

Netra Blade X3-2B
(formerly Sun Netra X6270 M3 Blade)

Administration Guide



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Using This Documentation

This documentation contains information and procedures for system administration of the Netra Blade X3-2B.

- “Product Notes” on page xiii
- “Related Documentation” on page xiv
- “Feedback” on page xiv
- “Support and Accessibility” on page xv

Product Notes

For late-breaking information and known issues about this product, see the product notes at:

<http://www.oracle.com/pls/topic/lookup?ctx=NetraBladeX3-2B>

Related Documentation

Documentation	Link
All Oracle products	http://www.oracle.com/documentation
Netra Blade X3-2B	http://www.oracle.com/pls/topic/lookup?ctx=NetraBladeX3-2B
Sun Netra 6000 Modular System	http://www.oracle.com/pls/topic/lookup?ctx=Netra6000
Oracle Integrated Lights Out Manager (ILOM) 3.1	http://www.oracle.com/pls/topic/lookup?ctx=ilom31
Oracle Hardware Management Pack	http://www.oracle.com/pls/topic/lookup?ctx=ohmp

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Provide feedback about this documentation at:

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Support and Accessibility

Description	Links
Access electronic support through My Oracle Support	http://support.oracle.com For hearing impaired: http://www.oracle.com/accessibility/support.html
Learn about Oracle's commitment to accessibility	http://www.oracle.com/us/corporate/accessibility/index.html
Find out about training	http://education.oracle.com

Planning the System Management Environment

This section includes information about the management tools available to manage the Netra Blade X3-2B and how to select the best tool to use.

The following topics are covered.

Description	Link
Review descriptions of the tools available to manage a single server.	“Choosing Tools for Single System Management” on page 2
Review descriptions of tools available to manage multiple servers.	“Choosing Tools for Multiple System Management” on page 3
Review advantages of the system management tools.	“System Management Tools Overview” on page 3
View a list of common system management tasks to see which tool you can use.	“Common System Management Tasks” on page 7
View a list of common system administrative tasks to see which tool you can use.	“Common System Administrative Tasks” on page 8
Evaluate which tool fits your server environment.	“Evaluating the Server Environment” on page 11
Locate system management documentation.	“Server Management Documentation” on page 14

Related Information

- [“Accessing System Management Tools” on page 15](#)

Choosing Tools for Single System Management

A data center administrator can use system management tools for local management or for remote access management over a network. In addition, system management tools provide interfaces for integrating with other Oracle enterprise tools, as well as third-party management applications.

Use the following system management tools to manage Oracle servers.

SSM Tool	Type	Function	Link
Oracle System Assistant	Pre-installed. Embedded in a blade USB drive. No installation required.	Locally or remotely configure and update blade hardware, and install supported operating systems.	“Oracle System Assistant” on page 4
Oracle Integrated Lights Out Manager (Oracle ILOM)	Pre-installed service processor (SP) utility. No installation required.	Configure and manage blade components. Oracle ILOM enables you to locally or remotely connect to a dedicated network port, a sideband port, or a local serial port.	“Oracle Integrated Lights Out Manager (ILOM)” on page 5
Oracle Hardware Management Pack	Add-on software pack. Get from Oracle System Assistant or download from http://www.oracle.com/goto/system-management	Monitor hardware through the host operating system. Oracle Hardware Management Pack enables you to connect remotely using SNMP, or locally using command-line interface tools.	“Oracle Hardware Management Pack” on page 6

Related Information

- [“System Management Tools Overview” on page 3](#)
- [“Accessing System Management Tools” on page 15](#)
- [“Planning for System Component Updating and Monitoring” on page 12](#)

Choosing Tools for Multiple System Management

If you need to perform system management functions across several systems simultaneously, consider using Oracle Enterprise Manager Ops Center. Oracle Enterprise Manager Ops Center might be included with your blade as part of a server support contract. You can also order Oracle Enterprise Manager Ops Center software from Oracle.

Oracle Enterprise Manager Ops Center is a highly scalable, unified management platform for physical and virtual environments. Use Oracle Enterprise Manager Ops Center to manage multiple platform x86 and SPARC systems that are distributed throughout a global data center and to integrate these systems with existing toolsets. Oracle Enterprise Manager Ops Center facilitates many aspects of compliance reporting (ITIL) and data center automation, enabling you to manage thousands of systems simultaneously.

See Oracle Enterprise Manager Ops Center product information at:
http://docs.oracle.com/cd/E11857_01/nav/management.htm

Related Information

- [“Choosing Tools for Single System Management” on page 2](#)

System Management Tools Overview

These topics briefly describe the following system management tools:

- [“Oracle System Assistant” on page 4](#)
- [“Oracle Integrated Lights Out Manager \(ILOM\)” on page 5](#)
- [“Oracle Hardware Management Pack” on page 6](#)

Related Information

- [“Common System Management Tasks” on page 7](#)
- [“Planning for System Component Updating and Monitoring” on page 12](#)
- [“Installing System Management Tools” on page 13](#)

Oracle System Assistant

Oracle System Assistant allows you to get the latest software and firmware updates, update firmware, configure hardware, and install supported operating systems. Oracle System Assistant is a management tool that integrates Oracle's single system management products and related software.

You can start Oracle System Assistant from BIOS or Oracle ILOM. Oracle System Assistant then displays a graphical user interface application from which you can access features and complete tasks with or without an operating system installed on the blade. After the operating system is running on the blade, the tools, drivers, and documentation appear as files on a typical storage device, allowing you to use Oracle System Assistant as resource media.

With Oracle System Assistant, you can:

- Display system overview and hardware inventory information.
- Get the latest available system BIOS, Oracle ILOM, supported operating systems, firmware, and drivers from Oracle (an Internet connection is required).
- Update system BIOS, Oracle ILOM, and Oracle-certified, server-specific, and configuration-specific device drivers for optional accessory cards and other system hardware.
- Configure RAID 0 or RAID 1 for servers that contain an integrated LSI disk controller.
- Configure Oracle ILOM service processor (SP). SP configuration includes: modifying identification information; configuring network settings (IPv4 and IPv6) and DNS; adding, deleting, or modifying users; and setting the service processor clock.
- Install supported operating systems with the latest drivers and supported tools.
- Disable the Oracle System Assistant.
- Set the keyboard language.
- Access the Oracle System Assistant (Linux) shell terminal window allowing use of the runtime environment.
- Access Oracle Hardware Management Pack (using the Oracle System Assistant shell).
- Access product documentation.

On Sun Oracle x86 servers, Oracle System Assistant is factory-installed on a USB storage device in the system, and is ready to use as soon as you power on. This storage device includes everything you need to start using the blade with your choice of supported operating system and hardware. You provide the operating system installation media, and Oracle System Assistant provides everything else.

Oracle System Assistant components are updated online. The storage drive is factory configured with a server-specific version of Oracle System Assistant that you maintain by using an online update feature for all components. In addition, the components can be updated using an UPDATER ISO image that you can obtain from the My Oracle Support web site.

The components of Oracle System Assistant include:

- Oracle System Assistant application
- Operating system-specific software, drivers, and tools
- Server-specific firmware
- Oracle Hardware Management Pack
- Oracle System Assistant (Linux) command-line environment
- Server-specific and related documentation

Oracle continually strives to improve its products. To send comments about Oracle System Assistant, contact **`server-sysmgmt-feedback_ww@oracle.com`**.

Related Information

- [“Setting Up the Blade With Oracle System Assistant” on page 25](#)

Oracle Integrated Lights Out Manager (ILOM)

Oracle Integrated Lights Out Manager (Oracle ILOM) is system management firmware that is preinstalled on an embedded service processor on Oracle's x86-based servers and SPARC-based servers. Oracle ILOM enables you to actively manage and monitor components in your server. Using Oracle ILOM, you can remotely manage and monitor the blade as if you were using a locally attached keyboard, monitor, and mouse, regardless of the state of the host system. The Oracle ILOM firmware automatically initializes when standby power is applied to the blade.

Oracle ILOM firmware allows you to choose either a full-featured, browser-based web interface or an equivalent command-line interface (CLI).

With Oracle ILOM, you can:

- View graphical (web browser) and non-graphical (CLI) consoles for the host.
- Monitor the current status of blade sensors and indicators.
- Monitor hardware errors and faults as they occur.
- Send events using SNMP traps or email alerts when faults occur.
- Remotely control the power state of your blade.
- Configure the blade hardware.

The service processor (SP) has a dedicated Ethernet port. The SP runs its own Oracle ILOM embedded operating system and provides out-of-band management capability. In addition, you can access Oracle ILOM from the server's host operating system (Oracle Solaris, Oracle Linux, other variants of Linux, or Windows).

You can also configure Oracle ILOM to integrate with other management tools in your data center. You can easily integrate Oracle ILOM SNMP interface and IPMI management interfaces with other management tools and processes that you might have working already with your servers, such as Oracle Enterprise Manager Ops Center. For more information about Oracle Enterprise Manager Ops Center, go to:

http://docs.oracle.com/cd/E11857_01/nav/management.htm

In addition, you can integrate Oracle ILOM with several enterprise management, third-party tools, such as CA Unicenter, HP OpenView Operations, BMC Patrol, and IBM Tivoli. For more information about which tools are supported, go to:

<http://www.oracle.com/technetwork/server-storage/servermgmt/tech/isv-hardware-connectors/index.html>

Related Information

- Oracle ILOM Documentation Library
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

Oracle Hardware Management Pack

Oracle Hardware Management Pack is available for your blade, and for many other x86-based servers and some SPARC-based servers. Oracle Hardware Management Pack features two components: an SNMP monitoring agent and a family of cross-operating system command-line interface tools (CLI Tools) for managing your servers.

With the Hardware Management Agent SNMP Plugins, you can use SNMP to monitor Oracle servers and blades in your data center with the advantage of not having to connect to two management points, the host and Oracle ILOM. This functionality enables you to use a single IP address (the host's IP) to monitor multiple servers and blades.

Hardware Management Agent SNMP Plugins run on the host operating system of Oracle servers. The SNMP Plugins use the Oracle Hardware Storage Access Libraries to communicate with the service processor. Information about the current state of the server is fetched automatically by the Hardware Management Agent.

You can use the Oracle Server CLI Tools to configure Oracle servers. The CLI Tools work with Oracle Solaris, Oracle Linux, Oracle VM, other variants of Linux, and Windows operating systems. The following table describes the tasks that you can perform using the CLI Tools.

System Management Task From Host OS	CLI Tool
Configure BIOS settings, device boot order, and some SP settings.	ubiosconfig
Update Oracle ILOM and BIOS.	fwupdate
Query, update, and validate firmware versions on supported SAS storage devices, embedded SAS storage controllers, SAS storage expanders, and storage drives.	
Restore, set, and view Oracle ILOM configuration settings, as well as viewing and setting Oracle ILOM properties that are associated with network management, clock configuration, and user management.	ilomconfig
View or create RAID volumes on storage drives that are attached to RAID controllers, including storage arrays.	raidconfig
Monitor system health.	hwmgmt

Related Information

- Oracle Hardware Management Pack Documentation Library at:
<http://www.oracle.com/pls/topic/lookup?ctx=ohmp>
- Oracle Enterprise Manager Documentation Library
(http://docs.oracle.com/cd/E11857_01/nav/management.htm)



Common System Management Tasks

Each system management tool has unique capabilities, but some of the functions of the tools overlap. You can use each tool independently, or, depending on your platform, you can use the tools together for more comprehensive system management. Each system management tool is freely available.

The following table describes common server management tasks that you can perform using single system management software.

Task	Oracle System Assistant	Oracle ILOM	Oracle Hardware Management Pack
Update BIOS firmware.	Yes	Yes	Yes

Task	Oracle System Assistant	Oracle ILOM	Oracle Hardware Management Pack
Update Oracle ILOM firmware.	Yes	Yes	Yes
Configure Oracle ILOM.	Yes	Yes	Yes
Update HBA firmware.	Yes	No	Yes
Update expander firmware (REM or FEM).	Yes	No	Yes
Install Linux operating system and drivers.	Yes	No	No
Install Windows operating system and drivers.	Yes	No	No
Install Oracle VM software and drivers.	Yes	No	No
Monitor hardware components.	No	Yes	Yes
Configure RAID.	Yes	No	Yes

Related Information

- [“System Management Tools Overview” on page 3](#)
- [“Planning for System Component Updating and Monitoring” on page 12](#)
- [“Installing System Management Tools” on page 13](#)

Common System Administrative Tasks

The following table includes information about common administrative tasks that you can perform using system management tools.

Task	Oracle System Assistant	Oracle ILOM	Oracle Hardware Management Pack	Other
Setup software and firmware.	“Set Up Software and Firmware (OSA)” on page 109	“Set Up Software and Firmware (Oracle ILOM)” on page 110	“Set Up Software and Firmware (Oracle Hardware Management Pack)” on page 111	Not applicable
Set power-on and cooling policies.	Not applicable	“Managing Server Policies Using Oracle ILOM” on page 115	Not applicable	Not applicable
Update BIOS or Oracle ILOM firmware.	Update Firmware	CLI: load Web interface: ILOM Administration > Maintenance > Firmware Upgrade	fwupdate	Not applicable
Update HBA and expander firmware.	Update Firmware	Not applicable	fwupdate	Not applicable
Configure a preinstalled operating system.	Not applicable	Not applicable	Not applicable	<i>Netra Blade X3-2B Installation Guide</i>
Install Linux operating system.	Install OS	Not applicable	Not applicable	<i>Netra Blade X3-2B Installation Guide for Linux Operating Systems</i>
Install Windows operating system.	Install OS	Not applicable	Not applicable	<i>Netra Blade X3-2B Installation Guide for Windows Operating Systems</i>
Install Oracle VM operating system.	Install OS	Not applicable	Not applicable	<i>Netra Blade X3-2B Installation Guide for Oracle VM Operating System</i>
Install Oracle Solaris operating system.	Not applicable	Not applicable	Not applicable	<i>Netra Blade X3-2B Installation Guide for the Oracle Solaris Operating System</i>

Task	Oracle System Assistant	Oracle ILOM	Oracle Hardware Management Pack	Other
Install ESXi VMware.	Not applicable	Not applicable	Not applicable	<i>Netra Blade X3-2B Installation Guide for ESX Software</i>
Display server SP IP address.	System Overview	CLI: show /SP/network Web interface: System Information > Summary	Not applicable	Not applicable
Display the host MAC address.	System Overview	CLI: show /System Web interface: System Information > Summary	Not applicable	Not applicable
Configure Oracle ILOM network settings.	Configure Hardware > Service Processor Configuration	CLI: set /SP/network/properties Web interface: ILOM Administration > Network Settings	ILOMconfig	Not applicable
Configure RAID.	Configure Hardware > RAID Configuration	Not applicable	RAIDconfig	“Configuring RAID” on page 127
Power on the server remotely.	Not applicable	CLI: start /System Web interface: System Information > Summary	Not applicable	Not applicable
Power off the server remotely.	Not applicable	CLI: stop /System Web interface: System Information > Summary	Not applicable	Not applicable
Reset the SP to default values.	Not applicable	CLI: set /SP reset_to_defaults Web interface: ILOM Administration > Configuration Management > Reset Defaults	Not applicable	Not applicable
Monitor hardware components.	Not applicable	CLI: show System Web interface: System Information	Hardware Management Agent	Not applicable

Related Information

- Oracle ILOM Documentation Library
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)
- Oracle Hardware Management Pack Documentation Library at:
(<http://www.oracle.com/pls/topic/lookup?ctx=ohmp>)
- *Netra Blade X3-2B Installation Guide*



Evaluating the Server Environment

This section can help you to decide which type of single system management tool or combination of tools is best for your server environment.

The evaluation covers the following information:

- “Planning for Operating System Installation” on page 11
- “Planning for System Component Updating and Monitoring” on page 12
- “Installing System Management Tools” on page 13
- “Server Management Documentation” on page 14

Planning for Operating System Installation

Most of the system management tools will work with most operating systems that are supported for Oracle servers. However, there are some exceptions that are important to note. See the following table for detailed information.

For a list of the supported operating systems for your server, see the *Netra Blade X3-2B Product Notes*.

System Management Tool	Operating System Limitations
Oracle System Assistant	Using Oracle System Assistant, you can install Windows and Linux (Oracle Linux, Red Hat Enterprise Linux, SUSE Linux) operating systems, as well as Oracle VM software. If you have Oracle Solaris or VMware ESXi installed on the server, you can update firmware and perform additional system management tasks.

