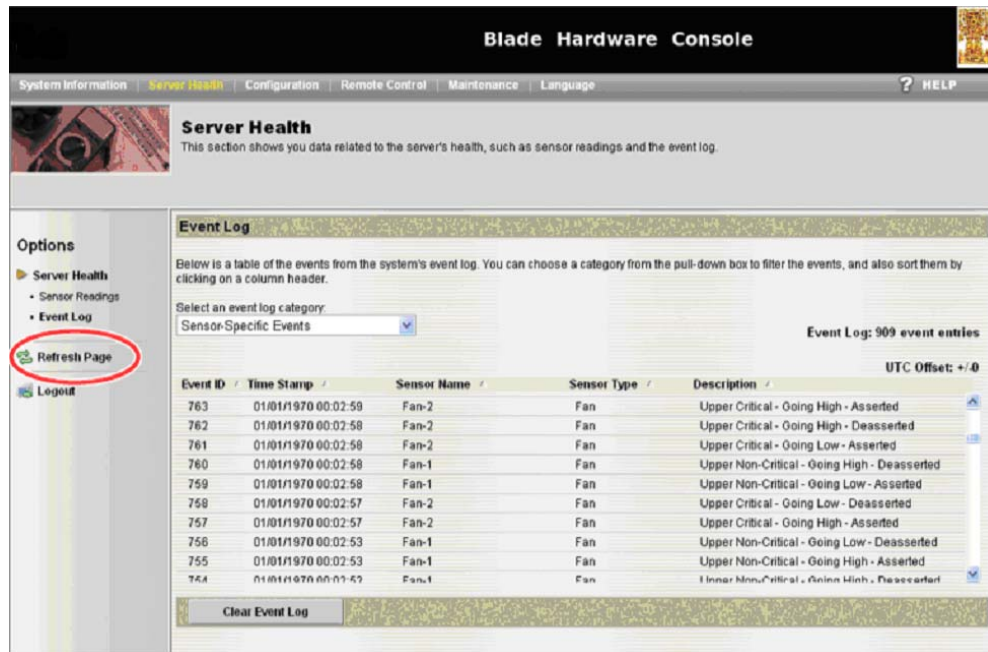
Figure 2-4.   Refreshing the display

2.6 Selecting the console language

You can adapt the console to your regional needs from the **Language Setting** page.

Procedure

1. Select the **Language** tab to open the **Language Setting** page.
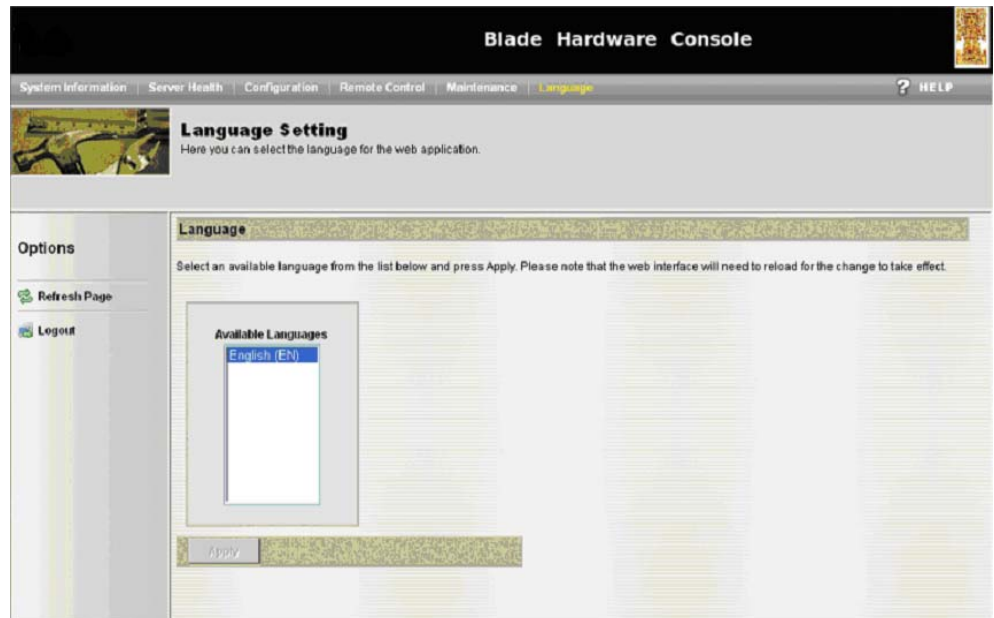
Figure 2-5.   Language setting page

2. Select the required language from the **Available Languages** list and click **Apply**.

3. Refresh the display by clicking the **Refresh** button in the navigation tree.

2.7   Stopping the console

You can stop the console at any time by clicking the **Logout** button in the navigation tree.
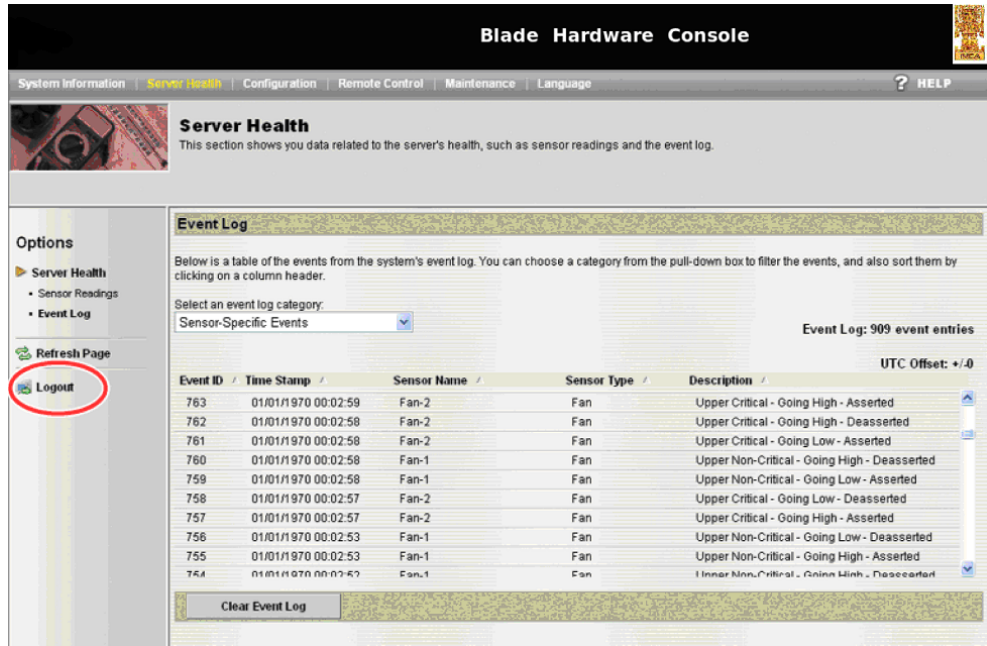
Figure 2-6.   Logout button
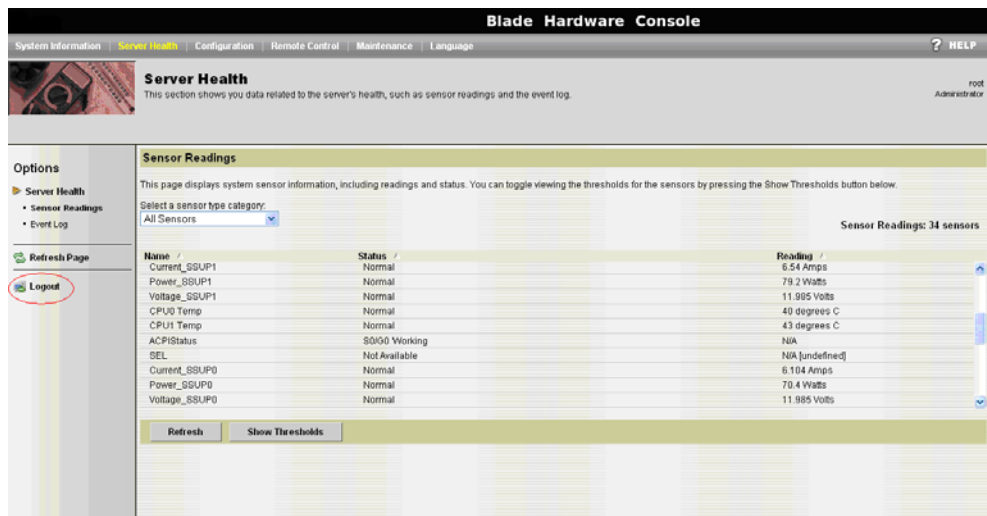
Figure 2-7.   Logout link

Chapter 3.   Monitoring the accelerator blade

This chapter explains how to monitor accelerator blade activity and view and manage event logs.

3.1   Initial messaging and alert configuration

When the blade system is first delivered, you will need to perform a few basic configuration tasks to benefit from all the messaging and alert features available.

Please refer to Chapter 4. Configuring the accelerator blade embedded management controller for instructions.

3.2   Viewing monitoring sensor readings

The accelerator blade is equipped with sensors that monitor component status. Readings can be displayed with or without threshold values.

3.2.1   Viewing sensor readings without threshold values

Procedure

1. Open the **Server Health** tab and select **Sensor Readings** to open the **Sensor Readings** page.
    By default the thresholds are not displayed.

Figure 3-1.   Sensor Readings page – without thresholds

2. Click the **Refresh** button at the bottom of the page to refresh the display.

3. Use the **Select a sensor type category** drop-down list to select a sensor type and/or sort sensors by clicking the **Name**, **Status**, or **Reading** headers.

4. Click the **Show Thresholds** button to display sensor threshold values.

For reference, the following table lists sensor reading values without thresholds.
Refer to Appendix A. Troubleshooting the accelerator blade, for detailed information.

Sensor Readings without threshold values		
Sensor Name	Status	Reading
Current	Lower Non-Recoverable Lower Critical Lower Non-Critical Normal Upper Non-Critical Upper Critical Upper Non-Recoverable	Values in Amps
Fan-X	Lower Non-Recoverable Lower Critical Lower Non-Critical Normal Upper Non-Critical Upper Critical Upper Non-Recoverable	Value in RPM
Voltage	Lower Non-Recoverable Lower Critical Lower Non-Critical Normal Upper Non-Critical Upper Critical Upper Non-Recoverable	Value in Volts
Power	Lower Non-Recoverable Lower Critical Lower Non-Critical Normal Upper Non-Critical Upper Critical Upper Non-Recoverable	Values in Watt
CPU Temperature	Lower Non-Recoverable Lower Critical Lower Non-Critical Normal Upper Non-Critical Upper Critical Upper Non-Recoverable	Values in Degree Celsius
CPUxStatusG	Presence Detected IERR Thermal Trip Not Available	-
DIMM Presence	Presence Detected Not Available	-

Sensor Readings without threshold values		
Sensor Name	Status	Reading
SSUPx_IOH_THERMALERT	Predictive Failure Deasserted Predictive Failure Asserted	-
Irq_RDIMMxG	Predictive Failure Deasserted Predictive Failure Asserted	-
CPUx_PROCHOTG	State Deasserted State Asserted	-
PWRGD_CPUx_VCCPG	Predictive Failure Deasserted Predictive Failure Asserted	-
PWRGD_CPUx_DDR3G	Predictive Failure Deasserted Predictive Failure Asserted	-
PWRGD_CPUx_DDRG	Predictive Failure Deasserted Predictive Failure Asserted	-
PWRGD_CPUx_SFRG	Predictive Failure Deasserted Predictive Failure Asserted	-
PWRGD_CPUx_VTTG	Predictive Failure Deasserted Predictive Failure Asserted	-
SYSTEM_PWRGOOD	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUP0_PWRGD_0P9V	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUPx_PWRGD_P2V5	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUPx_PWRDGD_P5V	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUPx_IOH_THERMTRIP	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUP0_PWRGD_P1V8	Predictive Failure Deasserted Predictive Failure Asserted	-
PWRGD_P1V5G	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUPx_PWRGD_P1V2	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUPx_TEMP_EVENT	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUP1_PWRGD_P1V2	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUP1_PWRGD_P1V8	Predictive Failure Deasserted Predictive Failure Asserted	-

Sensor Readings without threshold values		
Sensor Name	Status	Reading
PWRGD_IOH1_DDR2_P0V9	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUPx_PWRGD_P1V5	Predictive Failure Deasserted Predictive Failure Asserted	-
SSUPx_PWRGD_P1V1	Predictive Failure Deasserted Predictive Failure Asserted	-
P12V_HOTSWAP_PG	Predictive Failure Deasserted Predictive Failure Asserted	-

Table 3-1.   Sensor reading values – without thresholds

Table 3-1 provides the format of Senor reading displayed (without thresholds). So a sensor would take one of the states according to the Sensor reading. See Appendix B for more information on sensors.