System Management Tool	Operating System Limitations
Oracle Integrated Lights Out Manager (Oracle ILOM)	There are no operating system limitations with Oracle ILOM, because the software runs on the system service processor, not on the operating system.
Oracle Hardware Management Pack	To confirm which operating systems are supported with the Hardware Management Pack components, see the Support Matrix (http://www.oracle.com/goto/hmp)

Planning for System Component Updating and Monitoring

Use the system management tools to update or monitor server software or components.

The following table lists the main functions of each tool.

Server Management Software	Update Functions	Monitoring Functions
Oracle System Assistant	Updates Oracle ILOM and BIOS firmware. Configures Oracle ILOM firmware. Updates and configures HBA firmware. Assists in operating system and driver installation. Configures RAID.	Provides minimal system status information.
Oracle Integrated Lights Out Manager (ILOM)	Updates Oracle ILOM and BIOS firmware.	Monitors component status. Reports faults.
Oracle Hardware Management Pack	Configures Oracle ILOM and BIOS firmware. Updates HBA and expander firmware. Configures RAID.	Monitors component status. Reports faults.

Updating Firmware and Software

- The easiest way to get and update firmware and software is by using Oracle System Assistant. See “[Access Oracle System Assistant From Oracle ILOM \(Web\)](#)” on page 18.
- “[Set Up Software and Firmware \(OSA\)](#)” on page 109

- “Set Up Software and Firmware (Oracle Hardware Management Pack)” on page 111

Alternatively you can get the latest firmware and software from My Oracle Support or by requesting physical media. For more information, see *Netra Blade X3-2B Product Notes*.

Related Information

- “System Management Tools Overview” on page 3
- “Installing System Management Tools” on page 13
- “Common System Management Tasks” on page 7

Planning for Modular System Management

You can use all of the system management tools to manage modular systems (blades) or rack servers. However, only Oracle ILOM can be used to manage blades from both the chassis monitoring module (CMM) of the modular system and blade server interfaces.

Related Information

- “System Management Tools Overview” on page 3
- Oracle ILOM Documentation Library at:
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

Installing System Management Tools

The following table describes how you can install the single system management software tools.

System Management Tool	Installation Method
Oracle System Assistant	Preinstalled. Embedded in a server USB drive. No installation required.
Oracle Integrated Lights Out Manager	Preinstalled. Embedded on system service processor. No installation required.
Oracle Hardware Management Pack	Get from Oracle System Assistant or download from http://www.oracle.com/goto/system-management

Related Information

- [“Accessing System Management Tools” on page 15](#)
- *Netra Blade X3-2B Product Notes*

Server Management Documentation

The following table describes where you can find additional documentation for the system management tools.

Server Management Tool	Link
Oracle System Assistant	See the Oracle System Assistant online Help. Documentation for Oracle System Assistant is within this administration guide and other guides that are part of the server Documentation Library.
Oracle Integrated Lights Out Manager (Oracle ILOM)	http://www.oracle.com/pls/topic/lookup?ctx=ilom31
Oracle Hardware Management Pack	http://www.oracle.com/pls/topic/lookup?ctx=ohmp

Related Information

- [“Accessing System Management Tools” on page 15](#)
- *Netra Blade X3-2B Product Notes*

Accessing System Management Tools

This section describes how to access each of the system management tools available for the Netra Blade X3-2B after installation.

The following topics are covered.

Access	Link
Oracle System Assistant	“Accessing Oracle System Assistant” on page 15
Oracle ILOM	“Accessing Oracle ILOM” on page 20
Oracle Hardware Management Pack	“Accessing Oracle Hardware Management Pack” on page 22

Accessing Oracle System Assistant

Choose one of the following methods to access Oracle System Assistant:

Option	Link
Boot the blade, and during boot-up, press F9.	“Access Oracle System Assistant at Startup” on page 16
Use Oracle ILOM web interface.	“Access Oracle System Assistant From Oracle ILOM (Web)” on page 18
Use Oracle ILOM Command-Line Interface.	“Access Oracle System Assistant From Oracle ILOM (CLI)” on page 20

Oracle System Assistant must be in an online state (available to the operating system) to launch the tool. You can enable Oracle System Assistant using the BIOS Setup Utility. See [“Enable Oracle System Assistant From BIOS” on page 60](#).

▼ Access Oracle System Assistant at Startup

Use the following procedure to access Oracle System Assistant after you have started the server.

- [“Mounting the Oracle System Assistant USB Flash Drive” on page 62](#)
- [“Enable Oracle System Assistant From BIOS” on page 60](#)

1. **Verify that the server is in standby mode or full power mode.**
2. **Verify that a monitor, keyboard, and mouse are attached locally to the server.**
3. **Start (boot) the server.**

Perform one of the following actions, depending on the server power state:

- Standby mode: Press the Power button on the front of the server.
- Full power mode: Power the server on and off.

Boot messages appear on the monitor.



4. **When prompted, press the F9 function key to start Oracle System Assistant.**

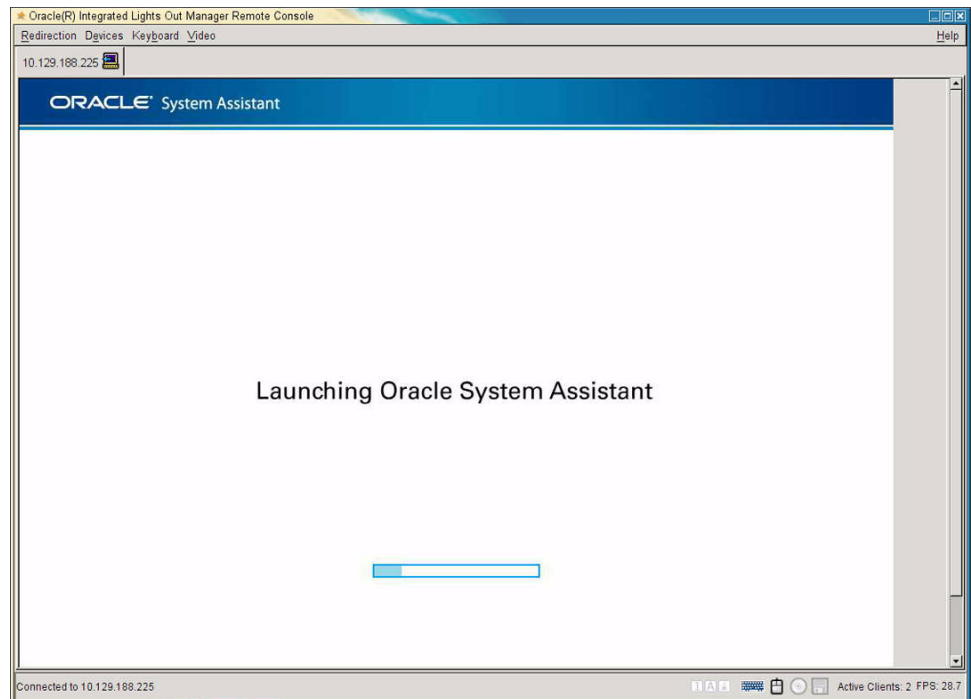
You can also press CTRL-O on a serial keyboard.

Tip – If you use KVM to access the server remotely, press F9 several times; otherwise, the server might miss the signal due to delays.

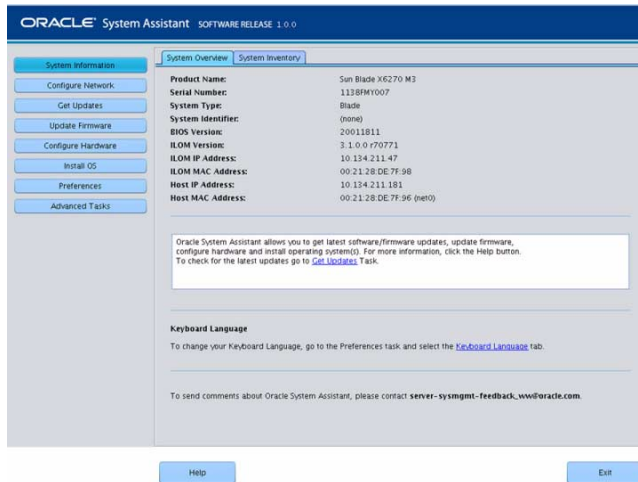
Checkpoint messages appear, including the text [Oracle System Assistant Selected].

```
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.  
BIOS Build Version : 20012001, Date: 01/26/2012 10:41:40  
Press F2 to run Setup (CTRL+E on serial keyboard)  
Press F8 for BBS Popup (CTRL+P on serial keyboard)  
Press F12 for network boot (CTRL+N on serial keyboard)  
Press F9 to start Oracle System Assistant (CTRL+O on serial keyboard)  
[Oracle System Assistant Selected]
```

The Launching Oracle System Assistant screen is displayed.



Then the System Overview task screen is displayed.



5. If an Oracle System Assistant screen is not displayed, see [“Troubleshooting Oracle System Assistant”](#) on page 54.

6. Perform Oracle System Assistant tasks, as required.

Related Information

- [“Mounting the Oracle System Assistant USB Flash Drive”](#) on page 62
- [“Overview of Oracle System Assistant”](#) on page 25
- [“BIOS Key Mappings”](#) on page 135

▼ Access Oracle System Assistant From Oracle ILOM (Web)

Use the following procedure to access Oracle System Assistant while using Oracle ILOM web interface.

- [“Mounting the Oracle System Assistant USB Flash Drive”](#) on page 62
- [“Enable Oracle System Assistant From BIOS”](#) on page 60

1. Power off the host.

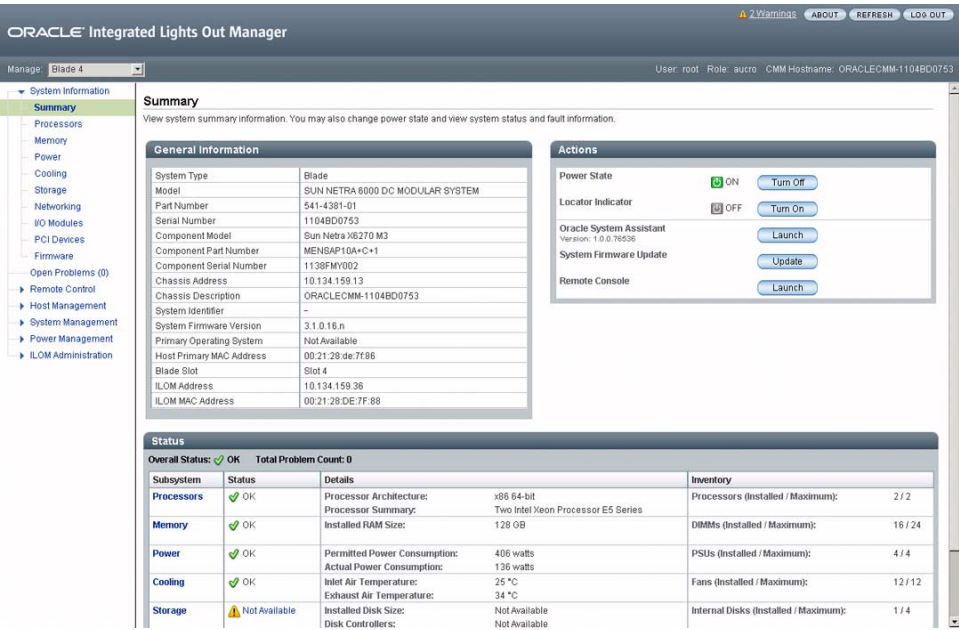
a. Select Host Management then Power Control.

b. Select Server Power Control Management graceful shutdown and power off from the list.

c. Click Save.

Note – The host operating system must have power shutdown enabled.

2. Access Oracle ILOM web interface System Information -> Summary page.
See “Access Oracle ILOM (Web)” on page 21.



3. Launch Oracle System Assistant.

The Launching Oracle System Assistant screen is displayed. Then the Oracle System Assistant System Overview screen is displayed.

If the Oracle System Assistant screen is not displayed, see “Troubleshooting Oracle System Assistant” on page 54.

4. Perform Oracle System Assistant tasks, as required.

Related Information

- “Overview of Oracle System Assistant” on page 25
- Oracle ILOM Documentation Library
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

▼ Access Oracle System Assistant From Oracle ILOM (CLI)

To access Oracle System Assistant using the Oracle ILOM command-line interface (CLI):

1. Access the Oracle ILOM CLI.

See [“Access Oracle ILOM \(CLI\)” on page 21.](#)

2. In the Oracle ILOM CLI, type:

start /HOST/provisioning/system-assistant

The following prompt is displayed:

```
Are you sure that you want to start
/HOST/provisioning/system-assistant (y/n)?
```

3. Type *y* to launch Oracle System Assistant.

Oracle ILOM launches Oracle System Assistant.

The Oracle System Assistant System Overview task screen is displayed.

■ Or type *n* to cancel the operation.

4. Perform tasks using Oracle System Assistant, as required.

Related Information

■ [“Overview of Oracle System Assistant” on page 25](#)

■ Oracle ILOM Documentation Library
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

Accessing Oracle ILOM

Choose one of the following methods to access Oracle ILOM:

Option	Link
Access Oracle ILOM using the web browser.	See “Access Oracle ILOM (Web)” on page 21.
Access Oracle ILOM using CLI commands.	See “Access Oracle ILOM (CLI)” on page 21.

▼ Access Oracle ILOM (Web)

To log in to Oracle ILOM web browser interface:

1. **Connect the Netra Blade X3-2B cables, and set up the IP addresses.**
See the *Netra Blade X3-2B Installation Guide*.
2. **Type the IP address of the blade SP into the web browser's address field.**
3. **Type your user name and password at the prompt.**
The default user name is root, and the default password is changeme.
4. **Click the Log In button.**
The Oracle ILOM Summary page is displayed.

ORACLE Integrated Lights Out Manager

Manage: Blade 4 User: root Role: aucto CMM Hostname: ORACLECMM-1104BD0753

Summary

View system summary information. You may also change power state and view system status and fault information.

General Information

System Type	Blade
Model	SUN NETRA 6000 DC MODULAR SYSTEM
Part Number	541-4381-01
Serial Number	1104BD0753
Component Model	Sun Netra x6270 M3
Component Part Number	MENSAP10A+C+1
Component Serial Number	1138FMY002
Chassis Address	10.134.159.13
Chassis Description	ORACLECMM-1104BD0753
System Identifier	-
System Firmware Version	3.1.0.16.n
Primary Operating System	Not Available
Host Primary MAC Address	00:21:28:de:7f:86
Blade Slot	Slot 4
ILOM Address	10.134.159.36
ILOM MAC Address	00:21:28:DE:7F:88

Actions

Power State: ☒ ON

Locator Indicator: ☐ OFF

Oracle System Assistant Version: 13.0.7626

System Firmware Update

Remote Console

Status

Overall Status: ☒ OK Total Problem Count: 0

Subsystem	Status	Details	Inventory
Processors	<input checked="" type="checkbox"/> OK	Processor Architecture: x86_64-bit Processor Summary: Two Intel Xeon Processor E5 Series	Processors (Installed / Maximum): 2 / 2
Memory	<input checked="" type="checkbox"/> OK	Installed RAM Size: 128 GB	DIMMs (Installed / Maximum): 16 / 24
Power	<input checked="" type="checkbox"/> OK	Permitted Power Consumption: 406 watts Actual Power Consumption: 136 watts	PSUs (Installed / Maximum): 4 / 4
Cooling	<input checked="" type="checkbox"/> OK	Inlet Air Temperature: 25 °C Exhaust Air Temperature: 34 °C	Fans (Installed / Maximum): 12 / 12
Storage	<input type="checkbox"/> Not Available	Installed Disk Size: Not Available Disk Controllers: Not Available	Internal Disks (Installed / Maximum): 1 / 4

5. **Perform Oracle ILOM tasks in the web browser or launch Oracle System Assistant, as required.**

See <http://www.oracle.com/pls/topic/lookup?ctx=ilom31>.

▼ Access Oracle ILOM (CLI)

To log in to Oracle ILOM through the CLI:

1. **Connect the Netra Blade X3-2B cables, and set up the IP addresses.**

See the *Netra Blade X3-2B Installation Guide*.

2. **Open a terminal window.**

3. **Log in to the server's SP using a Secure Shell (SSH) session.**

For example, type:

```
$ ssh username@SPIPaddress
```

Variable	Definition
<i>username</i>	User account with administrative privileges
<i>SPIPaddress</i>	IP address of the server's SP

The default user name is root, and the default password is changeme.

After you have successfully logged in to Oracle ILOM, the default CLI prompt is displayed (->).

4. **Perform Oracle ILOM CLI tasks, as required.**

See <http://www.oracle.com/pls/topic/lookup?ctx=ilom31>.

Accessing Oracle Hardware Management Pack

Choose one of the following methods to access Oracle Hardware Management Pack:

Option	Link
Using Oracle System Assistant	“Access Oracle Hardware Management Pack (OSA)” on page 23
Download the Oracle Hardware Management Pack software	“Access Oracle Hardware Management Pack (MOS)” on page 23

Related Information

- [“Oracle Hardware Management Pack” on page 6](#)
- Oracle Hardware Management Pack Documentation Library (<http://www.oracle.com/pls/topic/lookup?ctx=ohmp>)

▼ Access Oracle Hardware Management Pack (OSA)

The Oracle Hardware Management Pack files are within the operating system (OS) directories in the Oracle System Assistant file system. Browse to the applicable OS directory in the file system, then to the sub-directory for drivers and tools, where the Oracle Hardware Management Pack files are located. Then run the Oracle Hardware Management Pack installer application.

1. Install the Oracle Hardware Management Pack from Oracle System Assistant.

Choose one of the following methods:

- After your OS is installed, access the Oracle Hardware Management Pack files on the Oracle System Assistant device from your file system.
- If your server runs Linux or Windows, use Oracle System Assistant to install the supplemental software, which contains Oracle Hardware Management Pack.

2. Access the Oracle System Assistant shell.

The shell allows you to obtain a command line interface, so you can type Oracle Hardware Management Pack commands.

See [“Perform Advanced Tasks to Access Oracle System Assistant Shell” on page 51.](#)

3. Perform Oracle Hardware Management Pack tasks by typing Oracle Hardware Management Pack CLI commands in the shell, as required.

See <http://www.oracle.com/pls/topic/lookup?ctx=ohmp>.

▼ Access Oracle Hardware Management Pack (MOS)

1. Download Oracle Hardware Management Pack.

Follow the instructions in *Netra Blade X3-2B Product Notes*.

2. Install Oracle Hardware Management Pack.

Follow the instructions in the documentation at:

<http://www.oracle.com/pls/topic/lookup?ctx=ohmp>.

3. After Oracle Hardware Management Pack is installed, access the Oracle Hardware Management Pack tools and perform Oracle Hardware Management Pack tasks by typing CLI commands, as required.

See <http://www.oracle.com/pls/topic/lookup?ctx=ohmp>.

Setting Up the Blade With Oracle System Assistant



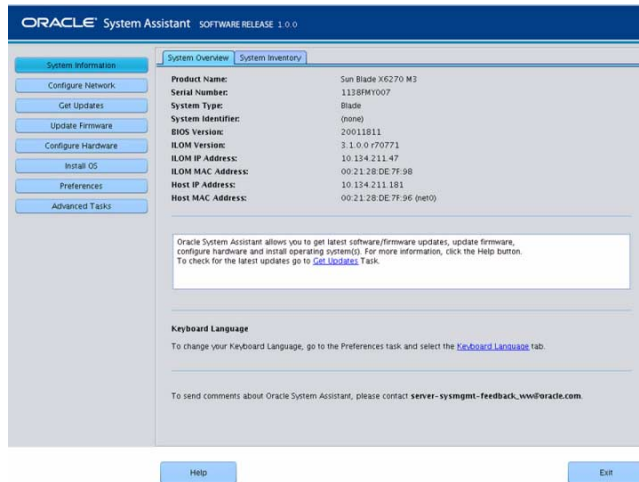
Caution – OSA is used to setup, configure, and run diagnostics on a blade and cannot be relied upon during high-input ambient conditions. There is no user space on this device, and it is only intended for the functions described by OSA. The rear USB ports require Industrial temperature-rated devices to meet NEBS maximum-input ambient conditions. Oracle does not offer Industrial temperature-rated USB devices.

Oracle System Assistant set up tasks are covered in the following sections.

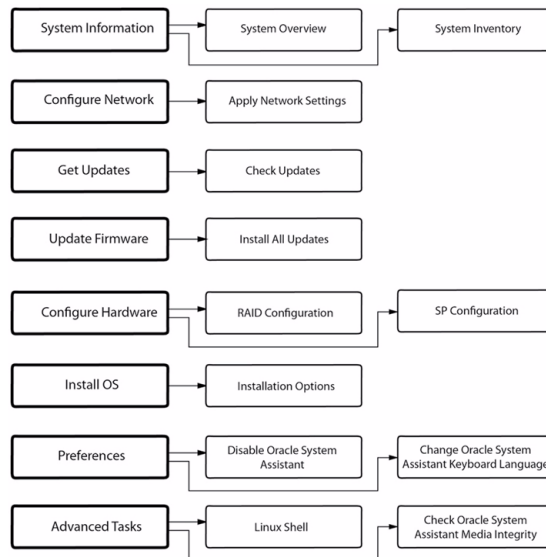
Section	Description	Link
Setting Up the Blade With Oracle System Assistant	Review the organization of Oracle System Assistant.	“Overview of Oracle System Assistant” on page 25
	How to use the Help and Exit buttons.	“Overview of Oracle System Assistant” on page 25
Configuring the Server Using Oracle System Assistant	How to use Oracle System Assistant to perform system management tasks.	“Using Oracle System Assistant for Server Configuration” on page 29
Oracle System Assistant Administrative Tasks	How to test, manage, troubleshoot, and restore Oracle System Assistant.	“Oracle System Assistant Administrative Tasks” on page 53

Overview of Oracle System Assistant

The following figure shows the Oracle System Assistant System Overview task screen.



The following figure shows the organization of the Oracle System Assistant functions.

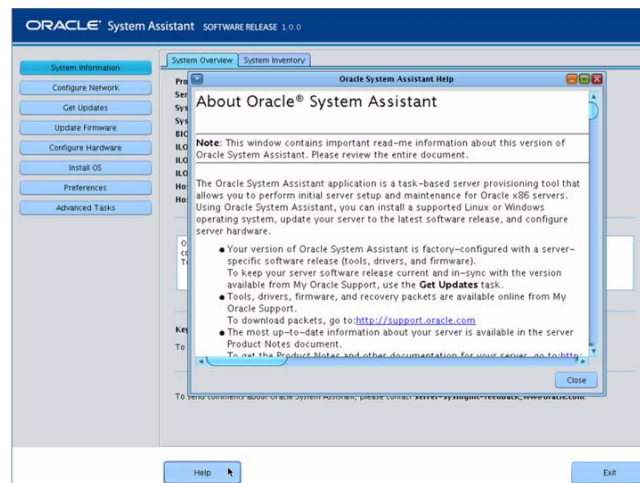


Using the Help and Exit Buttons

To use the Help and Exit buttons, press the buttons on the bottom of an Oracle System Assistant screen.

Help Button

Click the Help button to display the task information.



Note – To display the ReadMe file (Release Notes) for the installed platform software release, click the Help button while viewing the System Overview screen.

▼ View Oracle System Assistant ReadMe Files

To view the Oracle System Assistant ReadMe file (Release Notes) for the installed platform software release.

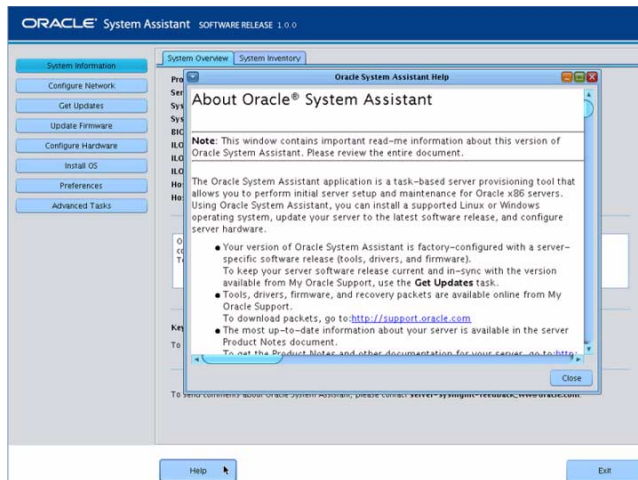
1. Access Oracle System Assistant.

See “Accessing Oracle System Assistant” on page 15.

The System Overview task screen is displayed.

2. At the bottom of the System Overview task screen, click the Help button.

The ReadMe file is displayed, with information about the Oracle System Assistant and your platform software release.



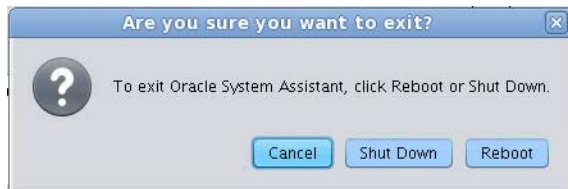
Exit Button

Click Exit to quit the Oracle System Assistant application. If you want, click Exit to quit Oracle System Assistant and reboot or power off the server.

▼ Exit From Oracle System Assistant

To exit from Oracle System Assistant.

- 1. From within Oracle System Assistant, click the Exit button to quit the application session.**
- 2. Select whether you want to reboot or power off the system.**



Using Oracle System Assistant for Server Configuration

This section describes how to manage your server using Oracle System Assistant.

The following Oracle System Assistant server administrative tasks are covered.

Task	Link
View system overview information.	“View System Overview” on page 30
View system inventory information.	“View System Inventory” on page 31
Configure network settings for the server used to get updates for Oracle System Assistant.	“Configure Network Settings” on page 32
Update to the latest software release, including firmware, drivers, software, and documentation.	“Get Platform Software Release Updates” on page 34
Update supported hardware to the latest firmware version.	“Update Firmware” on page 38
Configure RAID for the server.	“Configure Hardware for RAID” on page 40
Configure settings for the server SP.	“Configure Hardware for Oracle ILOM SP” on page 42
Install Linux or Windows operating systems, or Oracle VM software on the server.	“Install an Operating System” on page 46
Disable Oracle System Assistant.	“Set Preferences to Disable Oracle System Assistant” on page 49
Set the keyboard language for Oracle System Assistant.	“Set Preferences for Keyboard Language” on page 50
Access the Oracle System Assistant shell.	“Perform Advanced Tasks to Access Oracle System Assistant Shell” on page 51
Check the integrity of the Oracle System Assistant media.	“Perform Advanced Tasks to Check Media Integrity” on page 52

Related Information

- [“Accessing Oracle System Assistant” on page 15](#)
- [“Overview of Oracle System Assistant” on page 25](#)

▼ Configure the Server Using Oracle System Assistant

You can configure your new system easily using Oracle System Assistant:

- 1. Power on the system.**

See *Netra Blade X3-2B Service Manual*, “Powering On the Blade” on page 89.

- 2. Boot to Oracle System Assistant.**

See “Accessing Oracle System Assistant” on page 15.

- 3. Use Oracle System Assistant to configure the server.**

Use the procedures in the following topics for server initial setup and configuration:

- “View System Overview” on page 30
- “View System Inventory” on page 31
- “Configure Network Settings” on page 32
- “Get Platform Software Release Updates” on page 34
- “Update Firmware” on page 38
- “Configure Hardware for RAID” on page 40
- “Install an Operating System” on page 46
- “Set Preferences to Disable Oracle System Assistant” on page 49
- “Perform Advanced Tasks to Access Oracle System Assistant Shell” on page 51

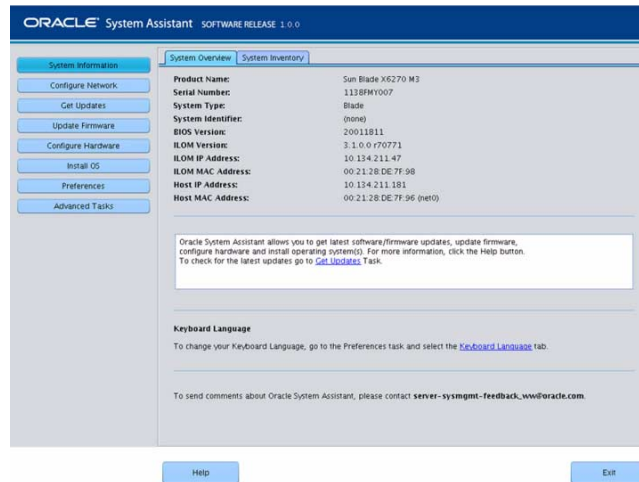
▼ View System Overview

To view system overview information using Oracle System Assistant:

- 1. Click the System Information task button.**

- 2. Click the System Overview tab, as required.**

The System Overview screen is displayed, with information about the system.



3. Review information about the system.
4. To display the ReadMe file (Release Notes) for the installed platform software release, click the Help button.

See “View Oracle System Assistant ReadMe Files” on page 27.

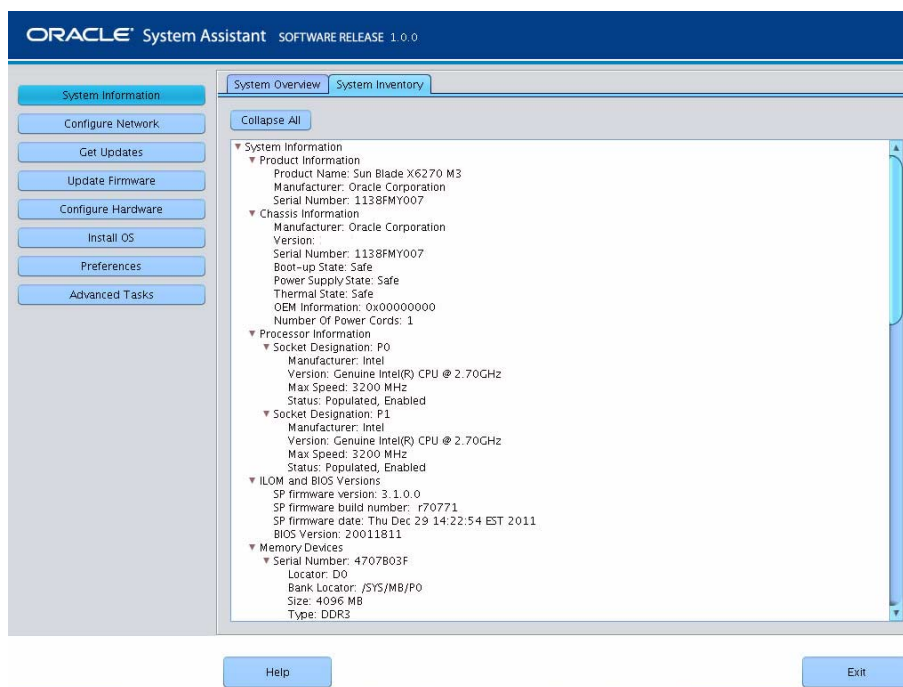
Related Information

- “Overview of Oracle System Assistant” on page 25

▼ View System Inventory

To view system inventory information using Oracle System Assistant:

1. Click the **System Information** task button.
The System Overview screen is displayed, with information about the system.
2. Click the **System Inventory** tab.
The System Inventory screen is displayed.



3. To view detailed information, click on one of the entries.

4. To view information for all entries, click Expand all.

5. To contract all system information, click Collapse all.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Configure Network Settings

The Configure Network task enables you to configure network settings for the server. To ensure that the server has the most up-to-date tools and drivers, configure network settings during initial server installation and setup.

Note – You must configure the network settings before you can use the Get Updates task in Oracle System Assistant.

To configure the network settings using Oracle System Assistant:

Obtain your system's network information, such as the name server for a static IP, as required.

1. Click the Configure Network task button.

The Configure Network screen is displayed.

2. Select the network device to configure.

The drop-down list identifies the devices that are visible to the server.

3. Configure the network address settings.

Select one of the following methods to determine the IP address of the server:

- **Disabled:** Do not allow network access for this device.
- **DHCP:** Automatically assign an IP address to the server using Dynamic Host Control Protocol (DHCP). When this option is selected, you can select the Auto DNS via DHCP option to automatically assign the name server IP address and search domain. If you do not select the Auto DNS via DHCP option, you must also provide the following information:
 - Name server IP address
 - (Optional) Search domain
- **Static:** Assign a fixed IP address to the server. You must provide the following information:
 - Server IP address
 - Netmask
 - Gateway
- **HTTP Proxy Configuration:** Select this option if you want to use a proxy server. You must provide the following information:

- Proxy host
- Proxy port

4. Click the Apply Network Settings button.

The system prompts for confirmation to apply the network settings and to disable all other interfaces.