You can select a sensor type from **Select a sensor type category** drop-down and also sort them by clicking on a column header. Also, you can toggle the thresholds for the sensors by clicking the **Show Thresholds** button.

3.2.2　Viewing sensor readings with threshold values

Procedure

1. Open the **Server Health** tab to display the **Server Health** page.
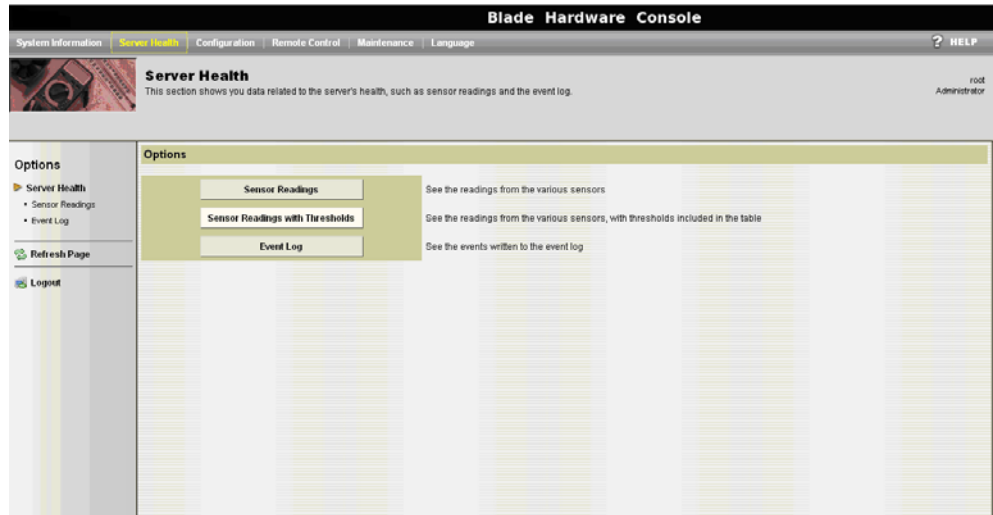
Figure 3-2.　Server Health page

2. Select **Sensor Readings with Thresholds** to open the **Sensor Readings** page.
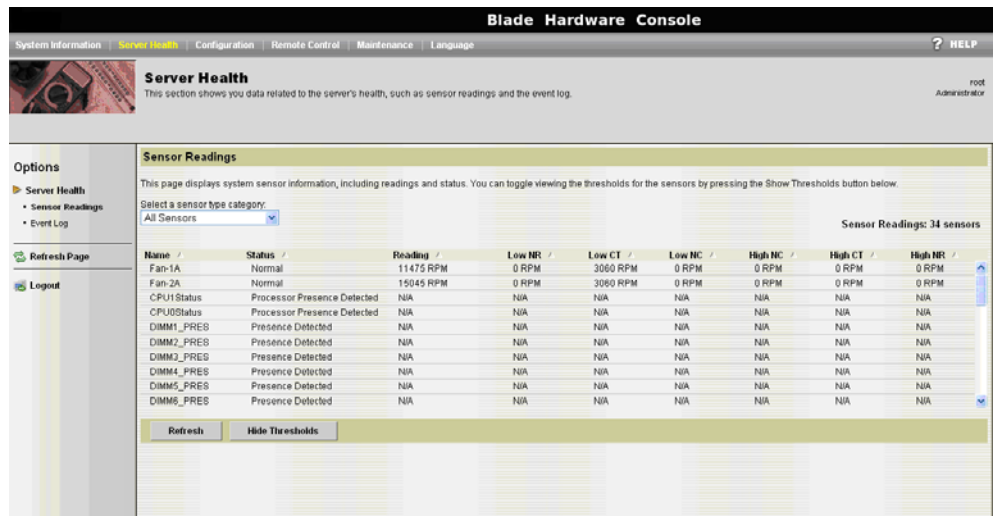
Figure 3-3.　Sensor Readings with Thresholds page

3. Click the **Refresh** button at the bottom of the page to refresh the display.

4. Use the **Select a sensor type category** drop-down list to select a sensor type and/or sort sensors by clicking the **Name**, **Status**, or **Reading** headers.

5. Click the **Hide Thresholds** button to mask sensor threshold values.

For reference, the following table lists sensor reading values with thresholds.
Refer to Appendix A. Troubleshooting the accelerator blade, for detailed information.

Sensor Readings with threshold values								
Sensor Name	Status	Reading	Low NR	Low CT	Low NC	High NR	High CT	High NC
Current_SSUP1 (in Amps)	Normal	7.412	0	0	0	34.719	32.86	31.929
Current_SSUP0 (in Amps)	Normal	6.758	0	0	0	34.719	32.86	31.929
Fan-X (in RPM)	Normal	17340	0	3060	0	0	0	0
Voltage_SSUP1 (in Volts)	Normal	11.985	10.71	10.965	11.22	13.26	13.005	12.75
Voltage_SSUP0 (in Volts)	Normal	11.985	10.71	10.965	11.22	13.26	13.005	12.75
Power_SSUP1 (in Watts)	Normal	88	0	0	0	421.6	403	378.2
Power_SSUP0 (in Watts)	Normal	83.6	0	0	0	421.6	403	378.2
CPUX Status	-	-	N/A	N/A	N/A	N/A	N/A	N/A
DIMMX_ PRES	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACPIStatus	Working	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Temp_GPUx_EXT1 (in Centigrades)	Normal	38	0	0	0	T20 -105 T10 - 95	T20 -100 T10 - 90	T20 - 95 T10 - 78.5
Global_watt (in Watts)	Normal	171.6	0	0	0	843.2	806	756.4
Temp_SSUPx	Normal	45	0	0	0	100	80	78
CPUx_Temp	Normal	52	0	0	0	100	95	84
SSUPx_IOH_ THERMTRIP	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SSUPx_IOH_ THERMALERT	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Irq_RDIMMxG	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CPUx_PROCHOTG	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PWRGD_CPUx_ VCCPG	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Sensor Readings with threshold values								
Sensor Name	Status	Reading	Low NR	Low CT	Low NC	High NR	High CT	High NC
PWRGD_CPUx_DDR3G	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PWRGD_CPUx_DDRG	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PWRGD_CPUx_SFRG	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PWRGD_CPUx_VTTG	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SSUP0_PWRGD_0P9V	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SSUPx_PWRGD_P2V5	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SSUPx_PWRDGD_P5V	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SSUP0_PWRGD_P1V8	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PWRGD_P1V5G	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SSUPx_PWRGD_P1V2	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SSUPx_TEMP_EVENT	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A
P12V_HOTSWAP_PG	Predictive failure deasserted	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3-2. Sensor reading values – with thresholds

3.3 Viewing the System Event Log

The System Event log (SEL) records hardware-related events, in particular those concerning:

- Power supplies
- Fans
- Temperature sensors

The events recorded in this log can also be transmitted via the event alerting system to an SNMP Manager or to offline personnel by email.

Prerequisites

- Viewing: all users
- Operation: root users

Procedure

1. Open the **Server Health** tab and select **Event Log** to open the **Event Log** page.
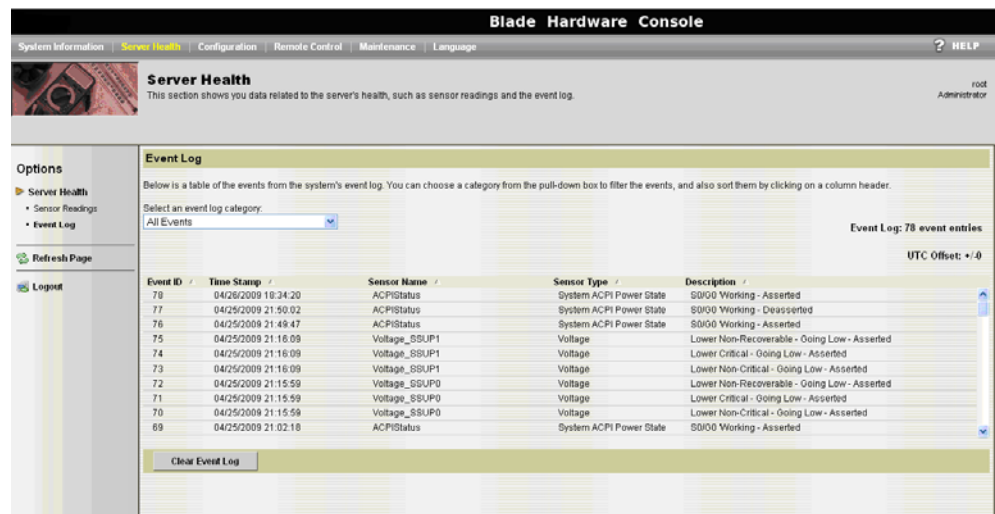
Figure 3-4.   Event Log page

2. Use the **Select an event log category** drop-down list to select an event type and/or sort events by clicking the **Event ID, Time Stamp, Sensor Name, Sensor Type, Description** headers.

3. Click the **Clear Event Log** button to clear data.

Chapter 4. Configuring the accelerator blade embedded management controller

This chapter explains how you can configure the accelerator blade to suit your working environment.

4.1 Configuring alerts

This section allows you to modify, delete, and send test alerts to the destinations.

Prerequisites

- Viewing: all users
- Operation: root users

Procedure

1. Open the **Configuration tab** and select **Alerts** to open the **List of Alerts** page.
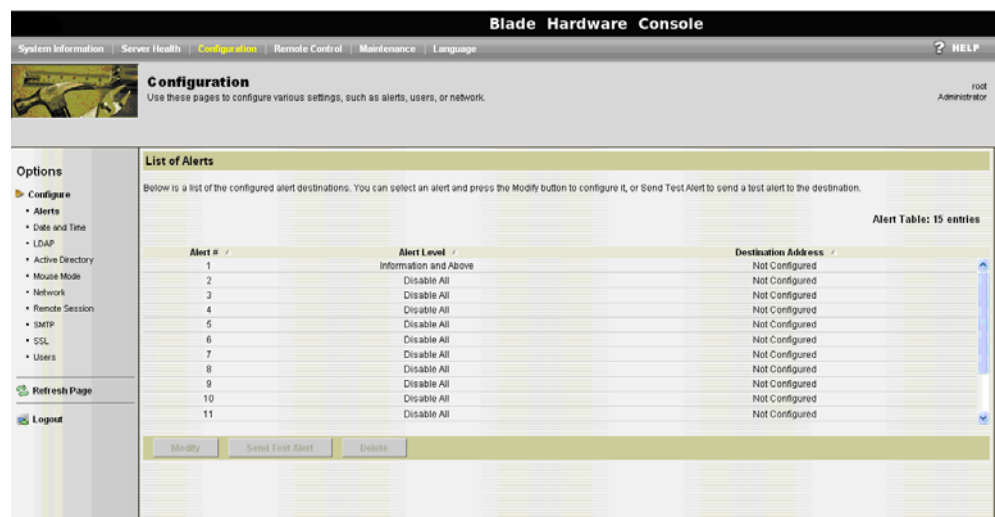
Figure 4-1. List of Alerts page

2. Select the required alert and click **Modify** to open the **Modify Alert** page.

Alert values	
Alert Type	– SNMP Trap: sends the alert to an SNMP Trap Manager – Email: sends the alert to an email recipient
Event Severity	– Disable All: disables all alerts for events – Informational: alert for an event requiring no particular attention – Warning: alert for an event that may require attention – Critical: alert for an event that requires immediate attention – Non-Recoverable: alert for an event requiring hardware replacement
Destination IP	IP address of the system where the alert should be sent. This is enabled if SNMP Trap is selected.
Email Address	Email address of the person to whom the alert should be sent. This is enabled if Email is selected.
Subject	As per the customized subject. This is enabled if Email is selected.
Message	As per the customized message. This is enabled if Email is selected.

Figure 4-2. Modify Alert page

3. Configure the alert as required and click the **Save** button to return to the **List of Alerts** page.

4. Click the **Send Test Alert** button to send a test alert to the configured destination, or click the **Delete** button to delete the alert.

Note   If an alert is deleted, then the corresponding SEL messages are not sent to the configured destination.

4.2 Configuring date and time settings

The Date/Time Settings page allows you to set up the blade internal clock. You can either set the clock manually or connect to a Network Time Protocol (NTP) server.