5. In the confirmation dialog box, click Yes to proceed.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Get Platform Software Release Updates

Oracle System Assistant (OSA) enables you to download updates of platform software. The updated components include firmware, drivers, and tools. With OSA, you no longer need to download and unpack firmware and software packages from a download site or use a Tools and Drivers CD/DVD or ISO image.

Use this procedure to update OSA.

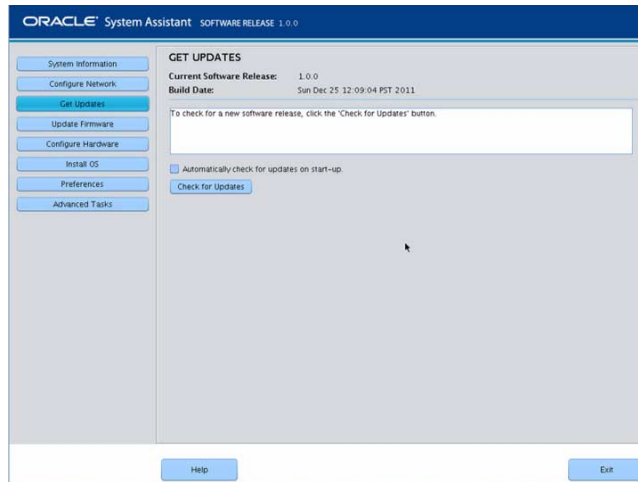
Ensure that:

- Server has external web access to enable downloading of platform software releases.
- Entitlement is configured. See [“Configure MOS to Enable Oracle System Assistant Updates” on page 36](#).

To update to a new Oracle System Assistant release:

1. Click Get Updates.

The Get Updates screen is displayed.



Note – To automatically check for updates each time the system is started, click the check box.

2. To check for a new software release, click the Check for Updates button.

If an update is available, the update's ReadMe file (Release Notes) is displayed.

3. To get the update, click the Download and Apply Updates button.

The Get Updates Sign-In screen is displayed.

4. Enter your MOS credentials (username and password).



Note – The server must have download entitlement with MOS. If the sign-in process halts because Oracle System Assistant cannot verify entitlement, you need to configure MOS to enable Oracle System Assistant updates. See [“Configure MOS to Enable Oracle System Assistant Updates”](#) on page 36.

After the update is downloaded, the system reboots.

Related Information

- [“Overview of Oracle System Assistant”](#) on page 25

▼ Configure MOS to Enable Oracle System Assistant Updates

Before allowing the server to download a platform software release update, Oracle System Assistant first verifies that the server has download entitlement with My Oracle Support (MOS). A server has entitlement when the server serial number has an association with a valid MOS Customer Support Identifier (CSI). If this association has not been made prior to attempting the Get Updates task, Oracle System Assistant will not be able to verify entitlement, and the update process halts at the Get Updates Sign-in screen, disallowing server access to MOS.

Use this procedure to associate the server with the CSI at MOS.

You must have one of the following:

- Customer Support Identifier (CSI), which is printed on the Oracle Premier Support for Systems purchase confirmation letter or available in the server warranty contract documents.
- Server serial number, which is available on the Oracle System Assistant in the System Overview tab.

1. Log in to MOS at:

<http://support.oracle.com>

2. Select the Settings tab from the More drop-down list.

3. In the left-side pane under Personal, click Accounts/Privileges.

4. Click the Request Access button in the Support Identifiers window.

The Request Access to a Support Identifier window is displayed.

5. Do one of the following:

- If you have the CSI, enter it in the Support Identifier field of the Request Access tab and click Request Access.



Approval might be required, but once access is granted, the Oracle System Assistant Get Updates capability is enabled for all servers associated with the CSI.

Note – If you cannot obtain the CSI access or are unable to download updates for the server using Oracle System Assistant, contact Oracle Support.

- If you have the server serial number but do not have the CSI, do the following:
 - a. Click the Find a Support Identifier tab.

Request Access to a Support Identifier

Request Access Find a Support Identifier

Find Support Identifier by Serial Number and Organization

* System Serial Number

* Organization

Support Identifier	Organization	Status	Serial Numbers

- b. Type the server serial number in the System Serial Number field.
- c. Type the organization name in the Organization field.
- d. Click Search.
- e. Highlight the CSI in the search results table and click Request Access.

Note – If you cannot obtain the CSI access or are unable to download updates for the server using Oracle System Assistant, contact Oracle Support.

▼ Update Firmware

The Update Firmware task allows you to update system firmware (BIOS and Oracle ILOM SP) and device firmware on the system.

The Update Firmware task determines whether an update is available by comparing the firmware versions in the most recent platform software release to the currently installed server system and device firmware. You can preview the changes, compare version numbers, manually select which components to update, or choose to update all firmware components. It is highly recommended that you choose to update all firmware components.

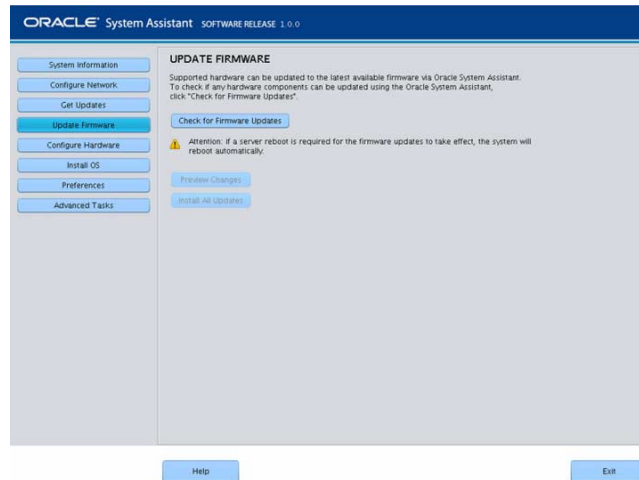
Some firmware components require a server reboot immediately following a firmware update. If required, the server might automatically reboot when the update process finishes.

To update firmware using Oracle System Assistant:

Use the Get Updates task to download the most recent platform software release from Oracle before you update firmware.

1. Click Update Firmware.

The Update Firmware screen is displayed.



2. To view the hardware components that can be updated using Oracle System Assistant, click the Check for Firmware Updates button.

The system performs the firmware update check and the Firmware Update Check progress box is displayed.

3. (Optional) Click the Preview Changes button.

The Firmware Update Install Changes dialog is displayed.

4. View a list of firmware components that need updates and compare current and available version numbers.

You can also review the Component Name, Device Name, Firmware/BIOS Installed, and Firmware/BIOS Available.

5. To proceed, select one of the following:

- To perform a selective firmware update: Select the firmware updates that you want to install, then click the Install Updates button.

Note – Components that are up to date cannot be updated and, therefore, are not selectable.

- To install all the firmware updates, click the Install All Updates button.

6. Wait while the system updates the firmware.

The update firmware progress bar is displayed.



Caution – If a server reboot is required for the firmware updates to take effect, the system reboots automatically.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Configure Hardware for RAID

The RAID Configuration task allows you to configure RAID-0 or RAID-1 for the server.

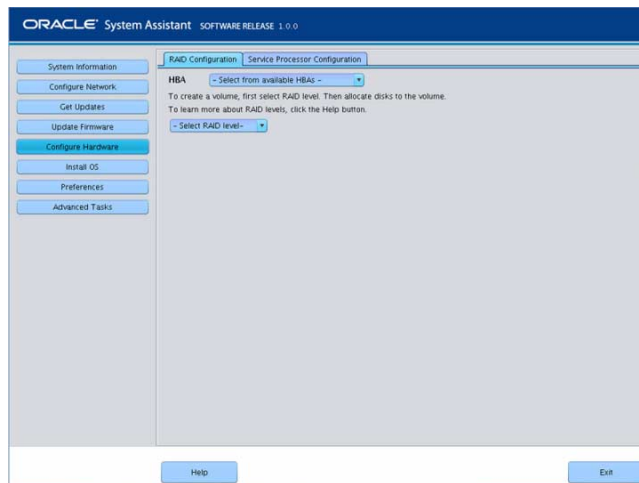
Note – Perform this task before installing an operating system.

When you configure RAID volumes, note that disks must be the same size, for example, 276 GB, and the same type, for example, SAS or SATA.

To configure RAID using Oracle System Assistant:

1. Click **Configure Hardware**, then click the **RAID Configuration** tab.

The RAID Configuration screen is displayed.



2. In the HBA list box, verify the host bus adapter (HBA) disk controller is correct.

For example, the server supports the SAS6-REM-Z Express Module or the SGX-SAS6-R-REM-Z Express Module (if you want to create a bootable volume). For more information about these HBAs, see [Netra Blade X3-2B Installation Guide](#), “Preparing the Storage Drives to Install an Operating System” on page 55.

3. In the Select RAID Level list box, select the RAID level, either RAID-0 or RAID-1.

Note – You can use Oracle System Assistant to set only these two RAID levels. To set other RAID levels, use the HBA BIOS Setup Utility.

The number of disks allowed in an array depends on the controller:

- The SGX-SAS6-R-REM-Z HBA requires one or more disks and uses WebBIOS for configuration.
- The SGS-SAS6-REM-Z HBA requires two or more disks and uses the Configuration Utility for configuration.

4. In the Available Disks table, select the storage drives that you want to add to the RAID configuration.

If a volume already exists on the disk, it is displayed in the Created Volumes section. If necessary, highlight and delete the existing volume.

Note – Disks must be the same size and type (SAS or SATA).

5. Click the Create Volume button.

The Creating RAID Volume information box is displayed.

6. Wait for the RAID volume to be created.

The Volume Details dialog box is displayed. Information about the highlighted volume is displayed.

7. In the Volume Details dialog box, type the volume name in the Volume Name box, then click the Save Changes button.

The RAID Configuration screen is displayed. This completes the RAID configuration.

8. Continue with the following steps if you want to delete a RAID volume or configure a bootable volume.

- If you want to delete a RAID volume, in the RAID Configuration screen, select the volume, then click the Delete Volume button.

This action deletes all data on the existing volume.

- If you want to create a bootable volume, in the RAID Configuration screen, select the RAID volume, then click the Set Volume for Boot button.

The RAID Configuration screen now indicates the bootable volume. The server then boots from this volume if selected to boot from the RAID controller.

Note – Your disk controller might not support this feature.

9. Click Save Settings.

Related Information

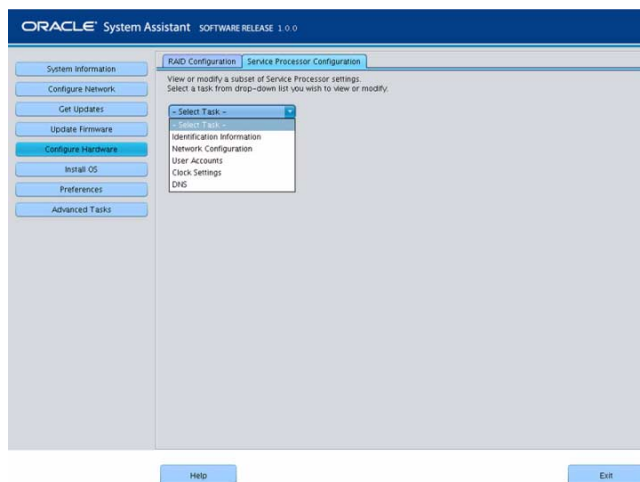
- “Overview of Oracle System Assistant” on page 25
- “Configuring RAID” on page 127

▼ Configure Hardware for Oracle ILOM SP

To view or modify a subset of Oracle ILOM service processor (SP) settings using Oracle System Assistant:

1. Click **Configure Hardware**, then click the **Service Processor Configuration** tab.

The Server Processor Configuration screen is displayed.



2. From the **Select Task** drop-down list, select a task:

- **Identification Information**— See Step 3.
- **Network Configuration**— See Step 4.
- **User Accounts**— See Step 5.
- **Clock Settings**— See Step 6.
- **DNS Settings**— See Step 7.

3. To view or modify identification information, complete the following information:

- a. **SP Hostname**

Type Oracle ILOM hostname.

The hostname must start with a letter and can contain up to 60 alphanumeric characters, hyphens, and underscores.

b. System Identifier

Type the name that identifies the system. Use any characters except quotation marks.

c. SP System Contact

Type the name of the person to contact. Use any characters except quotation marks.

d. SP System Location

Type the name of the physical location of the system. Use any characters except quotation marks.

ORACLE System Assistant SOFTWARE RELEASE 1.0.0

System Information
Configure Network
Get Updates
Update Firmware
Configure Hardware
Install OS
Preferences
Advanced Tasks

RAID Configuration Service Processor Configuration

View or modify a subset of Service Processor settings.
Select a task from drop-down list you wish to view or modify.

Identification Information ▾

Identification panel helps to view or modify identification settings for the Service Processor.
Click Save Settings for the modified values to be applied.

SP Hostname:
SP System Identifier:
SP System Contact:
SP System Location:

Save Settings

Help Exit

4. To view or modify network configuration information, complete the following information for IPv4, or complete the IPv6 settings as required:

a. IP Discovery Mode

Select whether the system uses Dynamic Host Control Protocol (DHCP) or a static IP assignment.

b. IP Address

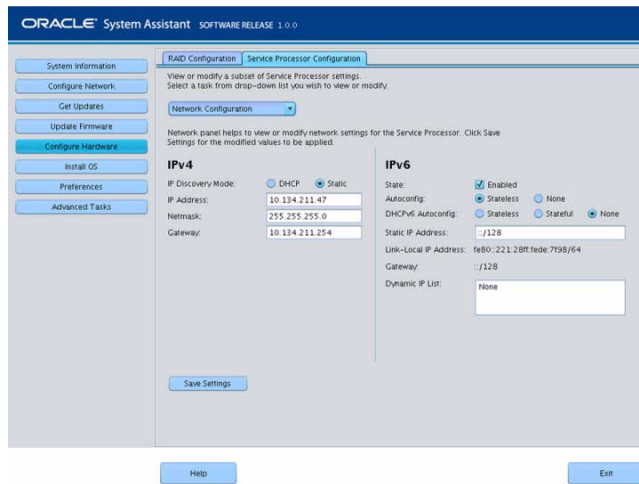
If you selected a static IP assignment, provide the IP address of the SP.

c. Netmask

If you selected a static assignment, provide the netmask for the SP.

d. Gateway

If you selected a static assignment, provide the gateway address of the SP.



5. To view or modify user accounts, complete the following information:

a. Add User

Click to add a new user account. Type a unique user name, select the role (Basic or Advanced) from the drop-down list, set privileges, and type the password.

Note – If you want to choose specific privileges (not pre-set) for the user, choose Advanced.

b. Modify user

Highlight a user account in the list, and click Modify User to review or change the user account settings.

c. Delete User

Highlight a user account in the list, and click Delete User to delete a user account.

6. To view or modify clock settings, complete the following information:

a. Date

Use the drop-down list to select the month, day, and year.

b. Time

Use the drop-down list to set the time using 24-hour format.

c. Timezone

Use the drop-down list to select the time zone.

d. Synchronize Time Using NTP

Click the check box to enable synchronization with a Network Time Protocol (NTP) server.

e. Server 1, Server 2

Enter the information for the NTP servers.

ORACLE System Assistant SOFTWARE RELEASE 1.0.0

RAID Configuration Service Processor Configuration

View or modify a subset of Service Processor settings.
Select a task from drop-down list you wish to view or modify.

Clock Settings

Click Settings panel helps to view or modify Service Processor clock. To set the Service Processor clock manually, select month, day, year, hour and minute from drop-down lists. To synchronize the Service Processor clock with an NTP server, select the Enable check box, then type the addresses of the NTP servers to use. To modify the timezone, select a timezone from the drop-down list. Click Save Settings for the modified values to be applied.

Current Date and Time: Fri Jan 6 21:14:41 2012 GMT

Date: Jan 06 2012

Time: 21 14

Timezone: GMT

Synchronize Time Using NTP: ☒ Enabled

Server 1: 0.0.0.0

Server 2: 0.0.0.0

Save Settings

Help Exit

7. To view or modify DNS Settings, complete the following information:

a. Auto DNS via DHCP

Check enabled or disabled.

b. DNS Name Server

Edit this only if Auto DNS is disabled.

Enter up to three comma separated name server IP addresses in preferred order.
For example 1.2.3.4,5.6.7.8.

c. DNS Search Path

Edit this only if Auto DNS is disabled.