⚠️ **CAUTION**
If you do not use an NTP server, the date and time will not be persistent. In the event of a power cut, you will have to reset the date and time.

Prerequisites

- Viewing: all users

- Operation: root users

Procedure

1. Open the **Configuration** tab and select **Date & Time** to display the **Date &Time Settings** page.

Date & Time Settings	
NTP Server	This option allows you to enter the IP addresses of the NTP servers you want to use.
	The side box is UTC offset, which allows you to set the difference between local and universal time.

Figure 4-3.   Date & Time Settings page

2. Select **Automatically synchronize Date&Time with NTP Server** to synchronize with an NTP server or manually set the date and time by completing the required fields.

3. Click the **Save** button and then click the **Refresh** button to update the display.

4.3 Configuring the LDAP protocol

By default, the console is configured to use its own Local Authentication mechanism to connect users. If required, you can use your LDAP server to use existing user accounts.

Important
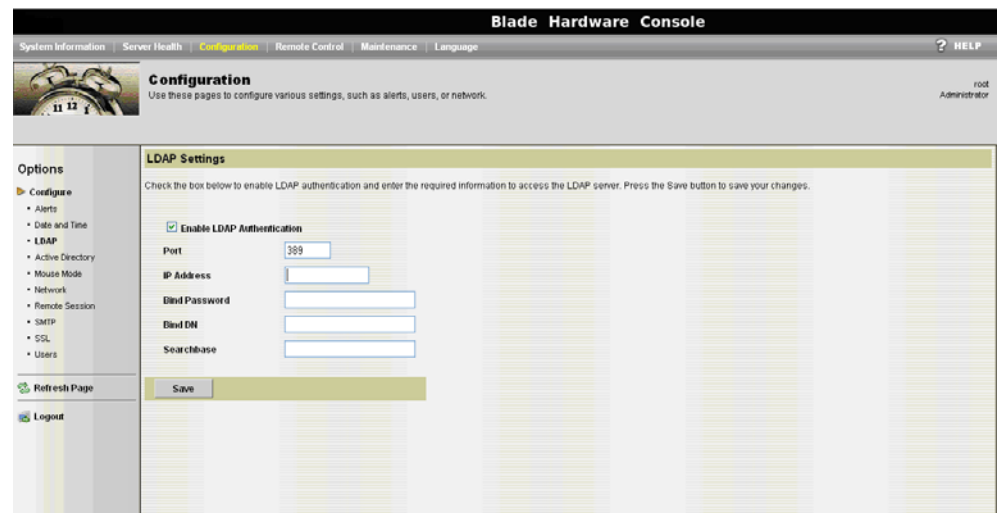
- If you select LDAP authentication management, the LDAP database is only used for password verification. User permissions and private settings are still stored locally. You still need to create user accounts via the console (User Management page) if you want users to log on using a LDAP server.
- The default "super" user account can be used, whatever the authentication settings.

Prerequisites

- Viewing: all users
- Operation: root users

Procedure

1. Open the **Configuration** tab and select **LDAP** to open the **LDAP Settings** page.

LDAP settings	
Port	Specifies the LDAP server port number: 389.
IP Address	The LDAP server hostname or IP address.
Bind Password	Password to be used to bind to the LDAP server.
Bind DN	User account search starting node, example: dc=users, dc=domain, dc=com
Searchbase	Part of the external directory tree to search

Figure 4-4. LDAP Settings page

2. Check the **Enable LDAP Authentication** box to complete the appropriate fields and click the **Save** button.

4.4 Configuring the mouse mode for system console redirection

When the system console is redirected, mouse emulation from the local window to the remote screen can be handled in either:

- Absolute Mode: the absolute position of the local mouse is sent to the blade

- Relative Mode: the calculated relative mouse position is sent to the blade

This section allows you to configure the mouse mode as required. Redirection Console handles mouse emulation from local window to remote screen in following two methods:

- Absolute Mode: The absolute position of the local mouse is sent to the server

- Relative Mode: Relative mode sends the calculated relative mouse position displacement to the server

Prerequisites

- Viewing: all users

- Operation: root users

Procedure

1. Open the **Configuration** tab and select **Mouse Mode** to open the **Mouse Mode Setting** page.
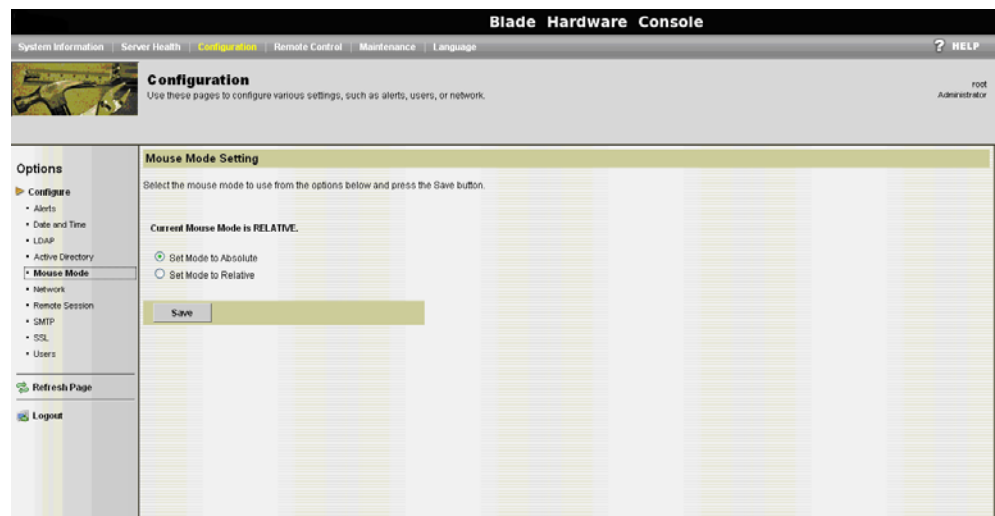
Figure 4-5.   Mouse Mode Setting page

2. Select the mouse mode as required and click **Save** to save changes.

4.5 Configuring the network

Network settings can be modified for remote access to the console via a web browser.

Prerequisites

- Viewing: all users

- Operation: root users

⚠ CAUTION

Good knowledge in network administration is required. If new network settings are incorrect, you may lose the connection to the console. You are advised to note current settings before entering new values so that you can restore the connection if needed.

Procedure

1. Open the **Configuration** tab and select **Network** to display the **Network Settings** page.

Network Setting	
Host Name	Host name for the DHCP server.
MAC Address	Required MAC address.
IP Address	Required static IP address (factory-default: 0.0.0.0).
Subnet Mask	Required subnet mask (factory-default: 255.255.255.0).
Default Gateway	Default Gateway IP address, if applicable.
Primary DNS Server	Primary DNS server IP address, if applicable.
Secondary DNS Server	Secondary DNS server IP address, if applicable.

Figure 4-6.   Network Settings page

2. Select **Obtain an IP address automatically** to use a DHCP server or configure the IP address manually be completing the required fields and click the **Save** button.

4.6   Configuring the remote system console

Virtual media can be attached for use during a remote system console session.

Prerequisites

- Viewing: all users

- Operation: root users

Procedure

1. Open the **Configuration** tab and select **Remote Session** to display the **Remote Session** page.

Remote Session	
Virtual Media Attach Mode	Three types of Attach modes are available: – Attach: immediately attaches virtual media to the blade. – Auto Attach: only attaches virtual media to the blade when a virtual media session is started. – Detach: immediately detaches virtual media from the blade.
Floppy Emulation	– ON: the user can create a bootable floppy image to boot the system using virtual media. – OFF: the user can not create a bootable floppy.

Figure 4-7. Remote Session page

2. Select the required options and click **Save**.

4.7 Configuring the SMTP protocol

The SMTP protocol must be configured to enable the transmission of events as alerts to email recipients.

Prerequisites

- Viewing: all users

- Operation: root users

Procedure

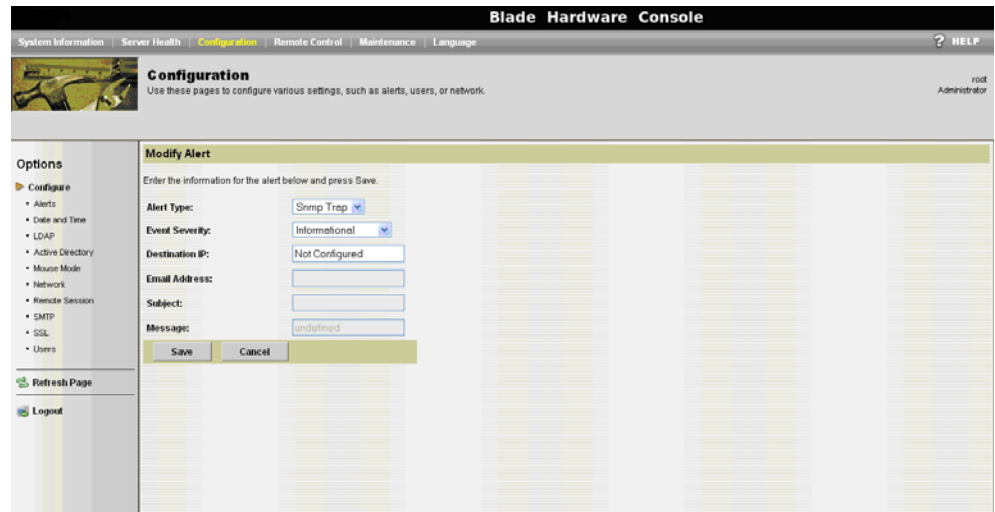1. Open the Configuration tab and select **SMTP** to display the **SMTP Setting** page.
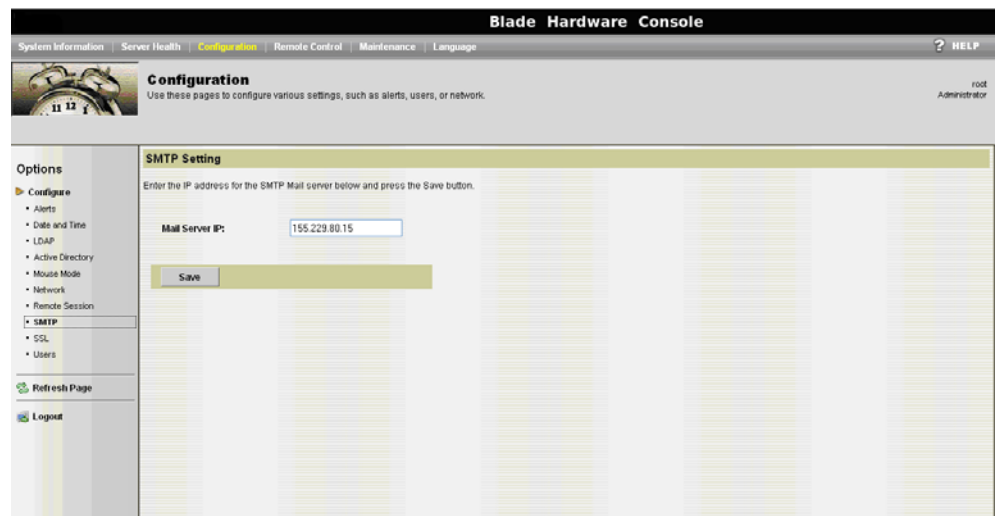
Figure 4-8.   SMTP Setting page

2. Enter the **Mail Server IP address** and click **Save**.

4.8 Uploading the SSL certificate

You can secure Web connections by configuring the console to use the HTTPS protocol. A valid SSL certificate is required to use the HTTPS protocol.

Prerequisites

- Viewing: all users

- Operation: root users

Procedure

1. Open the **Configuration** tab and select **SSL Certificate** to display the **SSL Upload** page.

Figure 4-9.   SSL Upload page

2. Click the **Browse** button to navigate to the required SSL certificate and click the **Upload** button.

4.9   Managing users

Access to console features and data is based on users and privileges. You can use the **User List** to implement a privilege-based user management policy that enables users to only access the features and data they require.

Prerequisites

- Viewing: all users

- Operation: root users

Procedure

Open the **Configuration** tab and select **Users** to open the **User List** page.

Figure 4-10. User List page

4.9.1 Adding a user

You can add a user to list of configured users.