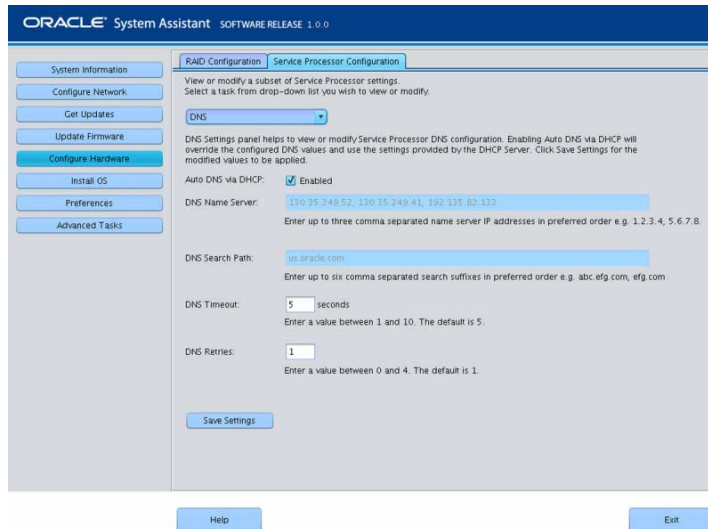
Enter up to six comma separated search suffixes in preferred order. For example abc.efg.com, efg.com.

d. DNS Timeout

Type a value between 1 and 10. The default is 5.

e. DNS Retries

Type a value between 0 and 4. The default is 1.



8. Click **Save Settings**.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)
- [Oracle ILOM Documentation Library](#)
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

▼ Install an Operating System

Note – Oracle System Assistant OS installation task is available only for supported versions of **Windows** and **Linux** operating systems and **Oracle VM** software.

You must supply the Operating System (OS) media and license.

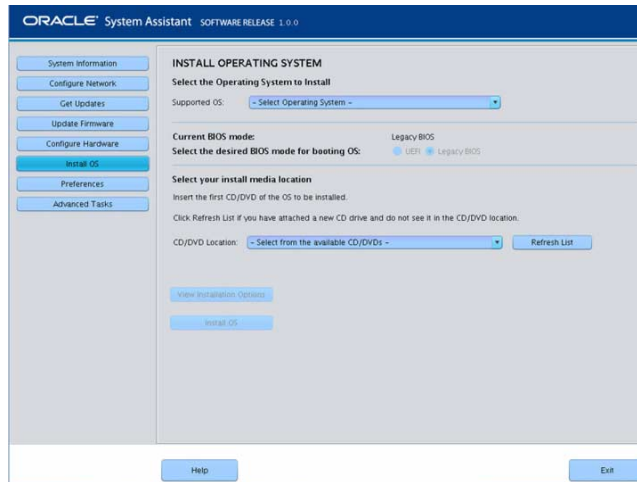
Perform the following tasks before you begin this procedure:

- Get the latest tools and drivers. See [“Get Platform Software Release Updates” on page 34](#).
- Update firmware. See [“Update Firmware” on page 38](#).
- Configure RAID. See [“Configure Hardware for RAID” on page 40](#).

To install a supported operating system on the blade using Oracle System Assistant:

1. Click the **Install OS** task button.

The Install Operating System screen is displayed.



2. **From the Supported OS drop-down list, select the operating system to install.**
The list contains only the supported operating systems that can use the Install OS task.
3. **In the Select the desired BIOS mode for booting OS portion of the screen, select the BIOS mode (UEFI or Legacy BIOS) that you want to use for the OS installation.**
The choice of BIOS modes is available only if the target OS supports booting in UEFI mode.
See [“Selecting Legacy and UEFI BIOS” on page 139](#).
4. **In the Select your install media location portion of the screen, indicate the location of the installation media.**
This is the location of the OS distribution media. Options are CD/DVD devices. Click the Refresh button to update the list of devices.

Tip – If you are installing the OS remotely using KVM, choose the KVM menu option Devices and click CD-ROM to get the remote CD-ROM to appear. Then on the Oracle System Assistant screen, click Refresh and select the CD/DVD location.

5. **In the Select the boot disk portion of the screen, select the boot device from the Boot disk drop-down list.**
This is the device on which you install the Operating System.
If you select a Linux distribution, the Select the boot disk portion of the screen is displayed. If you select a Windows distribution, the Select the boot disk portion of the screen does not appear.



Caution – Loss of data. The operating system installation erases the contents of the disk. All data on the selected disk is erased.

6. To confirm your selection of the boot device, click Yes.

7. Click View Installation Options.

The Operating System Installation Details dialog is displayed. The OS and Driver software components are listed. Deselect any components you do not want to install. For *most* operating systems, all components listed are required.



8. Click Close to exit the dialog.

The Install Operating System screen is displayed.

9. Click the Install OS button.

10. Follow the process and respond to the prompts until the process finishes.

After the installation is complete, the server boots.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)
- [“Configuring the UEFI BIOS Boot Mode” on page 139](#)

- [Netra Blade X3-2B Installation Guide, “Preparing the Storage Drives to Install an Operating System” on page 55](#)
- [Netra Blade X3-2B Installation Guide for Oracle VM Operating System](#)
- [Netra Blade X3-2B Installation Guide for ESX Software](#)
- [Netra Blade X3-2B Installation Guide for Linux Operating Systems](#)
- [Netra Blade X3-2B Installation Guide for Windows Operating Systems](#)

▼ Set Preferences to Disable Oracle System Assistant

If you are already booted into Oracle System Assistant, you can use the Disable Oracle System Assistant task to put the Oracle System Assistant USB device in an offline state, so that it is unavailable to the server operating system (OS). This protects the device from accidental erasure and overwrite. When the device is offline, it is not bootable, and the tools, drivers, and files that reside on the Oracle System Assistant device are inaccessible.

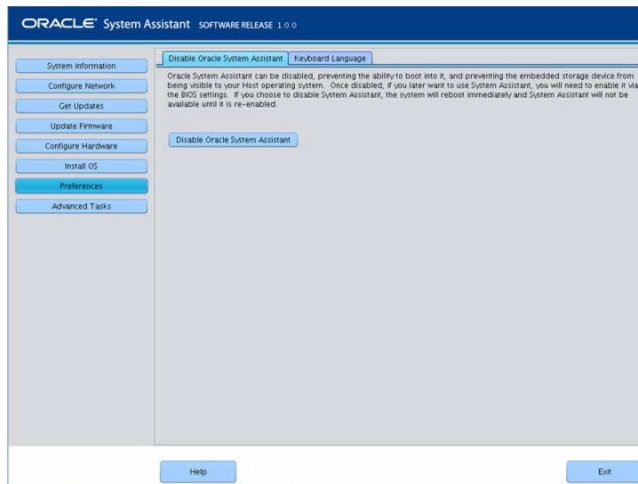
Note – To re-enable Oracle System Assistant, perform [“Enable Oracle System Assistant From BIOS” on page 60](#).

To put the device in an online state (available to the OS), use the Configure OSA setting in the server BIOS Setup Utility Boot menu.

To disable Oracle System Assistant when the system is booted into Oracle System Assistant:

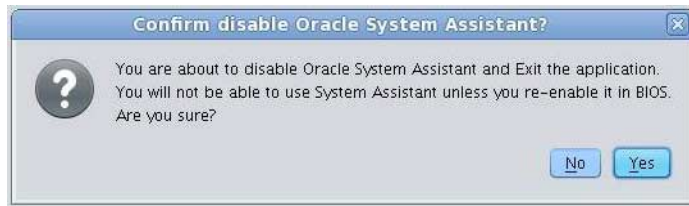
1. **Click Preferences, then click the Disable Oracle System Assistant tab.**

The Disable Oracle System Assistant screen is displayed.



2. Click **Disable Oracle System Assistant**.

3. Click **Yes** to confirm.



Note – The system reboots.

Related Information

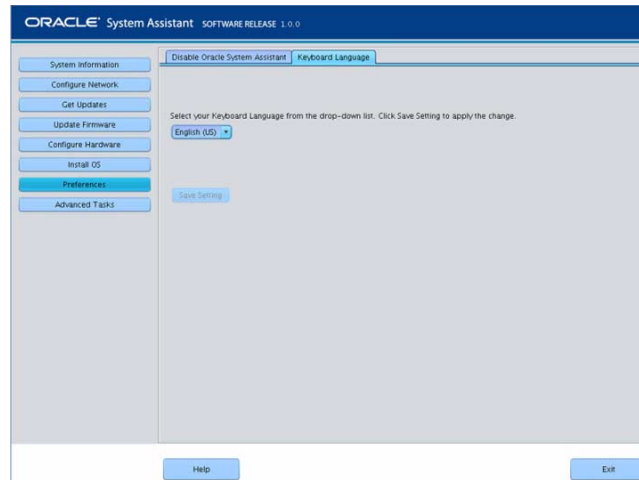
- [“Overview of Oracle System Assistant” on page 25](#)
- [“Configuring the UEFI BIOS Boot Mode” on page 139](#)
- [“Enable Oracle System Assistant From BIOS” on page 60](#)

▼ Set Preferences for Keyboard Language

The Keyboard Language task enables you to select the keyboard language for Oracle System Assistant.

To set the keyboard language using Oracle System Assistant:

1. Click **Preferences**, then click the **Keyboard Language** tab.
The Keyboard Language screen is displayed.



2. From the drop-down list, select the keyboard language.
Options include: English (US), French, German, Italian, Spanish, and Swedish.
3. Click **Save Settings**.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Perform Advanced Tasks to Access Oracle System Assistant Shell

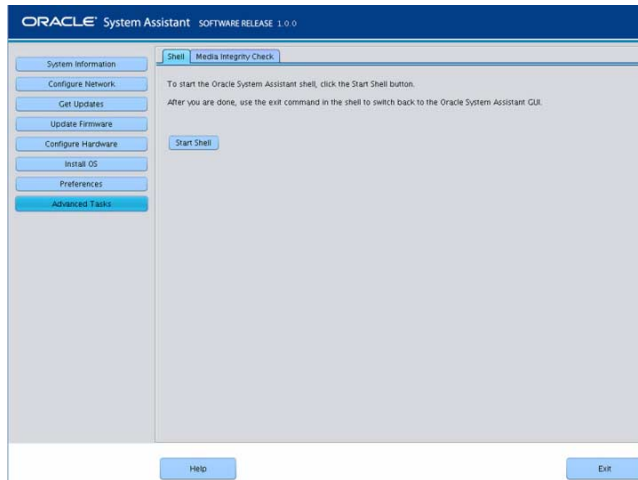
This task provides Linux root-level access to the Oracle System Assistant file system. Use the command-line shell to access tools and files that reside on the internal Oracle System Assistant USB device.



Caution – Possible loss of data or loss of Oracle System Assistant functionality. Typically, only advanced users or system administrators are allowed to access and use the Linux shell.

To access the command-line shell using Oracle System Assistant:

1. Click **Advanced Tasks**, then click the **Shell** tab.
The Shell screen is displayed.



2. Click the Start Shell button.

The Oracle System Assistant command-line shell window is displayed.

```
Oracle System Assistant
Enterprise Linux Command Line Environment
You are now in the shell with full root-level access!
**Caution**: Potential for loss of data or loss of server system functionality. Root-level
```

3. To leave the shell and return to Oracle System Assistant user interface, type `exit` at the shell command-line prompt.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

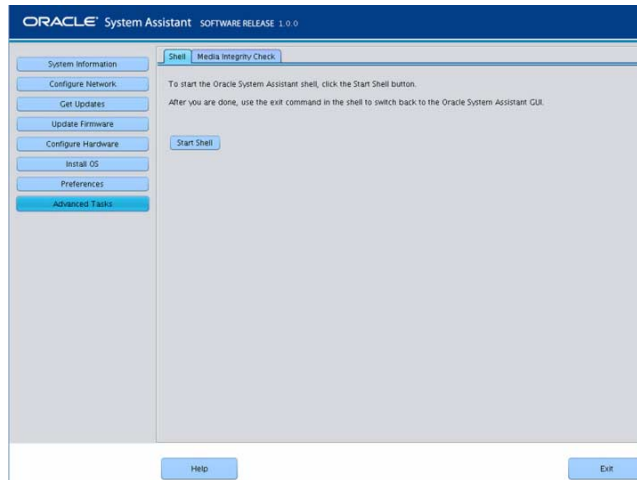
▼ Perform Advanced Tasks to Check Media Integrity

The Media Integrity Check task verifies the integrity of the internal Oracle System Assistant media files and displays a report. Perform this task when the USB device produces errors or when requested by Oracle Service personnel.

If your version of Oracle System Assistant is damaged, download the recovery ISO image file for your server from the My Oracle Support site. For more information, see [“Restore Oracle System Assistant Software” on page 56](#).

To verify that the USB media for Oracle System Assistant is working properly:

1. Click **Advanced Tasks**, then click the **Media Integrity Check** tab.
The Media Integrity Check screen is displayed.



2. Click the **Check Integrity** button.

The system tests the internal Oracle System Assistant USB device and generates a report. The test provides an estimated run time. You can cancel the test at any time.



Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

Oracle System Assistant Administrative Tasks

This section describes how to manage, troubleshoot, and restore the Oracle System Assistant software.

The following topics are covered.

Description	Links
Check Oracle System Assistant installation.	“Troubleshooting Oracle System Assistant” on page 54
Determine whether Oracle System Assistant is installed in your server and is working properly.	“Verify That Oracle System Assistant Is Installed” on page 55
Restore Oracle System Assistant.	“Restore Oracle System Assistant Software” on page 56
Enable or disable Oracle System Assistant.	“Enable Oracle System Assistant From BIOS” on page 60
Navigate the Oracle System Assistant file system.	“Access the Oracle System Assistant File System” on page 62
Mount the Oracle System Assistant USB Flash drive on Oracle VM 3.0, Oracle Solaris 10, or Linux operating systems.	“Mounting the Oracle System Assistant USB Flash Drive” on page 62
Access the firmware and software that resides on the Oracle System Assistant USB flash drive.	“Access the Firmware and Software on the Oracle System Assistant USB Flash Drive” on page 66

Troubleshooting Oracle System Assistant

By default, Oracle System Assistant is installed with each supported server. It is not necessary to download the Oracle System Assistant software because it is preinstalled on the server. However, a recovery image is available for download if it is needed.

Note – Oracle System Assistant is not available as a download for initial installation; however, you can recover the Oracle System Assistant image if it was installed on your server.

- If the version of Oracle System Assistant on your server is corrupted, erased, or overwritten, you will need to download the recovery ISO image file from the My Oracle Support web site, then restore Oracle System Assistant onto the internal USB device. For more information, see [“Restore Oracle System Assistant Software” on page 56](#).

- If you opt out of having Oracle System Assistant as part of your server configuration, select one of the following methods to get the latest updates for your server: Access the My Oracle Support web site at <http://support.oracle.com>. Or, you can submit a request for physical media. See *Netra Blade X3-2B Product Notes*.

▼ Verify That Oracle System Assistant Is Installed

If you cannot see the Oracle System Assistant task screen after you have tried to access it, perform the “[Verify That Oracle System Assistant Is Installed](#)” on page 55 procedure. Use this procedure to determine whether Oracle System Assistant is installed in your server and is working properly.

Your Netra Blade X3-2B supports Oracle System Assistant as a default option, and is preinstalled in the server. If Oracle System Assistant is physically installed in your server, but it is not visible from the file system, it could be offline, corrupted, or overwritten.

To check the Oracle System Assistant installation:

1. Verify Oracle System Assistant installation using Oracle ILOM.

In Oracle ILOM web interface, go to the System Summary page to check whether Oracle System Assistant is installed in the server. See “[Access Oracle ILOM \(Web\)](#)” on page 21.

2. Verify Oracle System Assistant installation from the operating system.

Open a file system browser or command-line terminal, navigate to the computer or devices directory, and check whether the Oracle System Assistant USB device is present.

The Oracle System Assistant USB device is labeled: ORACLE_SSM. Double-click the device to ensure that it is accessible.

- If the device is present and accessible, launch the application. See “[Accessing Oracle System Assistant](#)” on page 15.
- If the device is not present to the OS, perform a physical check of the server. See *Netra Blade X3-2B Service Manual*, “[Servicing USB Flash Drives](#)” on page 60.
- If the device is present but not accessible, it might contain corrupt data. See “[Restore Oracle System Assistant Software](#)” on page 56.