Prerequisites

- Viewing: all users

- Operation: root users

Procedure

1. Open the **Configuration** tab and select **Users** to display the **User List** page.

2. Select a new user line and click **Add User** to display the **Add New User** page.
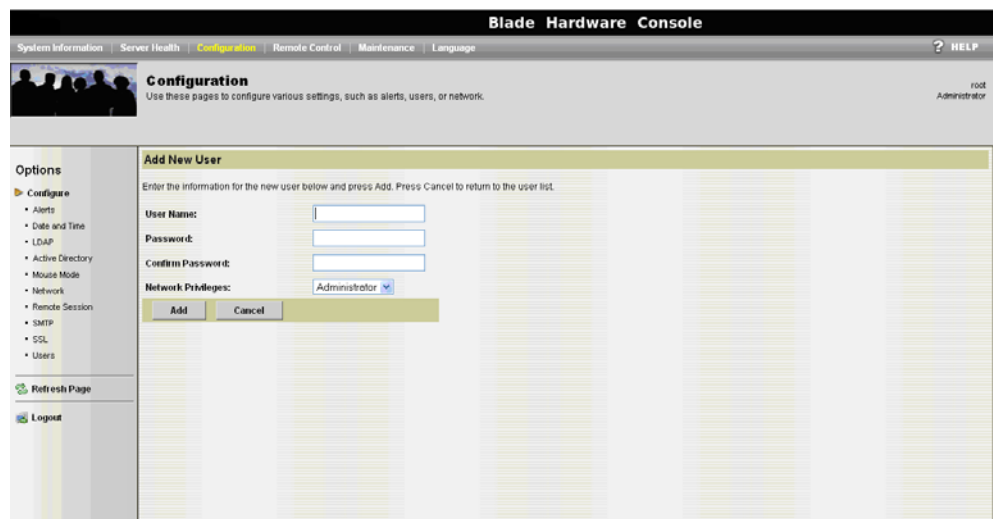
Privileges	
Callback	Lowest privilege level, only commands required to initiate a Callback are allowed.
User	Only benign commands required to read data structures and retrieve status are allowed. Commands used to alter configuration, write data, or perform system actions such as resets, power on/off, and watchdog activation are disallowed.
Operator	All commands are allowed, except configuration commands that may change out-of-band interface behavior. For example, individual channels or user access privileges cannot be changed.
Root (Administrator)	All commands are allowed, including configuration commands.

Figure 4-11. Add New User page

3. Complete the **User Name**, **Password**, **Confirm Password** fields as required and then select the required privileges from the **Network Privileges** drop-down list and click **Add**.

4.9.2   Modifying a user

Prerequisites

- Viewing: all users
- Operation: root users

Procedure

1. Open the **Configuration** tab and select **Users** to display the **User List** page.
2. Select the required user and click **Modify User** to display the **Modify User** page.
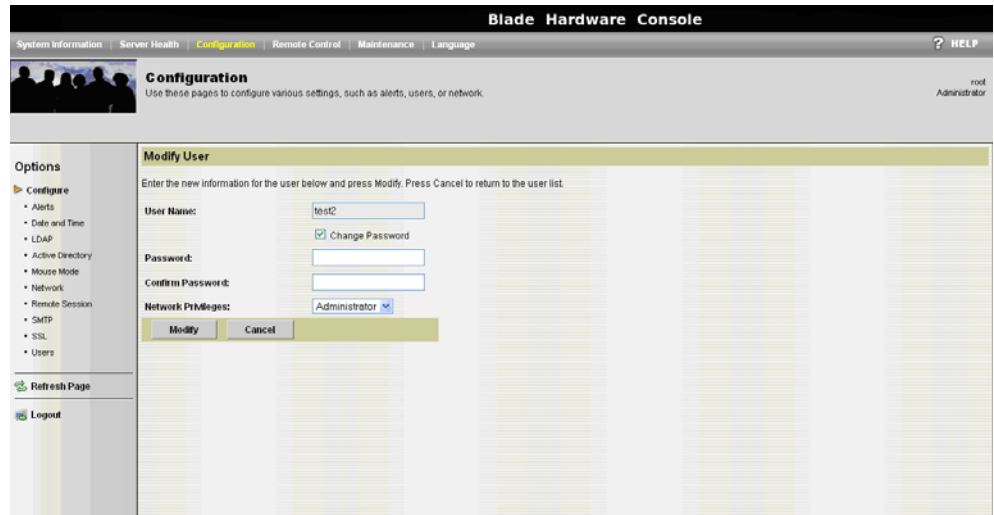
Figure 4-12. Modify User page

3. Modify the fields as required and click **Modify**.

4.9.3   Deleting a user

Prerequisites

- Viewing: all users
- Operation: root users

Procedure

1. Open the **Configuration** tab and select **Users** to display the **User List** page.
2. Select the required user and click **Delete**. A message box appears asking you to confirm this action.
3. Click **OK** to delete the selected user.

Chapter 5.   Using remote control features

This chapter explains how to use power controls, check power status and how to redirect the remote console.

5.1   Controlling power and checking status

The following power control operations can be performed from the **Power Control and Status** page:

- Reset

- Immediate power off

- Graceful power off

- Power on

- Power cycle

- Check power status

Prerequisites

- Viewing: all users

- Operation: root users

Procedure

1. Open the **Remote Control** tab and select **Power Control** to display the **Power Control and Status** page.
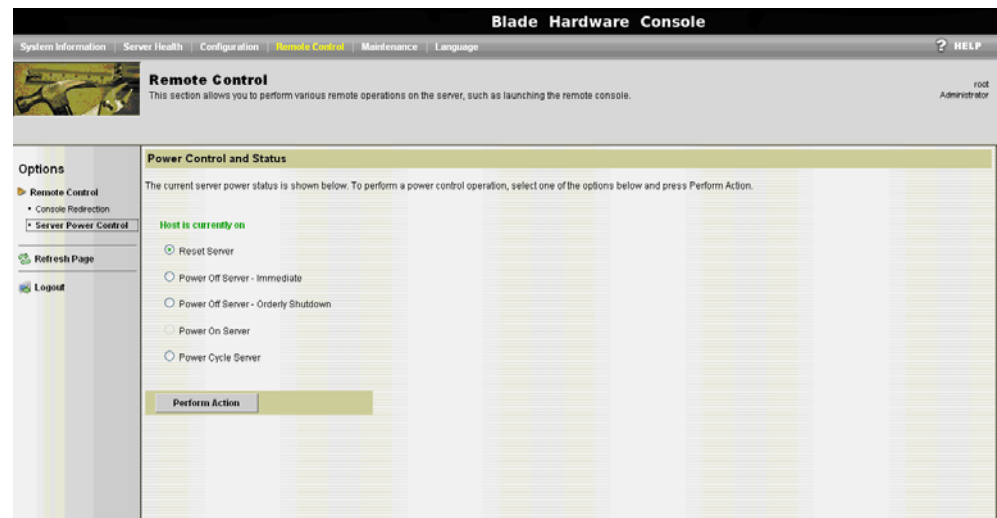
Figure 5-1.   Power Control and Status page

2. Select the required power operation and click **Perform Action**.

5.2 Redirecting the console

The system console can be redirected via Java ActiveX.

Prerequisites

- JAVA web server (JDK 5.6 and later) must be installed
- Viewing: all users
- Operation: root users

Procedure

1. From the **Remote Control** tab, click **Console Redirection** to display Console Redirection page.
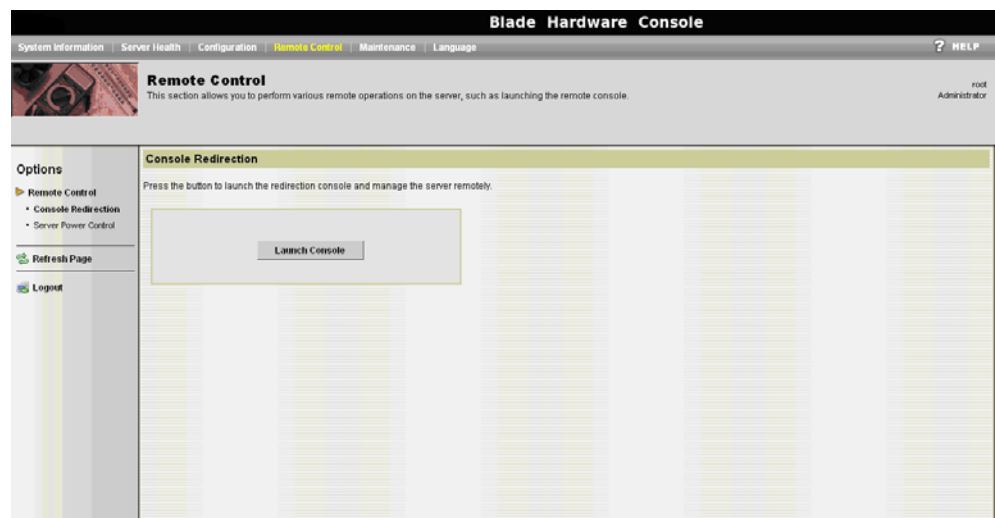
Figure 5-2.   Console Redirection page

2. Click **Launch Console** to launch the redirection console and manage the blade remotely.

Chapter 6. Using maintenance features

This chapter explains how to perform maintenance tasks from the console.

⚠️ WARNING

Maintenance tasks should only be performed by qualified support personnel.

6.1 Updating firmware

Firmware can be updated to install new features or to ensure system integrity after a maintenance operation.

Prerequisites

- Viewing: all users
- Operation: root users

Procedure

1. Select the **Maintenance** tab to open the **Firmware Update** page.
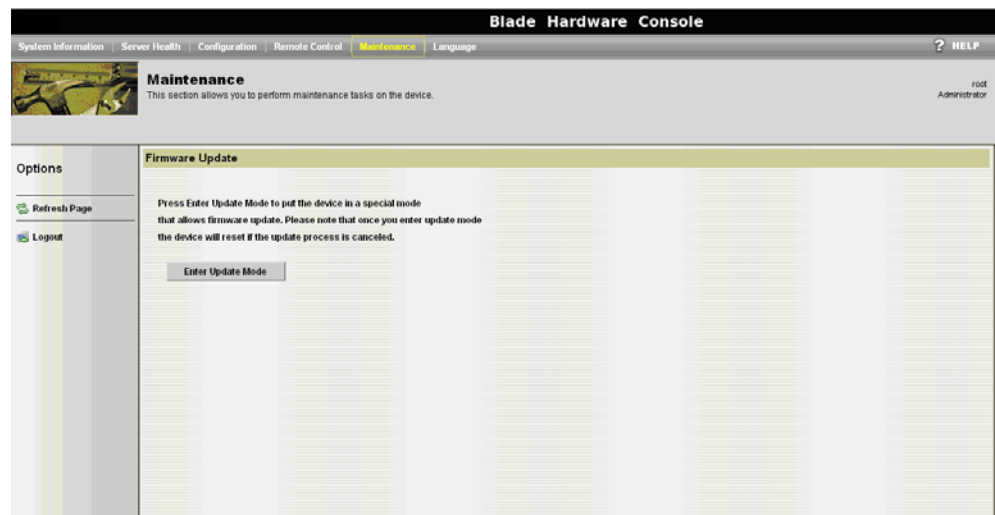
Figure 6-1. Firmware Update page

2.   Click the **Enter Update Mode** button to open the **Firmware Upload** page.
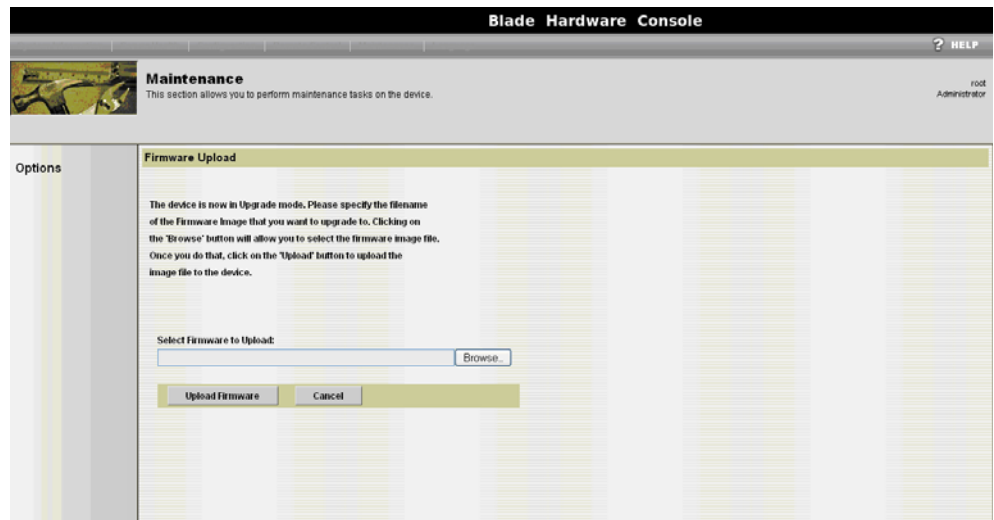
Figure 6-2.   Firmware upload page

3.   Click **Browse** to navigate to the required firmware file and then click **Upload Firmware** to validate the selected version and display version information.