3. Verify whether Oracle System Assistant is displayed in the BIOS Boot Priority list.

Access the server BIOS Setup Utility and navigate to the Boot menu. For information about accessing your server BIOS Setup Utility, see “[Setting Up the Blade With BIOS Setup Utility](#)” on page 131.

- The Oracle System Assistant device label is Oracle_SSM.

- If the correctly labeled device is displayed on the boot list, then your server has Oracle System Assistant. For information about how to launch the Oracle System Assistant application, see [“Accessing Oracle System Assistant” on page 15](#).
- If the device is physically present in the server, but does not appear in the boot list, then Oracle System Assistant might be disabled and offline. Use the next step to check whether Oracle System Assistant is disabled and offline.

4. Check whether Oracle System Assistant is disabled and offline.

See [“Enable Oracle System Assistant From BIOS” on page 60](#).

If Oracle System Assistant is disabled and offline, enable it to make it visible and bootable.

5. Perform a physical check of the server.

Oracle System Assistant is installed on a USB device inside the server. For the location of the internal USB ports for your server, see [Netra Blade X3-2B Service Manual, “Servicing USB Flash Drives” on page 60](#).

- If the device is present, try to launch the application. See [“Accessing Oracle System Assistant” on page 15](#).
- If the device is present, but cannot be seen from the operating system, it might be disabled and offline. See [“Enable Oracle System Assistant From BIOS” on page 60](#).
- If the application does not launch, it might contain corrupt data. See [“Restore Oracle System Assistant Software” on page 56](#).

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Restore Oracle System Assistant Software

If Oracle System Assistant has been erased or corrupted, you can download the image file that is available from the My Oracle Support site to restore it to the USB device. Restore Oracle System Assistant software after replacing a USB drive, or as required.

1. Download the appropriate image file from the My Oracle Support web site.

Download the image that is specific to your server. The package name for the update image for the server is: `X6270 M3 SW version -- Oracle System Assistant`

For example, for the Netra Blade X3-2B, you could download the update image: `Sun_Blade_X6270_M3-1.0.0.75555-ORACLE_SYSTEM_ASSISTANT_UPDATER_4G.iso`. This file name is an example, and you need to download the correct file.

For information about accessing My Oracle Support and downloading this image, see *Netra Blade X3-2B Product Notes*.

2. Make the update image available to the blade. Do one of the following:

- Use the image file to burn a physical DVD image.
Install the DVD in a DVD drive attached to the server.

Note – You can also make the DVD available to the server as a redirected DVD by using Oracle ILOM Remote Console application.

- Make the update image file available to the server as an ISO image using Oracle ILOM Remote Console application.

3. Reset or power on the server.

Choose one of the following methods:

- From the local server, press the Power button (approximately 1 second) on the server front panel to power off the server, then press the Power button again to power on the server.
- From Oracle ILOM web interface, click Host Management > Power Control, and select Reset from the Select Action list box.
- From Oracle ILOM CLI on the server SP, type `reset /System`.

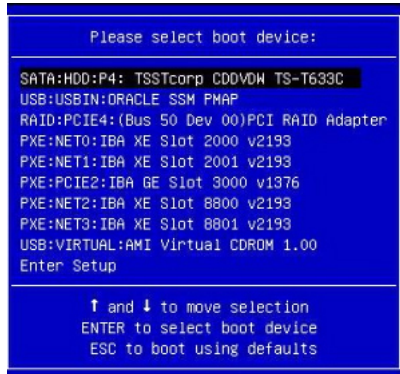
The BIOS screen is displayed.



Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. Please watch carefully for these messages as they appear only briefly on the screen.

4. In the BIOS screen, press F8 to specify a temporary boot device for the Oracle System Assistant installation.

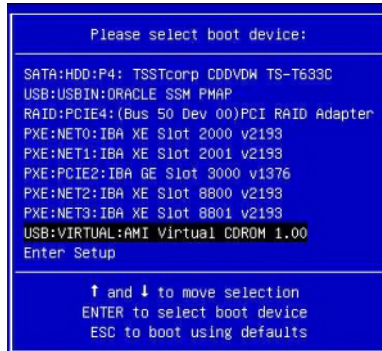
The Please Select Boot Device screen is displayed.



5. Depending on the method you used to make the recovery image available to the server, perform one of the following steps:

Note – The items listed in the Please Select Boot Device menu might differ, depending on whether the system was booted in Legacy BIOS or UEFI Boot mode.

- If you chose to burn a recovery DVD and have placed the DVD into an attached DVD drive, select `SATA:HDD:P4:TSSTcorp CDDVDW TS-T633C` as shown in the Please Select Boot Device menu, then press Enter
- If you chose to use Oracle ILOM Remote Console application to make the recovery image available to the server as a redirected DVD or as an ISO image, select `USB:VIRTUAL:AMI Virtual CDROM 1.00` as shown in the Please Select Boot Device menu, then press Enter.



A message is displayed, and a prompt asks whether you want to continue the recovery process.

6. To recover the Oracle System Assistant image, type *yes*, then press Enter.

The following message is displayed, indicates the progress of the recovery process, and, when it completes, asks whether the recovered Oracle System Assistant USB flash drive must be verified to ensure that it was programmed correctly.

```
This program will restore your Oracle System Assistant embedded
storage device to the version contained on the recovery media.
It will overwrite any existing content on the embedded storage
device.

Would you like to proceed? [yes or no]
```

7. To perform an integrity check of the USB device, type *yes*, then press Enter.

```
The embedded storage device is being recovered.
Please do not reboot or power off the server
during this process

[=====>] 100%

Recovery is complete, you may optionally perform an integrity verification
of the device to insure that it was correctly programmed.

Would you like to verify the device? [yes or no]
```

The following screen is displayed and indicates that the Oracle System Assistant USB device was verified successfully. The system then reboots and launches the Oracle System Assistant application.

```

The embedded storage device is being recovered.
Please do not reboot or power off the server
during this process

[=====>] 100%

Recovery is complete, you may optionally perform an integrity verification
of the device to insure that it was correctly programmed.

Would you like to verify the device? [yes or no] yes

Verifying...
[=====>] 100%

Verification Succeeded.

Rebooting to start Oracle System Assistant...
Connected. Use ^D to exit.
-> set /HOST/provisioning/system-assistant _setboot=system-assistant

```

- If you do not want to perform an integrity verification of the USB device, type no, then press Enter.

The confirmation screen is displayed and indicates that the recovery is complete. The system then reboots and launches the Oracle System Assistant application.

```

The embedded storage device is being recovered.
Please do not reboot or power off the server
during this process

[=====>] 100%

Recovery is complete, you may optionally perform an integrity verification
of the device to insure that it was correctly programmed.

Would you like to verify the device? [yes or no] no

Rebooting to start Oracle System Assistant...
Connected. Use ^D to exit.

```

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)
- *Netra Blade X3-2B Product Notes*

▼ Enable Oracle System Assistant From BIOS

To enable the Oracle System Assistant USB device in an online state (available to the OS), use the Configure OSA setting in the server BIOS Setup Utility Boot menu.

You can also disable the USB device in an offline state so it is unavailable to the server OS. This protects the device from accidental erasure and overwrite. When the device is offline, it is not bootable, and the tools, drivers, and files that reside on the Oracle System Assistant device are inaccessible. This can also be done from the Oracle System Assistant menu screens.

To enable (or disable) the Oracle System Assistant USB device:

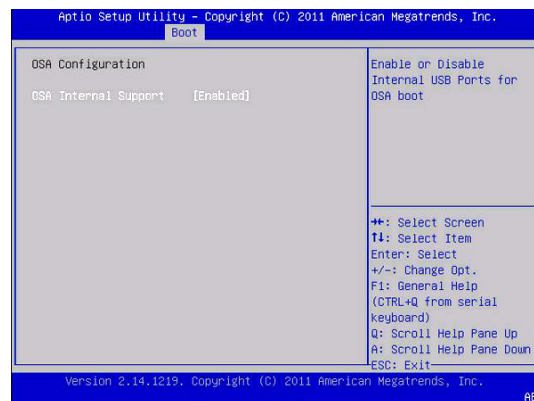
1. **Access the server BIOS Setup Utility.**

See “Access BIOS Setup Utility Menus” on page 131.

2. **Navigate to the Boot screen.**



3. **Navigate to the OSA Configuration screen.**



4. **Select Enabled (or Disabled) for the OSA Internal Support setting, then press Enter.**

5. To save and exit the BIOS utility, press F10.

The server boots.

Related Information

- [“Setting Up the Blade With BIOS Setup Utility” on page 131](#)

▼ Access the Oracle System Assistant File System

1. Click **Advanced Tasks** then click the **Shell** tab.
2. Click **Start Shell**.

The CLI prompt is displayed.

3. To access the file system root directory, type:

```
cd \sysroot
```

4. To exit the shell, type **exit**.

Related Information

- [“Perform Advanced Tasks to Access Oracle System Assistant Shell” on page 51](#)

Mounting the Oracle System Assistant USB Flash Drive

Before you can access the Oracle System Assistant USB Flash drive on the Oracle VM 3.0 or the Oracle Solaris 10 and Linux operating systems, you must first mount the USB flash drive.

Choose one of the following procedures to mount the Oracle System Assistant USB Flash drive:

- [“Mount the Oracle System Assistant USB Flash Drive on Oracle VM 3.0” on page 63](#)
- [“Mount the Oracle System Assistant USB Flash Drive on a Linux Operating System” on page 64](#)
- [“Mount the Oracle System Assistant USB Flash Drive on an Oracle Solaris 10 Operating System” on page 65](#)

Note – Currently you cannot directly mount the Oracle System Assistant USB flash drive if the system is using the VMware ESXi 5.0 virtual machine software. Go to My Oracle Support to retrieve the required drivers for the VMware ESXi software.

Related Information

- [“Access the Firmware and Software on the Oracle System Assistant USB Flash Drive” on page 66](#)
- [“Accessing System Management Tools” on page 15](#)

▼ Mount the Oracle System Assistant USB Flash Drive on Oracle VM 3.0

1. **Connect to your Oracle VM 3.0 server as the root user.**
2. **To determine the device mapping of the Oracle System Assistant USB flash drive, type the `lsscsi` command.**

An example of how this command displays the storage devices on the server is shown below.

```
# lsscsi
[0:0:0:0] disk      SEAGATE ST360057SSUN600G 0805 /dev/sda
[0:0:1:0] disk      SEAGATE ST32000SSSUN2.0T 0313 /dev/sdb
[0:0:2:0] disk      SEAGATE ST32000SSSUN2.0T 0313 /dev/sdc
[0:0:3:0] disk      ATA INTEL HDDSA2BZ30      0362 /dev/sdd
[0:0:4:0] enclosu ORACLE BLADE14          0903 -
[7:0:0:0] disk      SUN StorEdge 3511      421F /dev/sde
[7:0:0:1] disk      SUN StorEdge 3511      421F /dev/sdf
[7:0:0:2] disk      SUN StorEdge 3511      421F /dev/sdg
[7:0:0:3] disk      SUN StorEdge 3511      421F /dev/sdh
[9:0:0:0] disk      SUN CSM200_R          0660 /dev/sdi
[9:0:0:1] disk      SUN CSM200_R          0660 /dev/sdj
[9:0:0:2] disk      SUN CSM200_R          0660 /dev/sdk
[9:0:0:3] disk      SUN CSM200_R          0660 /dev/sdl
[9:0:0:4] disk      SUN CSM200_R          0660 /dev/sdm
[9:0:0:5] disk      SUN CSM200_R          0660 /dev/sdn
[11:0:0:0] disk      ORACLE SSM            PMAP /dev/sdo
```

The Oracle System Assistant USB flash drive is the disk labelled ORACLE SSM and in this example is mapped to `/dev/sdo`.

- 3. To determine the name of the partition on the Oracle System Assistant USB device, type the `fdisk -l /dev/sdo` command.**

An example of the output produced by this command is shown below.

```
# fdisk -l /dev/sdo
Disk /dev/sdo: 3880 MB, 3880452096 bytes
4 heads, 32 sectors/track, 59211 cylinders
Units = cylinders of 128 * 512 = 65536 bytes
Device Boot Start End Blocks Id System
/dev/sdo1 * 17 57344 3668992 ef EFI (FAT-12/16/32)
```

- 4. (Optional) Create a mount point to use when mounting the Oracle System Assistant USB flash drive.**

For example:

```
# mkdir /mnt/OSA
```

- 5. To mount the Oracle System Assistant USB device, use the partition name determined in Step 3 and an existing mount point or the mount point that you created in Step 4.**

Here is an example of a mount command:

```
# mount -t vfat -o codepage=850 /dev/sdo1 /mnt/OSA
# ls /mnt/OSA
boot          Firmware      LiveOS        OracleVM      syslinux.cfg
Documentation ldlinux.sys  manifest.xml  readme.html  Versions.txt
EFI           Linux         Oracle        Solaris       Windows
#
```

The Oracle System Assistant USB flash drive is now mounted at the mount location specified.

▼ Mount the Oracle System Assistant USB Flash Drive on a Linux Operating System

If the server is running a Linux operating system, you must mount the Oracle System Assistant USB flash drive before you use the filesystem to display or access its contents.

This procedure shows how to mount the Oracle System Assistant USB flash drive on a Linux operating system.

- To mount the Oracle System Assistant USB flash drive, type the commands shown below:

```
#>mkdir /mnt/OSA
#>mount LABEL=ORACLE_SSM /mnt/OSA
#>cd /mnt/OSA
#>ls -l
total 916
drwxr-xr-x 2 root root 4096 Nov 21 07:42 boot
drwxr-xr-x 3 root root 4096 Nov 21 07:42 Documentation
drwxr-xr-x 3 root root 4096 Oct 26 21:05 EFI
drwxr-xr-x 16 root root 4096 Nov 21 07:42 Firmware
-r-xr-xr-x 1 root root 15218 Oct 26 19:10 ldlinux.sys
drwxr-xr-x 5 root root 4096 Nov 21 07:41 Linux
drwxr-xr-x 2 root root 4096 Oct 26 21:05 LiveOS
-rwxr-xr-x 1 root root 787672 Nov 21 08:17 manifest.xml
drwxr-xr-x 2 root root 4096 Nov 21 08:00 Oracle
-rwxr-xr-x 1 root root 78879 Nov 21 07:42 readme.html
drwxr-xr-x 4 root root 4096 Nov 21 07:41 Solaris
-rwxr-xr-x 1 root root 263 Oct 26 21:05 syslinux.cfg
-rwxr-xr-x 1 root root 3755 Nov 21 07:42 Versions.txt
drwxr-xr-x 3 root root 4096 Nov 21 07:42 VMware
drwxr-xr-x 4 root root 4096 Nov 21 07:42 Windows
#>
```

The Oracle System Assistant USB flash drive is now mounted at the location specified.

▼ Mount the Oracle System Assistant USB Flash Drive on an Oracle Solaris 10 Operating System

If the server is running the Oracle Solaris 10, you must mount the Oracle System Assistant USB flash drive before you use the filesystem to display or access its contents.

To mount the Oracle System Assistant USB flash drive on an Oracle Solaris 10 Operating System:

1. To turn off the volfs service, type:

```
# svcadm disable volfs
```

2. To identify the USB flash drive, type:

```
# rmformat -l
```

The system displays a list of devices:

```
Looking for devices...
1. Logical Node: /dev/rdsk/clt0d0p0
   Physical Node:
   /pci@0,0/pci108e,484e@1a/hub@1/storage@2/disk@0,0
   Connected Device: ORACLE      SSM      PMAP
   Device Type: Removable
#
```

3. To manually mount the USB flash drive, read-only, type:

```
# mount -F pcfs -o ro /dev/dsk/clt0d0p1 /mnt
```

4. To retrieve the Oracle Solaris 10 content, type:

```
# cd /mnt/Solaris
```

```
# ls
```

The system displays:

```
10U10 11
#
```

5. To unmount the OSA device, type:

```
# cd /
```

```
# umount /mnt
```

6. To restart volfs, type:

```
# svcadm enable volfs
```

The Oracle System Assistant USB flash drive is now mounted.

▼ Access the Firmware and Software on the Oracle System Assistant USB Flash Drive

The Oracle System Assistant USB flash drive contains firmware and software for your server. The USB flash drive is accessible through the operating system or virtual machine software filesystem. Updated firmware and software are downloaded with every software release update using the Get Updates task within Oracle System Assistant.

This procedure describes how to access and view the firmware and software that resides on the Oracle System Assistant USB flash drive.