4.   Deselect the **Preserve Configuration** check box.
Click **Start Update** to enter the firmware update mode. Once the firmware update is completed, the **Firmware Upgraded** page is displayed.
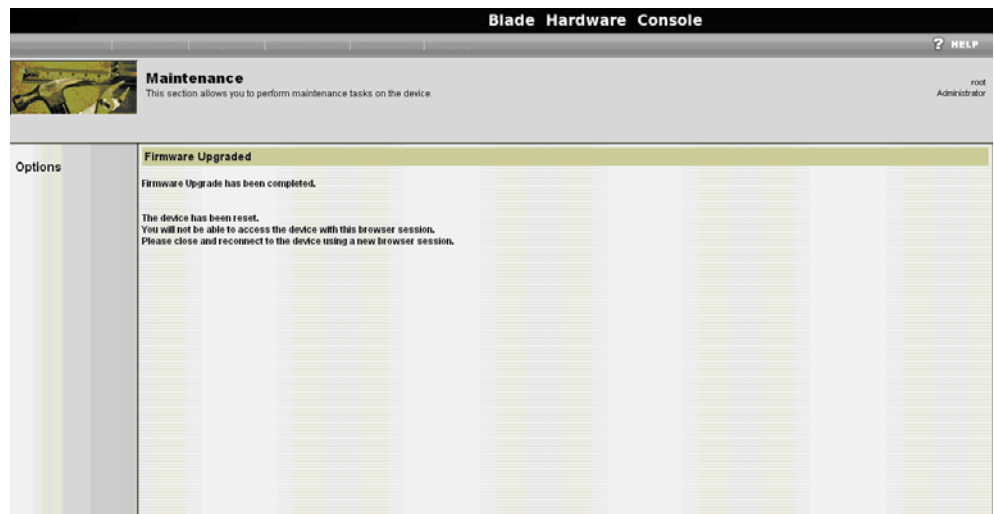
Figure 6-3.   Firmware upgraded page

5.   Log off the console and close the Web browser.

6.   Open a Web browser and log onto the console.

Appendix A. Troubleshooting the accelerator blade

This appendix explains how to troubleshoot the accelerator blade.

A.1   Predefined alert filters description

A set of predefined alert filters, covering all the hardware events likely to occur during system operation, are available for the transmission of alerts to an SNMP Trap Manager, such as Bull System Manager (BSM) or to an email recipient.

Pre-defined filters cannot be modified. They can only be enabled or disabled. On system delivery, all predefined filters are enabled.

If a pre-defined filter does not suit your needs, you can create a custom filter. In this case, you must disable the corresponding predefined filter to ensure that your custom filter is processed.

The following table details the events associated with each predefined filter.

Sensor No.	Component	Source	Event/Description	Severity	Meaning
1	Blade fan1	FAN 1A Speed (0x02)	At or below lower non-critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower non-critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
2	Blade fan2	FAN 1BSpeed (0x02)	At or below lower non-critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower non-critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
3	Blade fan3	FAN 2A Speed (0x02)	At or below lower non-critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower non-critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.

Sensor No.	Component	Source	Event/Description	Severity	Meaning
4	Blade fan4	FAN 2B Speed (0x02)	At or below lower non-critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower non-critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
5	Blade fan5	FAN 3A Speed	At or below lower critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower non-critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower non-critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
6	Blade fan6	FAN 3B Speed	At or below lower critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower non-critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower non-critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
8	Blade fan8	FAN 4B Speed	At or below lower critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
			At or below lower non-critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower critical threshold (going low).	Return to OK	The blade fan speed is returning to normal.
			At or below lower non-critical threshold (going low).	Critical	The accelerator blade SSUP1current lesser than expected.
13	CPU1	CPU1 Temp	At or below lower critical threshold (going low).	Critical	The CPU1 temperature is lower than the minimum.

Sensor No.	Component	Source	Event/Description	Severity	Meaning
14	CPU0	CPU0 Presence	Device removed/Device absent.	Information	CPU0 is not present.
			Device inserted/Device present.	Information	CPU0 is present.
15	CPU1	CPU1 Presence	Device removed/Device absent.	Information	CPU1 is not present.
			Device inserted/Device present.	Information	CPU0 is present.
16	DIMM1	DIMM1 Presence	Device removed/Device absent.	Information	DIMM1 is not present.
			Device inserted/Device present.	Information	DIMM1 is present.
17	DIMM2	DIMM2 Presence	Device removed/Device absent.	Information	DIMM2 is not present.
			Device inserted/Device present.	Information	DIMM2 is present.
18	DIMM3	DIMM3 Presence	Device removed/Device absent.	Information	DIMM3 is not present.
			Device inserted/Device present.	Information	DIMM3 is present.
19	DIMM4	DIMM4 Presence	Device removed/Device absent.	Information	DIMM4 is not present.
			Device inserted/Device present.	Information	DIMM4 is present.
20	DIMM5	DIMM5 Presence	Device removed/Device absent.	Information	DIMM5 is not present.
			Device inserted/Device present.	Information	DIMM5 is present.
21	DIMM6	DIMM6 Presence	Device removed/Device absent.	Information	DIMM6 is not present.
			Device inserted/Device present.	Information	DIMM6 is present.

Sensor No.	Component	Source	Event/Description	Severity	Meaning
29	ACPI	ACPI Status	Device removed/Device absent.	Information	ACPI is not present.
			Device inserted/Device present.	Information	ACPI12 is present.
			At or above upper critical threshold (going high).	Critical	The CPU1 temperature is upper than the maximum.
			At or above upper critical threshold (going high).	Critical	Global Power consumption more than expected.
38	SSUP0	P12V_HOTSWAP_PG	CPLD bit is set for P12V_HOTSWAP_PG	Critical	CPLD bit corresponding to P12V_HOTSWAP_PG going low
39	SSUP0	SSUP0_PWRGD_P1V1	CPLD bit going low	Critical	CPLD bit corresponding to SSUP0_PWRGD_P1V1 going low
41	SSUP0	SSUP0_PWRGD_P1V2	CPLD bit going low	Critical	CPLD bit corresponding to SSUP0_PWRGD_P1V2 going low
42	SSUP0	SSUP0_TEMP_EVENT	CPLD bit is set for SSUP0_TEMP_EVENT	Critical	Temperature event occurred for SSUP0
43	SSUP1	SSUP1_TEMP_EVENT	CPLD bit is set for SSUP1_TEMP_EVENT	Critical	Temperature event occurred for SSUP0
44	SSUP1	SSUP1_PWRGD_P1V2	CPLD bit going low	Critical	CPLD bit corresponding to SSUP1_PWRGD_P1V2 going low
45	SSUP1	SSUP1_PWRGD_P1V8	CPLD bit going low	Critical	CPLD bit corresponding to SSUP1_PWRGD_P1V8 going low
46	IOH	PWRGD_IOH1_DDR2_P0V9	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_IOH1_DDR2_P0V9 going low
47	SSUP0	SSUP0_PWRGD_P1V5	CPLD bit going low	Critical	CPLD bit corresponding to SSUP0_PWRGD_P1V5 going low

Sensor No.	Component	Source	Event/Description	Severity	Meaning
48	SSUP1	SSUP1_PWRGD_P1V5	CPLD bit going low	Critical	CPLD bit corresponding to SSUP1_PWRGD_P1V5 going low
49	SSUP1	SSUP1_PWRGD_P1V1	CPLD bit going low	Critical	CPLD bit corresponding to SSUP1_PWRGD_P1V1 going low
50	accelerator blade	accelerator blade SSUP0 current	At or below lower non-critical threshold (going low).	Critical	The accelerator blade SSUP0 current lesser than expected.
			At or below lower non-critical threshold (going low).	Information	The accelerator blade SSUP0 current returning to normal.
			At or below lower critical threshold (going low).	Critical	The accelerator blade SSUP0 current lesser than expected.
			At or below lower critical threshold (going low).	Information	The accelerator blade SSUP0 current returning to normal.
			At or above upper critical threshold (going high).	Critical	The accelerator blade SSUP0 current greater than expected.
			At or above upper critical threshold (going high).	Information	The accelerator blade SSUP0 current returning to normal.
			At or above upper non-critical threshold (going high).	Critical	The accelerator blade SSUP0 current greater than expected.
			At or above upper non-critical threshold (going high).	Information	The accelerator blade SSUP0 current returning to normal.
51	accelerator blade	Blade SSUP0 Power Consumption	At or above upper critical threshold (going high).	Critical	The accelerator blade SSUP0 Power greater than expected.
			At or above upper critical threshold (going high).	Information	The accelerator blade SSUP0 Power returning to normal.
			At or above upper non-critical threshold (going high).	Critical	The accelerator blade SSUP0 Power greater than expected.

Sensor No.	Component	Source	Event/Description	Severity	Meaning
			At or above upper non-critical threshold (going high).	Information	The accelerator blade SSUP0 Power returning to normal.
			None	Information	None
52	accelerator blade	accelerator blade SSUP0 voltage	At or below lower non-critical threshold (going low).	Critical	The accelerator blade SSUP0 voltage lesser than expected.
			At or below lower non-critical threshold (going low).	Information	The accelerator blade SSUP0 voltage returning to normal.
			At or below lower critical threshold (going low).	Critical	The accelerator blade SSUP0 voltage lesser than expected.
			At or below lower critical threshold (going low).	Information	The accelerator blade SSUP0 voltage returning to normal.
53	accelerator blade	accelerator blade SSUP1 current	At or below lower non-critical threshold (going low).	Information	The accelerator blade SSUP1 current returning to normal.
			At or below lower critical threshold (going low).	Critical	The accelerator blade SSUP1 current lesser than expected.
			At or below lower critical threshold (going low).	Information	The accelerator blade SSUP0 current returning to normal.
			At or above upper critical threshold (going high).	Critical	The accelerator blade SSUP1 current greater than expected.
			At or above upper critical threshold (going high).	Information	The accelerator blade SSUP1 current returning to normal.
			At or above upper non-critical threshold (going high).	Critical	The accelerator blade SSUP1 current greater than expected.
53	accelerator blade	accelerator blade SSUP1 current	At or above upper non-critical threshold (going high).	Information	The accelerator blade SSUP1 current returning to normal.

Sensor No.	Component	Source	Event/Description	Severity	Meaning
			At or below lower non-critical threshold (going low).	Critical	The accelerator blade SSUP1 voltage lesser than expected.
54	accelerator blade	accelerator blade SSUP1 Power	At or above upper non critical threshold (going high).	Information	SSUP1 Power consumption returning to.
			At or above upper non recoverable threshold (going high).	Critical	SSUP1 Power Consumption is higher than the maximum.
			At or above upper non-critical threshold (going high).	Information	The accelerator blade SSUP0 Power returning to normal.
			At or below lower critical threshold (going low).	Critical	The SSUP0 temperature is lower than the minimum.
55	accelerator blade	accelerator blade SSUP1 voltage	At or below lower non-critical threshold (going low).	Information	The accelerator blade SSUP1 voltage returning to normal.
			At or below lower critical threshold (going low).	Critical	The accelerator blade SSUP1 voltage lesser than expected.
			At or below lower critical threshold (going low).	Information	The accelerator blade SSUP1 voltage returning to normal.
			At or above upper critical threshold (going high).	Critical	SSUP1 Power consumption more than expected.
56	SSUP0	SSUP0 Temp	At or above upper critical threshold (going high).	Critical	The SSUP0 temperature is upper than the maximum.
			At or below lower critical threshold (going low).	Critical	The SSUP1 temperature is lower than the minimum.
57	SSUP1	SSUP1 Temp	At or above upper critical threshold (going high).	Critical	The SSUP1 temperature is upper than the maximum.
			At or below lower critical threshold (going low).	Critical	The GPU0 temperature is lower than the minimum.
58	GPU0	GPU0 Temp	At or above upper critical threshold (going high).	Critical	The GPU0 temperature is upper than the maximum.
			At or below lower critical threshold (going low).	Critical	The GPU1 temperature is lower than the minimum.