1. Ensure that the server is powered on and the operating system is running.

2. Mount the Oracle System Assistant USB flash drive.

For OS specific mounting instructions, see:

- Oracle VM: [“Mount the Oracle System Assistant USB Flash Drive on Oracle VM 3.0” on page 63](#)
- Linux operating systems: [“Mount the Oracle System Assistant USB Flash Drive on a Linux Operating System” on page 64](#)
- Oracle Solaris 10: [“Mount the Oracle System Assistant USB Flash Drive on an Oracle Solaris 10 Operating System” on page 65](#)

3. Use a filesystem browser to navigate to the internal Oracle System Assistant USB flash drive.

The label for the USB flash drive is: ORACLE_SSM on Oracle VM operating system, and ORACLE_SSM on the Oracle Solaris 10 operating system and Linux operating systems.

Note – If the Oracle System Assistant USB flash drive is mounted but is still is not visible, Oracle System Assistant might be disabled. To enable Oracle System Assistant, from the BIOS Setup Utility, access the Boot > OSA Configuration screen and change the setting to Enabled. For instructions for enabling Oracle System Assistant, see [“Enable Oracle System Assistant From BIOS” on page 60](#).

4. To view the contents of the Oracle_SSM drive, double-click on the drive.

The Oracle System Assistant USB flash drive directory is displayed and lists the contents of the drive.

Managing a Server Using Oracle System Assistant

This section describes how to manage your server using Oracle System Assistant. The following tasks are covered.

Task	Link
View system overview information.	“View System Overview” on page 70
View system inventory information.	“View System Inventory” on page 71
Configure network settings for the server used to get updates for Oracle System Assistant.	“Configure Network Settings” on page 72
Update to the latest software release, including firmware, drivers, software, and documentation.	“Get Updates for a New Platform Software Release” on page 74
Update supported hardware to the latest firmware version.	“Update Firmware” on page 75
Configure RAID for the server.	“Configure Hardware for RAID” on page 77
Configure settings for the server SP.	“Configure Hardware for Oracle ILOM SP” on page 79
Install Linux or Windows operating systems, or Oracle VM software on the server.	“Install an Operating System” on page 84
Disable Oracle System Assistant.	“Set Preferences to Disable Oracle System Assistant” on page 87
Set the keyboard language for Oracle System Assistant.	“Set Preferences for Keyboard Language” on page 88
Access the Oracle System Assistant shell.	“Perform Advanced Tasks to Access Oracle System Assistant Shell” on page 89
Check the integrity of the Oracle System Assistant media.	“Perform Advanced Tasks to Check Media Integrity” on page 91

Related Information

- [“Accessing Oracle System Assistant” on page 15](#)
- [“Overview of Oracle System Assistant” on page 25](#)

▼ Configure the Server Using Oracle System Assistant

You can configure your new system easily using Oracle System Assistant:

1. Power on the system.

See *Netra Blade X3-2B Service Manual*, “Powering On the Blade” on page 89.

2. Boot to Oracle System Assistant.

See [“Accessing Oracle System Assistant” on page 15](#).

3. Use Oracle System Assistant to configure the server.

Use the procedures in the following topics for server initial setup and configuration:

- [“View System Overview” on page 70](#)
- [“View System Inventory” on page 71](#)
- [“Configure Network Settings” on page 72](#)
- [“Get Updates for a New Platform Software Release” on page 74](#)
- [“Update Firmware” on page 75](#)
- [“Configure Hardware for RAID” on page 77](#)
- [“Install an Operating System” on page 84](#)
- [“Set Preferences to Disable Oracle System Assistant” on page 87](#)
- [“Perform Advanced Tasks to Access Oracle System Assistant Shell” on page 89](#)

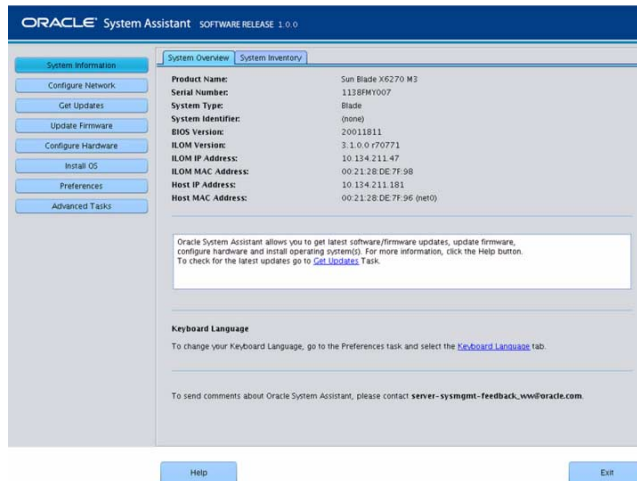
▼ View System Overview

To view system overview information using Oracle System Assistant:

1. Click the System Information task button.

2. Click the **System Overview** tab, as required.

The System Overview screen is displayed, with information about the system.



3. Review information about the system.

4. To display the ReadMe file (Release Notes) for the installed platform software release, click the **Help** button.

See “View Oracle System Assistant ReadMe Files” on page 27.

Related Information

- “Overview of Oracle System Assistant” on page 25

▼ View System Inventory

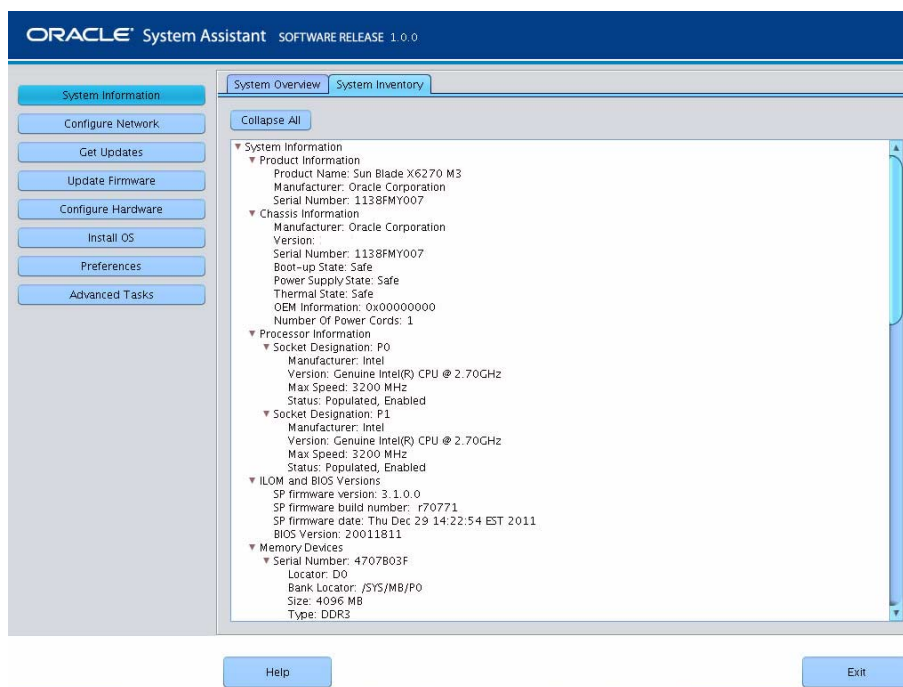
To view system inventory information using Oracle System Assistant:

1. Click the **System Information** task button.

The System Overview screen is displayed, with information about the system.

2. Click the **System Inventory** tab.

The System Inventory screen is displayed.



3. To view detailed information, click on one of the entries.
4. To view information for all entries, click Expand all.
5. To contract all system information, click Collapse all.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Configure Network Settings

The Configure Network task enables you to configure network settings for the server. To ensure that the server has the most up-to-date tools and drivers, configure network settings during initial server installation and setup.

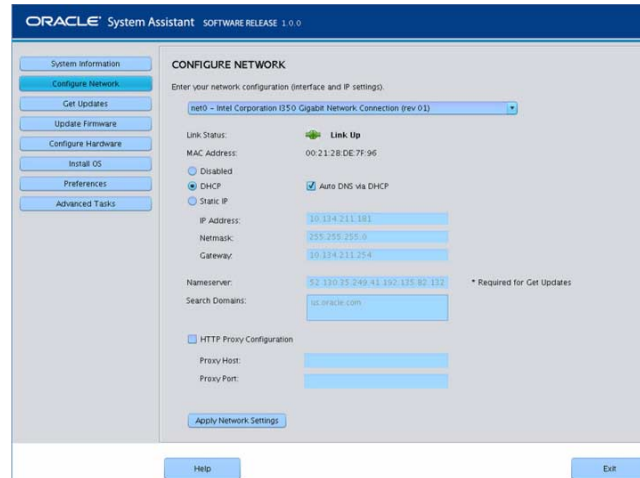
Note – You must configure the network settings before you can use the Get Updates task in Oracle System Assistant.

To configure the network settings using Oracle System Assistant:

Obtain your system's network information, such as the name server for a static IP, as required.

1. Click the Configure Network task button.

The Configure Network screen is displayed.



2. Select the network device to configure.

The drop-down list identifies the devices that are visible to the server.

3. Configure the network address settings.

Select one of the following methods to determine the IP address of the server:

- **Disabled:** Do not allow network access for this device.
- **DHCP:** Automatically assign an IP address to the server using Dynamic Host Control Protocol (DHCP). When this option is selected, you can select the Auto DNS via DHCP option to automatically assign the name server IP address and search domain. If you do not select the Auto DNS via DHCP option, you must also provide the following information:
 - Name server IP address
 - (Optional) Search domain
- **Static:** Assign a fixed IP address to the server. You must provide the following information:
 - Server IP address
 - Netmask
 - Gateway

- **HTTP Proxy Configuration:** Select this option if you want to use a proxy server. You must provide the following information:
 - Proxy host
 - Proxy port

4. Click the Apply Network Settings button.

The system prompts for confirmation to apply the network settings and to disable all other interfaces.

5. In the confirmation dialog box, click Yes to proceed.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Get Updates for a New Platform Software Release

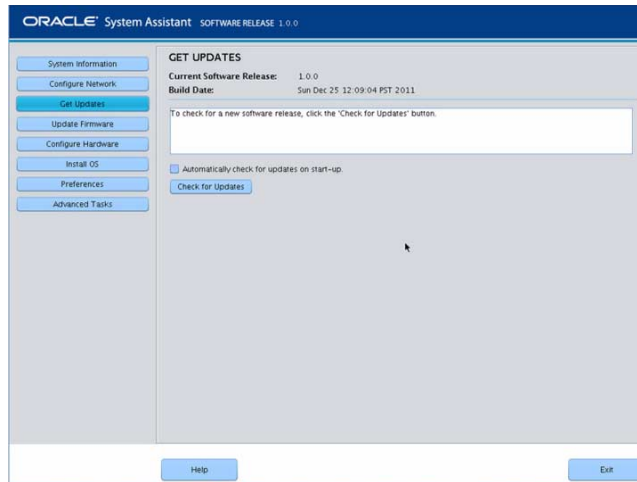
Oracle System Assistant enables you to download firmware and software updates for new releases of platform firmware and software. The most common content that is updated in a platform software release includes firmware, tools, and drivers. With Oracle System Assistant installed in the server, you no longer need to download firmware and software from either the Tools and Drivers CD/DVD ISO image or from the support web site.

Ensure your server has external web access to enable downloading of a new platform software release.

To update to a new Oracle System Assistant release:

1. Click Get Updates.

The Get Updates screen is displayed.



2. (Optional) To automatically check for updates each time the system is started, click the check box.

3. To check for a new software release, click the Check for Updates button.

After the Check Updates process is complete, a new Available Updates drop-down list and button appear in the pane.

If an update is available, the ReadMe file (Release Notes) for the platform software is displayed. You can choose whether to update to a new software release.

Note – Update to the latest available software release.

4. From the Available Updates list, select the update to download.

5. To start the update process, click the Download and Apply Updates button.

After the updates are downloaded, the system reboots.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Update Firmware

The Update Firmware task allows you to update system firmware (BIOS and Oracle ILOM SP) and device firmware on the system.

The Update Firmware task determines whether an update is available by comparing the firmware versions in the most recent platform software release to the currently installed server system and device firmware. You can preview the changes, compare version numbers, manually select which components to update, or choose to update all firmware components. It is highly recommended that you choose to update all firmware components.

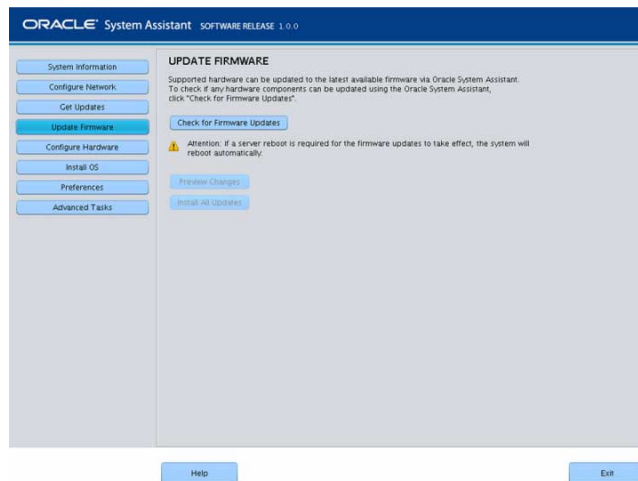
Some firmware components require a server reboot immediately following a firmware update. If required, the server might automatically reboot when the update process finishes.

To update firmware using Oracle System Assistant:

Use the Get Updates task to download the most recent platform software release from Oracle before you update firmware.

1. Click Update Firmware.

The Update Firmware screen is displayed.



2. To view the hardware components that can be updated using Oracle System Assistant, click the Check for Firmware Updates button.

The system performs the firmware update check and the Firmware Update Check progress box is displayed.

3. (Optional) Click the Preview Changes button.

The Firmware Update Install Changes dialog is displayed.

4. View a list of firmware components that need updates and compare current and available version numbers.

You can also review the Component Name, Device Name, Firmware/BIOS Installed, and Firmware/BIOS Available.

5. To proceed, select one of the following:

- To perform a selective firmware update: Select the firmware updates that you want to install, then click the Install Updates button.

Note – Components that are up to date cannot be updated and, therefore, are not selectable.

- To install all the firmware updates, click the Install All Updates button.

The update firmware progress bar is displayed.

Wait while the system updates the firmware.



Caution – If a server reboot is required for the firmware updates to take effect, the system reboots automatically.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Configure Hardware for RAID

The RAID Configuration task allows you to configure RAID-0 or RAID-1 for the server.

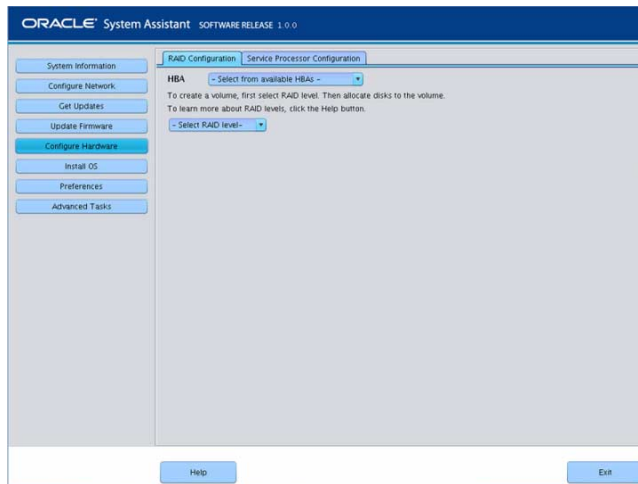
Note – Perform this task before installing an operating system.

When you configure RAID volumes, note that disks must be the same size, for example, 276 GB, and the same type, for example, SAS or SATA.

To configure RAID using Oracle System Assistant:

1. **Click Configure Hardware, then click the RAID Configuration tab.**

The RAID Configuration screen is displayed.



2. In the HBA list box, verify the host bus adapter (HBA) disk controller is correct.

For example, the server supports the SAS6-REM-Z Express Module or the SGX-SAS6-R-REM-Z Express Module (if you want to create a bootable volume). For more information about these HBAs, see [Netra Blade X3-2B Installation Guide, "Preparing the Storage Drives to Install an Operating System"](#) on page 55.

3. In the Select RAID Level list box, select the RAID level, either RAID-0 or RAID-1.

Note – You can use Oracle System Assistant to set only these two RAID levels. To set other RAID levels, use the HBA BIOS Setup Utility.

The number of disks allowed in an array depends on the controller:

- The SGX-SAS6-R-REM-Z HBA requires one or more disks and uses WebBIOS for configuration.
- The SGS-SAS6-REM-Z HBA requires two or more disks and uses the Configuration Utility for configuration.