Sensor No.	Component	Source	Event/Description	Severity	Meaning
61	GPU1	GPU1 Temp	At or above upper critical threshold (going high).	Critical	The GPU1 temperature is upper than the maximum.
			At or below lower critical threshold (going low).	Critical	The GPU1 temperature is lower than the minimum.
62	GPUx	GPUx Ext1 Temp	At or below lower critical threshold (going low).	Critical	The GPU1 temperature is lower than the minimum.
			At or above upper critical threshold (going high).	Critical	The GPU1 temperature is upper than the maximum.
64	Global Watt	Blade Power Consumption (0x4B)	At or above upper non critical threshold (going high).	Information	Global Power consumption returning to.
			At or above upper non recoverable threshold (going high).	Critical	Global Power Consumption is higher than the maximum.
			At or below lower non-critical threshold (going low).	Critical	The blade fan speed is lesser than expected.
100	SSUP0	SSUP0_IOH_THERMALERT	CPLD bit is set for SSUP0_IOH_THERMALERT	Critical	IOH thermalert set for SSUP0
101	CPU1	Irq_RDIMM1G	CPLD bit is set for Irq_RDIMM1G	Critical	Irq RDIMM thermal event is asserted
102	CPU0	Irq_RDIMM0G	CPLD bit is set for Irq_RDIMM0G	Critical	Irq RDIMM thermal event is asserted
103	CPU1	CPU1_PROCHOTG	CPLD bit is set for CPU1_PROCHOTG	Critical	CPU1 Processor HOT signal is asserted
104	CPU0	CPU0_PROCHOTG	CPLD bit is set for CPU0_PROCHOTG	Critical	CPU0 Processor HOT signal is asserted
105	CPU1	PWRGD_CPU1_VCCPG	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU1_VCCPG going low
106	CPU0	PWRGD_CPU0_VCCPG	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU10_VCCPG going low
107	CPU1	PWRGD_CPU1_DDR3G	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU1_DDR3G going low

Sensor No.	Component	Source	Event/Description	Severity	Meaning
108	CPU0	PWRGD_CPU0_DDR3G	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU0_DDR3G going low
109	CPU1	PWRGD_CPU1_DDRG	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU1_DDRG going low
110	CPU0	PWRGD_CPU0_DDRG	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU0_DDRG going low
111	CPU1	PWRGD_CPU1_SFRG	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU1_SFRG going low
112	CPU0	PWRGD_CPU0_SFRG	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU0_SFRG going low
113	CPU1	PWRGD_CPU1_VTTG	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU1_VTTG going low
114	CPU0	PWRGD_CPU0_VTTG	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_CPU0_VTTG going low
115	SSUP0	SSUP0_PWRGD_0P9V	CPLD bit going low	Critical	CPLD bit corresponding to SSUP0_PWRGD_0P9V going low
116	SSUP0	SSUP0_PWRGD_P2V5	CPLD bit going low	Critical	CPLD bit corresponding to SSUP0_PWRGD_P2V5 going low
117	SSUP1	SSUP1_PWRGD_P2V5	CPLD bit going low	Critical	CPLD bit corresponding to SSUP1_PWRGD_P2V5 going low
118	SSUP0	SSUP0_PWRDGD_P5V	CPLD bit going low	Critical	CPLD bit corresponding to SSUP0_PWRGD_P5V going low
119	SSUP1	SSUP1_PWRDGD_P5V	CPLD bit going low	Critical	CPLD bit corresponding to SSUP1_PWRGD_P5V going low

Sensor No.	Component	Source	Event/Description	Severity	Meaning
120	SSUP0	SSUP0_IOH_THERMTRIP	CPLD bit is set for SSUP0_IOH_THERMTRIP	Critical	IOH thermtrip is asserted for SSUP0
121	SSUP1	SSUP1_IOH_THERMALERT	CPLD bit is set for SSUP1_IOH_THERMALERT	Critical	IOH thermalert is asserted for SSUP1
122	SSUP1	SSUP1_IOH_THERMTRIP	CPLD bit is set for SSUP1_IOH_THERMTRIP	Critical	IOH thermtrip is asserted for SSUP1
123	SSUP0	SSUP0_PWRGD_P1V8	CPLD bit going low	Critical	CPLD bit corresponding to SSUP0_PWRGD_P1V8 going low
124	ICH	PWRGD_P1V5G	CPLD bit going low	Critical	CPLD bit corresponding to PWRGD_P1V5G going low

Table A-1.   Predefined Alert Filters Description

A.2   SEL messages description

This section contains additional information about messages that appear in the System Event Log.

Blade fan SEL messages

FAN 1A Speed (0x02)

Description	Fan speed is lesser than expected. At or below lower non-critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	If the problem persists, change blade fan.
Comments	This log corresponds to sensor number 1. For more information on alerts, see Configuring alerts.

FAN 1A Speed (0x02)

Description	Fan speed is returning to normal. At or below lower non-critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 1. For more information on alerts, see Configuring alerts.

FAN 2A Speed (0x02)

Description	Fan speed is lesser than expected. At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	If the problem persists, change blade fan.
Comments	This log corresponds to sensor number 3. For more information on alerts, see Configuring alerts.

FAN 2A Speed (0x02)

Description	Fan speed is returning to normal. At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 3. For more information on alerts, see Configuring alerts.

FAN 1B Speed (0x03)

Description	Fan speed is lesser than expected. At or below lower non-critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	If the problem persists, change blade fan.
Comments	This log corresponds to sensor number 2. For more information on alerts, see Configuring alerts.

FAN 1B Speed (0x03)

Description	Fan speed is returning to normal. At or below lower non-critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 2. For more information on alerts, see Configuring alerts.

FAN 2B Speed (0x03)

Description	Fan speed is lesser than expected. At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	If the problem persists, change blade fan.
Comments	This log corresponds to sensor number 4. For more information on alerts, see Configuring alerts.

FAN 2B Speed (0x03)

Description	Fan speed is returning to normal. At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 4. For more information on alerts, see Configuring alerts.

FAN 3A Speed (0x02)

Description	Fan speed is lesser than expected. At or below lower non-critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	If the problem persists, change blade fan.
Comments	This log corresponds to sensor number 5. For more information on alerts, see Configuring alerts.

FAN 3A Speed (0x02)

Description	Fan speed is returning to normal. At or below lower non-critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 5. For more information on alerts, see Configuring alerts.

FAN 4A Speed (0x02)

Description	Fan speed is lesser than expected. At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	If the problem persists, change blade fan.
Comments	This log corresponds to sensor number 7. For more information on alerts, see Configuring alerts.

FAN 4A Speed (0x02)

Description	Fan speed is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 7.
	For more information on alerts, see Configuring alerts.

FAN 3B Speed (0x03)

Description	Fan speed is lesser than expected.
	At or below lower non-critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	If the problem persists, change blade fan.
Comments	This log corresponds to sensor number 6.
	For more information on alerts, see Configuring alerts.

FAN 3B Speed (0x03)

Description	Fan speed is returning to normal.
	At or below lower non-critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 6.
	For more information on alerts, see Configuring alerts.

FAN 4B Speed (0x03)

Description	Fan speed is lesser than expected.
	At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	If the problem persists, change blade fan.
Comments	This log corresponds to sensor number 8.
	For more information on alerts, see Configuring alerts.

Description	Fan speed is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 8.
	For more information on alerts, see Configuring alerts.

Power supply (voltage) SEL messages

Blade SSUP0 Voltage

Description	The accelerator blade SSUP0 voltage is lesser than expected.
	At or below lower non-critical threshold (going low)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 52.
	For more information on alerts, see Configuring alerts.

Blade SSUP0 Voltage

Description	The accelerator blade SSUP0 voltage is returning to normal.
	At or below lower non-critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 52.
	For more information on alerts, see Configuring alerts.

Blade SSUP0 Voltage

Description	The accelerator blade SSUP0 voltage is lesser than expected.
	At or below lower critical threshold (going low)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 52.
	For more information on alerts, see Configuring alerts.

Blade SSUP0 Voltage

Description	The accelerator blade SSUP0 voltage is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 52.
	For more information on alerts, see Configuring alerts.

Blade SSUP0 Voltage

Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 52.
	For more information on alerts, see Configuring alerts.

Blade SSUP0 Voltage

Description	The accelerator blade SSUP0 voltage is returning to normal.
	At or above upper non-critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 52.
	For more information on alerts, see Configuring alerts.

Blade SSUP0 Voltage

Description	The accelerator blade SSUP0 voltage is greater than expected. At or above upper critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 52. For more information on alerts, see Configuring alerts.

Blade SSUP0 Voltage

Description	The accelerator blade SSUP0 voltage is returning to normal. At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 52. For more information on alerts, see Configuring alerts.

Blade SSUP1 Voltage

Description	The accelerator blade SSUP1 voltage is lesser than expected. At or below lower non-critical threshold (going low)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 55. For more information on alerts, see Configuring alerts.

Blade SSUP1 Voltage

Description	The accelerator blade SSUP1 voltage is returning to normal. At or below lower non-critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 55. For more information on alerts, see Configuring alerts.

Blade SSUP1 Voltage

Description	The accelerator blade SSUP1 voltage is lesser than expected.
	At or below lower critical threshold (going low)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 55.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Voltage

Description	The accelerator blade SSUP1 voltage is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 55.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Voltage

Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 55.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Voltage

Description	The accelerator blade SSUP1 voltage is returning to normal.
	At or above upper non-critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 55.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Voltage

Description	The accelerator blade SSUP1 voltage is greater than expected.
	At or above upper critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 55.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Voltage

Description	The accelerator blade SSUP1 voltage is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 55.
	For more information on alerts, see Configuring alerts.

Power supply (current) SEL messages

Blade SSUP0 Current

Description	The accelerator blade SSUP0 current is lesser than expected. At or below lower non-critical threshold (going low)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 50. For more information on alerts, see Configuring alerts.

Blade SSUP0 Current

Description	The accelerator blade SSUP0 current is returning to normal. At or below lower non-critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 50. For more information on alerts, see Configuring alerts.

Blade SSUP0 Current

Description	The accelerator blade SSUP0 current is lesser than expected. At or below lower critical threshold (going low)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 50. For more information on alerts, see Configuring alerts.

Blade SSUP0 Current

Description	The accelerator blade SSUP0 current is returning to normal. At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 50. For more information on alerts, see Configuring alerts.

Blade SSUP0 Current

Description	The accelerator blade SSUP0 current is greater than expected. At or above upper non-critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 50. For more information on alerts, see Configuring alerts.

Blade SSUP0 Current

Description	The accelerator blade SSUP0 current is returning to normal. At or above upper non-critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 50. For more information on alerts, see Configuring alerts.

Blade SSUP0 Current

Description	The accelerator blade SSUP0 current is greater than expected.
	At or above upper critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 50.
	For more information on alerts, see Configuring alerts.

Blade SSUP0 Current

Description	The accelerator blade SSUP0 current is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 50.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Current

Description	The accelerator blade SSUP1 current is lesser than expected.
	At or below lower non-critical threshold (going low)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 53.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Current

Description	The accelerator blade SSUP1 current is returning to normal.
	At or below lower non-critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 53.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Current

Description	The accelerator blade SSUP1 current is lesser than expected.
	At or below lower critical threshold (going low)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 53.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Current

Description	The accelerator blade SSUP1 current is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 53.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Current

Description	The accelerator blade SSUP1 current is greater than expected.
	At or above upper non-critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 53.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Current

Description	The accelerator blade SSUP1 current is returning to normal.
	At or above upper non-critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 53.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Current

Description	The accelerator blade SSUP1 current is greater than expected.
	At or above upper critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 53.
	For more information on alerts, see Configuring alerts.

Blade SSUP1 Current

Description	The accelerator blade SSUP1 current is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 53.
	For more information on alerts, see Configuring alerts.

DIMM SEL messages

DIMM1 Presence

Description	DIMM1 is not present. Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert DIMM1.
Comments	This log corresponds to sensor number 16. For more information on alerts, see Configuring alerts.

DIMM1 Presence

Description	DIMM1 is present. Device inserted/Device present.
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 16. For more information on alerts, see Configuring alerts.

DIMM2 Presence

Description	DIMM2 is not present. Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert DIMM2.
Comments	This log corresponds to sensor number 17. For more information on alerts, see Configuring alerts.

DIMM2 Presence

Description	DIMM2 is present.
	Device inserted/Device present.
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 17.
	For more information on alerts, see Configuring alerts.

DIMM3 Presence

Description	DIMM3 is not present.
	Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert DIMM3.
Comments	This log corresponds to sensor number 18.
	For more information on alerts, see Configuring alerts.

DIMM3 Presence

Description	DIMM3 is present.
	Device inserted/Device present.
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 18.
	For more information on alerts, see Configuring alerts.

DIMM4 Presence

Description	DIMM4 is not present.
	Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert DIMM4.
Comments	This log corresponds to sensor number 19.
	For more information on alerts, see Configuring alerts.

DIMM4 Presence

Description	DIMM4 is present. Device inserted/Device present.
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 19. For more information on alerts, see Configuring alerts.

DIMM5 Presence

Description	DIMM5 is not present. Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert DIMM5.
Comments	This log corresponds to sensor number 20. For more information on alerts, see Configuring alerts.

DIMM5 Presence

Description	DIMM5 is present. Device inserted/Device present.
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 20. For more information on alerts, see Configuring alerts.

DIMM6 Presence

Description	DIMM6 is not present. Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert DIMM6.
Comments	This log corresponds to sensor number 21. For more information on alerts, see Configuring alerts.

DIMM6 Presence

Description	DIMM6 is present. Device inserted/Device present.
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 21. For more information on alerts, see Configuring alerts.

CPU SEL messages

CPU0 Presence

Description	CPU0 is not present. Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert CPU0.
Comments	This log corresponds to sensor number 14. For more information on alerts, see Configuring alerts.

CPU0 Presence

Description	CPU0 is present. Device inserted/Device present.
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 14. For more information on alerts, see Configuring alerts.

CPU0 Temp

Description	The CPU0 temperature is lower than the minimum.
	At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 12.
	For more information on alerts, see Configuring alerts.

CPU0 Temp

Description	CPU0 temperature is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 12.
	For more information on alerts, see Configuring alerts.

CPU0 Temp

Description	The CPU0 temperature is upper than the maximum.
	At or above upper critical threshold (going high).
Severity	Critical.
Direction	Assertion.
Action	Check if the blade fan is running, else replace it.
Comments	This log corresponds to sensor number 12.
	For more information on alerts, see Configuring alerts.

CPU0 Temp

Description	CPU0 temperature is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 12.
	For more information on alerts, see Configuring alerts.

CPU1 Presence

Description	CPU1 is not present.
	Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert CPU1.
Comments	This log corresponds to sensor number 15.
	For more information on alerts, see Configuring alerts.

CPU1 Presence

Description	CPU1 is present.
	Device inserted/Device present.
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 15.
	For more information on alerts, see Configuring alerts.

CPU1 Temp

Description	The CPU1 temperature is lower than the minimum.
	At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 13.
	For more information on alerts, see Configuring alerts.

CPU1 Temp

Description	CPU1 temperature is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 13.
	For more information on alerts, see Configuring alerts.

CPU1 Temp

Description	The CPU1 temperature is upper than the maximum.
	At or above upper critical threshold (going high).
Severity	Critical.
Direction	Assertion.
Action	Check if the blade fan is running, else replace it.
Comments	This log corresponds to sensor number 13.
	For more information on alerts, see Configuring alerts.

CPU1 Temp

Description	CPU1 temperature is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 13.
	For more information on alerts, see Configuring alerts.

SUP0 Temp

Description	The SSUP0 temperature is lower than the minimum.
	At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 56.
	For more information on alerts, see Configuring alerts.

SSUP0 Temp

Description	SSUP0 temperature is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 56.
	For more information on alerts, see Configuring alerts.

SSUP0 Temp

Description	The SSUP0 temperature is upper than the maximum.
	At or above upper critical threshold (going high).
Severity	Critical.
Direction	Assertion.
Action	Check if the blade fan is running, else replace it.
Comments	This log corresponds to sensor number 56.
	For more information on alerts, see Configuring alerts.

SSUP0 Temp

Description	SSUP0 temperature is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 56.
	For more information on alerts, see Configuring alerts.

SSUP1 Temp

Description	The SSUP1 temperature is lower than the minimum.
	At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 57.
	For more information on alerts, see Configuring alerts.

SSUP1 Temp

Description	SSUP1 temperature is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 57.
	For more information on alerts, see Configuring alerts.

SSUP1 Temp

Description	The SSUP1 temperature is upper than the maximum.
	At or above upper critical threshold (going high).
Severity	Critical.
Direction	Assertion.
Action	Check if the blade fan is running, else replace it.
Comments	This log corresponds to sensor number 57.
	For more information on alerts, see Configuring alerts.

SSUP1 Temp

Description	SSUP1 temperature is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 57.
	For more information on alerts, see Configuring alerts.

GPU0 Temp

Description	The GPU0 temperature is lower than the minimum.
	At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 58.
	For more information on alerts, see Configuring alerts.

GPU0 Temp

Description	GPU0 temperature is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 58.
	For more information on alerts, see Configuring alerts.

GPU0 Temp

Description	The GPU0 temperature is upper than the maximum.
	At or above upper critical threshold (going high).
Severity	Critical.
Direction	Assertion.
Action	Check if the blade fan is running, else replace it.
Comments	This log corresponds to sensor number 58.
	For more information on alerts, see Configuring alerts.

GPU0 Temp

Description	GPU0 temperature is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 58.
	For more information on alerts, see Configuring alerts.

GPU1 Temp

Description	The GPU1 temperature is lower than the minimum.
	At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 61.
	For more information on alerts, see Configuring alerts.

GPU1 Temp

Description	GPU1 temperature is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 61.
	For more information on alerts, see Configuring alerts.

GPU1 Temp

Description	The GPU1 temperature is upper than the maximum. At or above upper critical threshold (going high).
Severity	Critical.
Direction	Assertion.
Action	Check if the blade fan is running, else replace it.
Comments	This log corresponds to sensor number 61. For more information on alerts, see Configuring alerts.

GPU1 Temp

Description	GPU1 temperature is returning to normal. At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 61. For more information on alerts, see Configuring alerts.

GPU0_Ext1 Temp

Description	The GPU0_Ext1 temperature is lower than the minimum. At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 59. For more information on alerts, see Configuring alerts.

GPU0_Ext1 Temp

Description	GPU0_Ext1 temperature is returning to normal. At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number59. For more information on alerts, see Configuring alerts.

GPU0_Ext1 Temp

Description	The GPU0_Ext1 temperature is upper than the maximum.
	At or above upper critical threshold (going high).
Severity	Critical.
Direction	Assertion.
Action	Check if the blade fan is running, else replace it.
Comments	This log corresponds to sensor number 59.
	For more information on alerts, see Configuring alerts.

GPU0_Ext1 Temp

Description	CPU0 temperature is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 59.
	For more information on alerts, see Configuring alerts.

GPU1_Ext1 Temp

Description	The GPU1_Ext1 temperature is lower than the minimum.
	At or below lower critical threshold (going low).
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 62.
	For more information on alerts, see Configuring alerts.

GPU1_Ext1 Temp

Description	GPU1_Ext1 temperature is returning to normal.
	At or below lower critical threshold (going low).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 62.
	For more information on alerts, see Configuring alerts.

GPU1_Ext1 Temp

Description	The GPU1_Ext1 temperature is upper than the maximum. At or above upper critical threshold (going high).
Severity	Critical.
Direction	Assertion.
Action	Check if the blade fan is running, else replace it.
Comments	This log corresponds to sensor number 62. For more information on alerts, see Configuring alerts.

GPU1_Ext1 Temp

Description	GPU1_Ext1 temperature is returning to normal. At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 62. For more information on alerts, see Configuring alerts.

ACPI SEL messages

ACPI Status

Description	ACPI is not present. Device removed/Device absent.
Severity	Information.
Direction	Assertion.
Action	Insert ACPI.
Comments	This log corresponds to sensor number 20. For more information on alerts, see Configuring alerts.

Global Watt Sensor

Global Watt

Description	The Global Power Consumption returning to normal. At or above upper non-critical threshold (going high).
Severity	Return to OK.
Direction	Assertion
Action	None.
Comments	This log corresponds to sensor number 64. For more information on alerts, see Configuring alerts.

Global Watt

Description	The Global Power Consumption is greater than expected. At or above upper critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 64. For more information on alerts, see Configuring alerts.

Global Watt

Description	The Global Power Consumption is returning to normal. At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 64. For more information on alerts, see Configuring alerts.

Power supply (power) SEL messages

Power SSUP0

Description	The SSUP0 Power Consumption returning to normal.
	At or above upper non-critical threshold (going high).
Severity	Return to OK.
Direction	Assertion
Action	None.
Comments	This log corresponds to sensor number 51.
	For more information on alerts, see Configuring alerts.

Power SSUP0

Description	The SSUP0 Power Consumption is greater than expected.
	At or above upper critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 51.
	For more information on alerts, see Configuring alerts.

Power SSUP0

Description	The SSUP0 Power Consumption is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 51.
	For more information on alerts, see Configuring alerts.

Power SSUP1

Description	The SSUP1 Power Consumption returning to normal.
	At or above upper non-critical threshold (going high).
Severity	Return to OK.
Direction	Assertion
Action	None.
Comments	This log corresponds to sensor number 54.
	For more information on alerts, see Configuring alerts.

Power SSUP1

Description	The SSUP1 Power Consumption is greater than expected.
	At or above upper critical threshold (going high)
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 54.
	For more information on alerts, see Configuring alerts.

Power SSUP1

Description	The SSUP1 Power Consumption is returning to normal.
	At or above upper critical threshold (going high).
Severity	Return to OK.
Direction	Deassertion.
Action	None.
Comments	This log corresponds to sensor number 54.
	For more information on alerts, see Configuring alerts.

ACPI Status

Description	Defines the ACPI state.
	– S0/G0 Asserted
	– S5/G2 "soft-off"
Severity	Information.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 20.
	For more information on alerts, see Configuring alerts.

POWERGOOD SEL messages:

PWRGD_CPU1_VCCPG

Description	Power good signal for CPU1 VCCP
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 105.
	For more information on alerts, see Configuring alerts.

PWRGD_CPU0_VCCPG

Description	Power good signal for CPU0 VCCP
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 106.
	For more information on alerts, see Configuring alerts.

PWRGD_CPU1_DDR3G

Description	Power good signal for CPU1 DDR3
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 107. For more information on alerts, see Configuring alerts.

PWRGD_CPU0_DDR3G

Description	Power good signal for CPU0 DDR3
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 108. For more information on alerts, see Configuring alerts.

PWRGD_CPU1_DDRG

Description	Power good signal for CPU1 DDR
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 109. For more information on alerts, see Configuring alerts.

PWRGD_CPU0_DDRG

Description	Power good signal for CPU0 DDR
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 110. For more information on alerts, see Configuring alerts.

PWRGD_CPU1_SFRG

Description	Power good signal for CPU1 SFR
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 111. For more information on alerts, see Configuring alerts.

PWRGD_CPU0_SFRG

Description	Power good signal for CPU0 SFR
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 112. For more information on alerts, see Configuring alerts.

PWRGD_CPU1_VTTG

Description	Power good signal for CPU1 VTT
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 113. For more information on alerts, see Configuring alerts.

PWRGD_CPU0_VTTG

Description	Power good signal for CPU1 VTT
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 114. For more information on alerts, see Configuring alerts.

SSUP0_PWRGD_0P9V

Description	Power good signal for SSUP0 OP9v
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 115. For more information on alerts, see Configuring alerts.

SSUP0_PWRGD_P2V5

Description	Power good signal for SSUP0 P2V5
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 116. For more information on alerts, see Configuring alerts.

SSUP1_PWRGD_P2V5

Description	Power good signal for SSUP1 P2V5
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 117. For more information on alerts, see Configuring alerts.

SSUP0_PWRDGD_P5V

Description	Power good signal for SSUP0 P5V
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 118. For more information on alerts, see Configuring alerts.

SSUP1_PWRDGD_P5V

Description	Power good signal for SSUP1 P5V
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 119. For more information on alerts, see Configuring alerts.

SSUP0_PWRGD_P1V8

Description	Power good signal for SSUP0 P1V8
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 120. For more information on alerts, see Configuring alerts.

PWRGD_P1V5G

Description	Power good signal for ICH P1V5
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 124. For more information on alerts, see Configuring alerts.

SSUP0_PWRGD_P1V2

Description	Power good signal for SSUP0 P1V2
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 41. For more information on alerts, see Configuring alerts.

SSUP1_PWRGD_P1V2

Description	Power good signal for SSUP1 P1V2
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 44. For more information on alerts, see Configuring alerts.

SSUP1_PWRGD_P1V8

Description	Power good signal for SSUP1 P1V8
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 45. For more information on alerts, see Configuring alerts.

PWRGD_IOH1_DDR2_P0V9

Description	Power good signal for IOH DDR2 P0V9
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 46. For more information on alerts, see Configuring alerts.

SSUP0_PWRGD_P1V5

Description	Power good signal for SSUP0 P1V5
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 47. For more information on alerts, see Configuring alerts.

SSUP1_PWRGD_P1V5

Description	Power good signal for SSUP1 P1V5
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 48. For more information on alerts, see Configuring alerts.

SSUP1_PWRGD_P1V1

Description	Power good signal for SSUP1 P1V1
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 49. For more information on alerts, see Configuring alerts.

SSUP0_PWRGD_P1V1

Description	Power good signal for SSUP0 P1V1
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 39. For more information on alerts, see Configuring alerts.

P12V_HOTSWAP_PG

Description	Power good signal for HOTSWAP P12V
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 38. For more information on alerts, see Configuring alerts.

Temperature Alert events for SSUP and DIMM

SSUP0_IOH_THERMALERT

Description	IOH thermalert for SSUP0
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 100. For more information on alerts, see Configuring alerts.

Irq_RDIMM1G

Description	Irq RDIMM event for CPU1
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 101. For more information on alerts, see Configuring alerts.

Irq_RDIMM0G

Description	Irq RDIMM event for CPU0
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 102. For more information on alerts, see Configuring alerts.

CPU1_PROCHOTG

Description	Processor hot signal asserted for CPU1
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 103. For more information on alerts, s see Configuring alerts.

CPU0_PROCHOTG

Description	Processor hot signal asserted for CPU0
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 104. For more information on alerts, see Configuring alerts.

SSUP0_IOH_THERMTRIP

Description	IOH thermtrip for SSUP0
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 120. For more information on alerts, see Configuring alerts.

SSUP1_IOH_THERMALERT

Description	IOH thermalert for SSUP1
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 121. For more information on alerts, see Configuring alerts.

SSUP1_IOH_THERMTRIP

Description	IOH thermtrip for SSUP1
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 122. For more information on alerts, see Configuring alerts.

SSUP0_TEMP_EVENT

Description	Temperature event for SSUP0
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 42.
	For more information on alerts, see Configuring alerts.

SSUP1_TEMP_EVENT

Description	Temperature event for SSUP1
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 43.
	For more information on alerts, see Configuring alerts.

SSUP0_TEMP_EVENT

Description	Temperature event for SSUP0 42
Severity	Critical.
Direction	Assertion.
Action	None.
Comments	This log corresponds to sensor number 122.
	For more information on alerts, see Configuring alerts.

A.3   Error dictionary

The following table details the errors and corrective action associated with each accelerator blade hardware component.

Component	Event/Description	Severity	Meaning	Corrective action
Blade fan-X	At or below lower non-critical threshold (going low).	Critical	The corresponding blade fan speed is lesser than expected.	If the problem persists, change the corresponding blade fan.
	At or below lower critical threshold (going low).	Critical	The blade fan speed is lesser than expected.	If the problem persists, change the corresponding blade fan.
CPU-X	Device removed/Device absent.	Information	CPU-X is not present.	Insert the corresponding CPU.
DIMM-X	Device removed/Device absent.	Information	DIMM1 is not present.	Insert the corresponding DIMM.
CPU-X	At or below lower critical threshold (going low).	Critical	The CPU0 temperature is lower than the minimum.	Check environmental conditions, fan, ac…
	At or above upper critical threshold (going high).	Critical	The CPU0 temperature is upper than the maximum.	Check environmental conditions, fan, ac…
Blade_voltage	At or below lower non-critical threshold (going low).	Critical	Accelerator blade voltage is lesser than expected.	
	At or below lower critical threshold (going low).	Critical	Accelerator blade voltage is lesser than expected.	
	At or above upper critical threshold (going high).	Critical	Accelerator blade voltage is greater than expected.	
	At or above upper non-critical threshold (going high).	Critical	Accelerator blade voltage is greater than expected.	
Blade_current	At or below lower non-critical threshold (going low).	Critical	Accelerator blade current is lesser than expected.	
	At or below lower critical threshold (going low).	Critical	Accelerator blade current is lesser than expected.	
	At or above upper critical threshold (going high).	Critical	Accelerator blade current is greater than expected.	
	At or above upper non-critical threshold (going high).	Critical	Accelerator blade current is greater than expected.	

Table A-2.   Error dictionary

Glossary

A

ABR: Automatic BIOS Recovery

This invention describes a recovery method for a computer system that has corrupted initialization, or boot code. This is done using checksum for detecting the corruption and a backup copy of the boot code for recovery.

ACPI: Advanced Configuration and Power Interface

Open industry specification co-developed by Hewlett-Packard, Intel, Microsoft, Phoenix, and Toshiba, ACPI establishes industry-standard interfaces enabling OS-directed configuration, power management, and thermal management of server platforms.

B

BHC: Blade Hardware Console

Web based GUI, used to control and monitor an individual accelerator blade.

Blade fans

The two counter rotating fans that are mounted in each accelerator blade for cooling.

BMC: Baseboard Management Controller

It is an embedded microcontroller surrounded by memory, interfaces, and sensors.

BOOTP

A network protocol used by a network client to obtain an IP address from a configuration server.

C

CHC: Chassis Hardware Controller

Webs based GUI, used to control and monitor the complete blade system.

CLP: Command Line Protocol

The command line protocol will specify the syntax and semantics used to allow the manipulation of the Managed Elements within servers, as collections or individually.

CMB: Chassis Management Board

Board in the CMM hosting a 1 Gb Ethernet switch, 24 ports, as well as a SO-DIMM 200 connector to plug the OPMA daughter board (CMC)

CMC: Chassis Management Controller

The CMC is daughter card, M3-G4 from Raritan, based on OPMA.

CSR: Certificate Signing Request

Message sent from an applicant to a certificate authority in order to apply for a digital identity certificate.

D

DDR3: Double Data Rate 3

It is a random access memory interface technology used for high bandwidth storage of the working data of a computer or other digital electronic devices.

DHCP: Dynamic Host Configuration Protocol

It is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.

DN: Distinguished Name

A distinguished name (DN) is a LDAP entry that uniquely identifies and describes an entry in a directory (LDAP) server.

E

EP: Efficient Performance

ESM: 1 Gigabit Ethernet Switch Module

The hardware is same as that of CMM without the OPMA card for management. See CMM.

Ethernet Controller

The Ethernet controller is located on either a MiniPCI card, Communications Daughter Card (CDC), or integrated on the system board.

Ethernet interconnect

It is used to aggregate traffic between clients and 'server farms,' and for connecting Fast Ethernet switches.

F

Fan blade

Refers to the *bullx blade system* fan modules which are located at the front of the system, below the LCP.

FRU: Field Replaceable Unit

A component (board, module, fan, power supply…) that is replaced or added by Customer Service Engineers as a single entity.

G

GUI: Graphical User Interface

GPU: Graphical Processing Unit

It is a specialized processor that offloads 3D graphics rendering from the microprocessor.

H

Hot plugging

The operation of adding a component without disturbing the system activity.

Hot swapping

The operation of removing and replacing a faulty component without interrupting system activity.

HPC: High Performance Computing

Uses supercomputers and computer clusters to solve advanced computation problems.

HTTPS: Hyper Text Transfer Protocol Secure

Combination of the Hypertext Transfer Protocol and a cryptographic protocol.

I

I2C: Inter Integrated Circuit

Simple bi-directional 2-wire bus for efficient inter-IC control

IB: InfiniBand

The InfiniBand™ Architecture (IBA) is an industry standard that defines a new high-speed switched fabric subsystem designed to connect processor nodes and I/O nodes to form a system area network.

IB Switch Module

This is same as QSM or Quad.

iBMC: Integrated Baseboard Management Controller

Specialized microcontroller that is integrated in the motherboard of a server. The BMC is the intelligence in the Intelligent Platform Management Interface (IPMI) architecture. The BMC manages the interface between system management software and platform hardware.

ILB: I/O Legacy Board

Video, LAN, USB, etc…

INCA

INtegrated Cluster Architecture. It is a high-density server system.

Interconnect

Point-to-point processor interconnects.

IPMI: Intelligent Platform Management Interface

Specification owned by Intel describing mechanisms and devices to completely offload the task of managing system hardware from the primary CPU.

J

JTAG: Joint Test Action Group

It is the common name used for the IEEE 1149.1 standard entitled Standard Test Access Port and Boundary-Scan Architecture for test access ports used for testing printed circuit boards using boundary scan.

K

KVM: Keyboard-Video-Mouse

It is a hardware device that allows a user to control multiple computers from a single keyboard, video monitor and mouse.

L

LCP: Local Control Panel

Module consisting of a controller, a LCD color display, a green and a blue LED and a Power ON button.

LDAP: Lightweight Directory Access Protocol

An application protocol for querying and modifying directory services running over TCP/IP.

M

MAC: Mandatory Access Control

MIB: Management Information Base

Type of database used to manage the devices in a communications network.

Midplane

Midplane is a passive board that provides the physical and electrical connectivity to all the hardware modules.

N

NTP server

A protocol for synchronizing the clocks of computer systems over packet-switched, variable-latency data networks.

NVRAM: Non-Volatile Random Access Memory

A type of RAM that retains its contents even when the computer is powered off.

O

OPMA: Open Platform Management Architecture

Is an open, royalty free standard for connecting a modular, platform hardware management subsystem (a "mCard") to a computer motherboard.

Out-of-band compliant interface

It refers to communications which occur outside of a previously established communications method or channel.

P

PDU: Power Distribution Unit

Power bus used for the connection of peripheral system components.

PET: Platform Event Trap

Automatic alert sent by a Device over the network. (IPMI standard)

PSMI: Power Supply Management Interface

Communication with the power supply to access currents, voltages, fan speeds, and temperatures.

PSU: Power Supply Unit Module

Refers to the power supply unit that supplies 12V and 3v3 standby to the blade system. It converts AC input voltages to DC voltages.

PWM fan: Pulse Width Modulation fan

PWM involves rapidly switching the supply to the fan on and off. By altering the relative on to off times the average voltage "seen" by the fan is also altered.

Q

QDR InfiniBand: Quad Data Rate InfiniBand

Refers to Quad Data Rate InfiniBand data speed, which is 10Gbps per lane.

Quad Data Rate

It is a communication signaling technique wherein data is transmitted at four points in the clock cycle.

QSB: QDR Switch Board

Board within the Quad Switch Module

QSFP: Quad Small Form-factor Pluggable

Interconnect technology that is much lower power-consuming

QSM: Quad Switch Module

Blade system InfiniBand Switch

R

RADIUS: Remote Authentication Dial-In User Service

Networking protocol that provides centralized Authentication, Authorization and Accounting (AAA) management for computers to connect and use a network service

RAM: Random Access Memory

A temporary storage area for data and programs. This type of memory must be periodically refreshed to maintain valid data and is lost when the computer is power off. See NVRAM.

S

SATA: Serial Advanced Technology Attachment

Storage-interface for connecting host bus adapters to mass storage devices such as hard disk drives and optical drives.

SEL: System Event Log

Hardware log of server (512 entries)

SMT: Simultaneous Multi-Threading

Ability of a single physical processor to simultaneously dispatch instructions from more than one hardware thread

SMTP: Simple Mail Transfer Protocol

An internet standard for electronic mail (e-mail) transmission across Internet Protocol (IP) networks.

SNMP: Simple Network Management Protocol

The protocol governing network management and the monitoring of network devices and their functions.

SSD: Solid State Drive

It is a data storage device that uses solid-state memory to store persistent data.

SSH: Secured Shell

SSH is a network protocol that allows data to be exchanged using a secure channel between two networked devices.

SSL: Secure Socket Layer

They are cryptographic protocols that provide security and data integrity for communications over networks such as the Internet

SSUP: Support Server Unit Processor

SSUP PCb will have CPU, DIMMs & IOH. Two SSUPs are used per GPU

T

TSM: 10 Gigabit Ethernet Switch Module

10Gb Ethernet switch module. This module gives 10Gb connectivity to the bullx blade chassis.

U

UCM: Ultra Capacitor Module

The module can ride through AC outages of max. 250ms.

UID: Unit Identifier

Unsigned integer value that identify users within the Linux kernel.

UPS: Uninterrupted Power Supply

Supplying power from a separate source when utility power is not available.

UTC: Coordinated Universal Time

A time standard based on International Atomic Time (TAI) with leap seconds added at irregular intervals to compensate for the Earth's slowing rotation.

V

No entries.

W

WOL: Wake-on LAN

A feature that provides the ability to remotely power on a system through a network connection.

X

No entries.

Y

No entries.

Z

No entries.

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