4. In the Available Disks table, select the storage drives that you want to add to the RAID configuration.

If a volume already exists on the disk, it is displayed in the Created Volumes section. If necessary, highlight and delete the existing volume.

Note – Disks must be the same size and type (SAS or SATA).

5. Click the Create Volume button.

The Creating RAID Volume information box is displayed.

6. Wait for the RAID volume to be created.

The Volume Details dialog box is displayed. Information about the highlighted volume is displayed.

7. In the Volume Details dialog box, type the volume name in the Volume Name box, then click the Save Changes button.

The RAID Configuration screen is displayed. This completes the RAID configuration.

8. Continue with the following steps if you want to delete a RAID volume or configure a bootable volume.

- If you want to delete a RAID volume, in the RAID Configuration screen, select the volume, then click the Delete Volume button.

This action deletes all data on the existing volume.

- If you want to create a bootable volume, in the RAID Configuration screen, select the RAID volume, then click the Set Volume for Boot button.

The RAID Configuration screen now indicates the bootable volume. The server then boots from this volume if selected to boot from the RAID controller.

Note – Your disk controller might not support this feature.

9. Click Save Settings.

Related Information

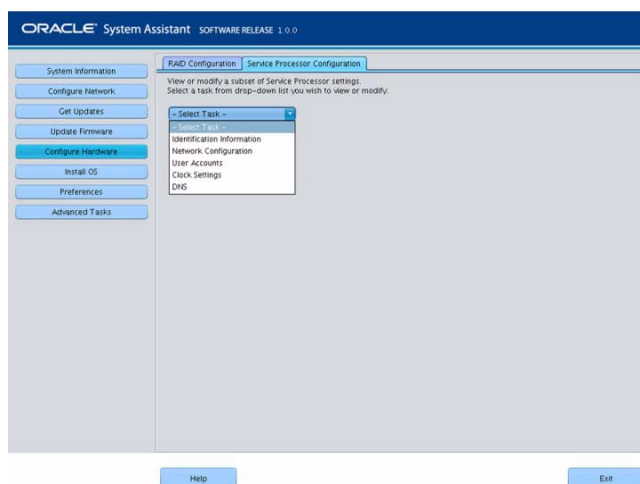
- [“Overview of Oracle System Assistant” on page 25](#)
- [“Configuring RAID” on page 127](#)

▼ Configure Hardware for Oracle ILOM SP

To view or modify a subset of Oracle ILOM service processor (SP) settings using Oracle System Assistant:

1. Click Configure Hardware, then click the Service Processor Configuration tab.

The Server Processor Configuration screen is displayed.



2. From the Select Task drop-down list, select a task:

- **Identification Information**— See Step 3.
- **Network Configuration**— See Step 4.
- **User Accounts**— See Step 5.
- **Clock Settings**— See Step 6.
- **DNS Settings**— See Step 7.

3. To view or modify identification information, complete the following information:

a. SP Hostname

Type Oracle ILOM hostname.

The hostname must start with a letter and can contain up to 60 alphanumeric characters, hyphens, and underscores.

b. System Identifier

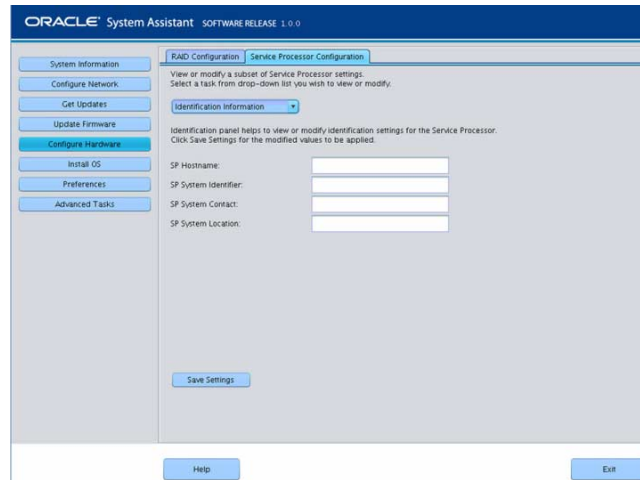
Type the name that identifies the system. Use any characters except quotation marks.

c. SP System Contact

Type the name of the person to contact. Use any characters except quotation marks.

d. SP System Location

Type the name of the physical location of the system. Use any characters except quotation marks.



4. To view or modify network configuration information, complete the following information for IPv4, or complete the IPv6 settings as required:

a. IP Discovery Mode

Select whether the system uses Dynamic Host Control Protocol (DHCP) or a static IP assignment.

b. IP Address

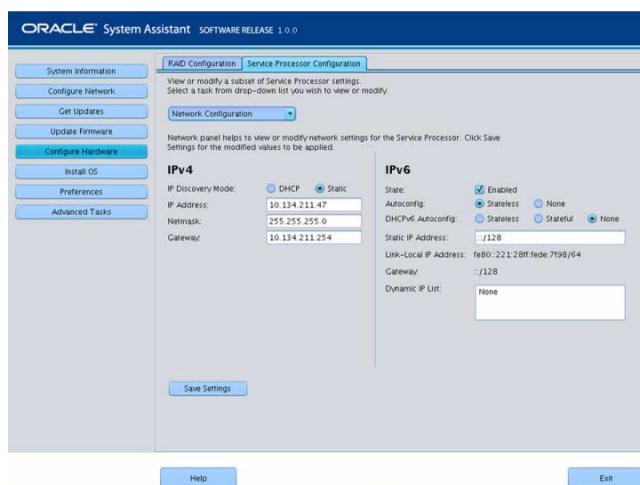
If you selected a static IP assignment, provide the IP address of the SP.

c. Netmask

If you selected a static assignment, provide the netmask for the SP.

d. Gateway

If you selected a static assignment, provide the gateway address of the SP.



5. To view or modify user accounts, complete the following information:

a. Add User

Click to add a new user account. Type a unique user name, select the role (Basic or Advanced) from the drop-down list, set privileges, and type the password.

Note – If you want to choose specific privileges (not pre-set) for the user, choose Advanced.

b. Modify user

Highlight a user account in the list, and click Modify User to review or change the user account settings.

c. Delete User

Highlight a user account in the list, and click Delete User to delete a user account.

6. To view or modify clock settings, complete the following information:

a. Date

Use the drop-down list to select the month, day, and year.

b. Time

Use the drop-down list to set the time using 24-hour format.

c. Timezone

Use the drop-down list to select the time zone.

d. Synchronize Time Using NTP

Click the check box to enable synchronization with a Network Time Protocol (NTP) server.

e. Server 1, Server 2

Enter the information for the NTP servers.

The screenshot shows the 'Service Processor Configuration' window in the Oracle System Assistant. The left sidebar contains navigation links: System Information, Configure Network, Get Updates, Update Firmware, Configure Hardware (highlighted), Install OS, Preferences, and Advanced Tasks. The main panel has tabs for RAID Configuration and Service Processor Configuration. Under the Service Processor Configuration tab, there is a 'Clock Settings' dropdown menu. Below it, a text box explains that the clock settings panel helps view or modify the Service Processor clock and provides instructions for manual selection and NTP synchronization. The 'Current Date and Time' is displayed as 'Fri Jan 6 21:14:41 2012 GMT'. The 'Date' is set to Jan 06, 2012, and the 'Time' is 21:14. The 'Timezone' is set to GMT. The 'Synchronize Time Using NTP' checkbox is checked. Below this, there are two text input fields for 'Server 1' and 'Server 2', both containing the IP address '0.0.0.0'. A 'Save Settings' button is located at the bottom of the main panel. At the very bottom of the window are 'Help' and 'Exit' buttons.

7. To view or modify DNS Settings, complete the following information:

a. Auto DNS via DHCP

Check enabled or disabled.

b. DNS Name Server

Edit this only if Auto DNS is disabled.

Enter up to three comma separated name server IP addresses in preferred order. For example 1.2.3.4,5.6.7.8.

c. DNS Search Path

Edit this only if Auto DNS is disabled.

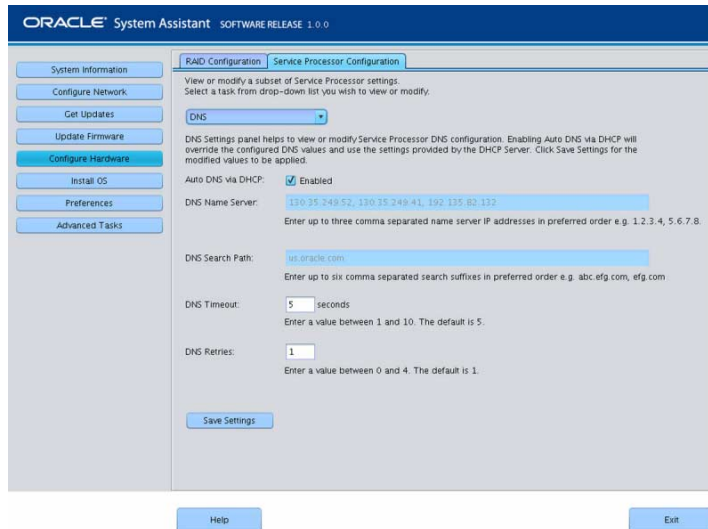
Enter up to six comma separated search suffixes in preferred order. For example abc.efg.com, efg.com.

d. DNS Timeout

Type a value between 1 and 10. The default is 5.

e. DNS Retries

Type a value between 0 and 4. The default is 1.



8. Click **Save Settings**.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)
- [Oracle ILOM Documentation Library](#)
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

▼ Install an Operating System

Note – Oracle System Assistant OS installation task is available only for supported versions of **Windows** and **Linux** operating systems and **Oracle VM** software.

You must supply the Operating System (OS) media and license.

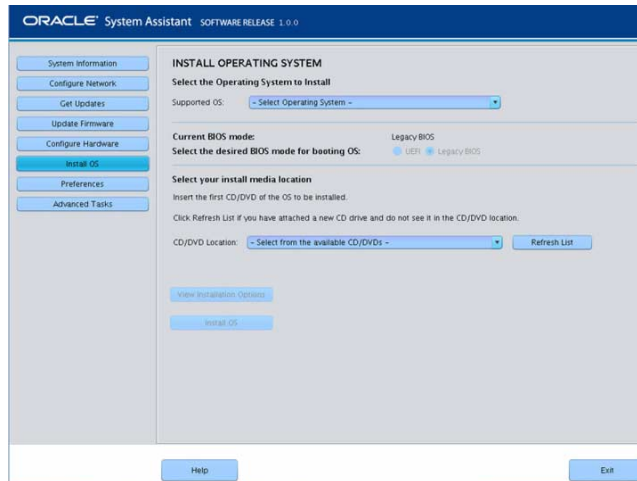
Perform the following tasks before you begin this procedure:

- Get the latest tools and drivers. See [“Get Updates for a New Platform Software Release” on page 74](#).
- Update firmware. See [“Update Firmware” on page 75](#).
- Configure RAID. See [“Configure Hardware for RAID” on page 77](#).

To install a supported operating system on the blade using Oracle System Assistant:

1. Click the Install OS task button.

The Install Operating System screen is displayed.



2. From the Supported OS drop-down list, select the operating system to install.

The list contains only the supported operating systems that can use the Install OS task.

3. In the Select the desired BIOS mode for booting OS portion of the screen, select the BIOS mode (UEFI or Legacy BIOS) that you want to use for the OS installation.

The choice of BIOS modes is available only if the target OS supports booting in UEFI mode.

See [“Selecting Legacy and UEFI BIOS” on page 139](#).

4. In the Select your install media location portion of the screen, indicate the location of the installation media.

This is the location of the OS distribution media. Options are CD/DVD devices. Click the Refresh button to update the list of devices.

Tip – If you are installing the OS remotely using KVM, choose the KVM menu option Devices and click CD-ROM to get the remote CD-ROM to appear. Then on the Oracle System Assistant screen, click Refresh and select the CD/DVD location.

5. In the Select the boot disk portion of the screen, select the boot device from the Boot disk drop-down list.

This is the device on which you install the Operating System.

If you select a Linux distribution, the Select the boot disk portion of the screen is displayed. If you select a Windows distribution, the Select the boot disk portion of the screen does not appear.



Caution – Loss of data. The operating system installation erases the contents of the disk. All data on the selected disk is erased.

6. To confirm your selection of the boot device, click Yes.

7. Click View Installation Options.

The Operating System Installation Details dialog is displayed. The OS and Driver software components are listed. Deselect any components you do not want to install. For *most* operating systems, all components listed are required.



8. Click Close to exit the dialog.

The Install Operating System screen is displayed.

9. Click the Install OS button.

10. Follow the process and respond to the prompts until the process finishes.
After the installation is complete, the server boots.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)
- [“Configuring the UEFI BIOS Boot Mode” on page 139](#)
- [Netra Blade X3-2B Installation Guide, “Preparing the Storage Drives to Install an Operating System” on page 55](#)
- [Netra Blade X3-2B Installation Guide for Oracle VM Operating System](#)
- [Netra Blade X3-2B Installation Guide for ESX Software](#)
- [Netra Blade X3-2B Installation Guide for Linux Operating Systems](#)
- [Netra Blade X3-2B Installation Guide for Windows Operating Systems](#)

▼ Set Preferences to Disable Oracle System Assistant

If you are already booted into Oracle System Assistant, you can use the Disable Oracle System Assistant task to put the Oracle System Assistant USB device in an offline state, so that it is unavailable to the server operating system (OS). This protects the device from accidental erasure and overwrite. When the device is offline, it is not bootable, and the tools, drivers, and files that reside on the Oracle System Assistant device are inaccessible.

Note – To re-enable Oracle System Assistant, perform [“Enable Oracle System Assistant From BIOS” on page 100](#).

To put the device in an online state (available to the OS), use the Configure OSA setting in the server BIOS Setup Utility Boot menu.

To disable Oracle System Assistant when the system is booted into Oracle System Assistant:

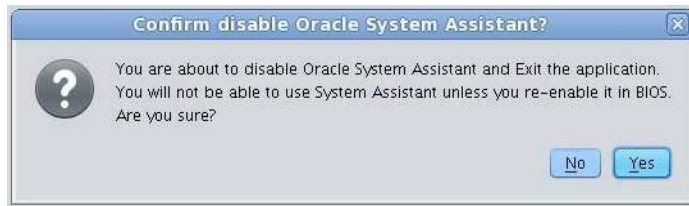
1. Click **Preferences**, then click the **Disable Oracle System Assistant** tab.

The Disable Oracle System Assistant screen is displayed.



2. Click **Disable Oracle System Assistant**.

3. Click **Yes** to confirm.



Note – The system reboots.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)
- [“Configuring the UEFI BIOS Boot Mode” on page 139](#)
- [“Enable Oracle System Assistant From BIOS” on page 100](#)

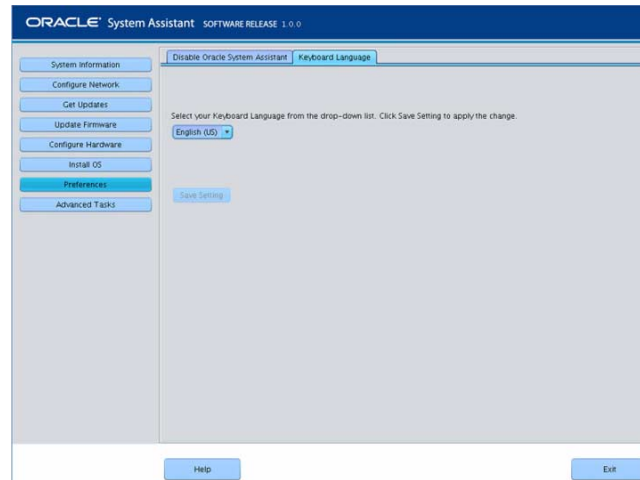
▼ Set Preferences for Keyboard Language

The Keyboard Language task enables you to select the keyboard language for Oracle System Assistant.

To set the keyboard language using Oracle System Assistant:

1. Click **Preferences**, then click the **Keyboard Language** tab.

The Keyboard Language screen is displayed.



2. From the drop-down list, select the keyboard language.

Options include: English (US), French, German, Italian, Spanish, and Swedish.

3. Click **Save Settings**.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Perform Advanced Tasks to Access Oracle System Assistant Shell

This task provides Linux root-level access to the Oracle System Assistant file system. Use the command-line shell to access tools and files that reside on the internal Oracle System Assistant USB device.

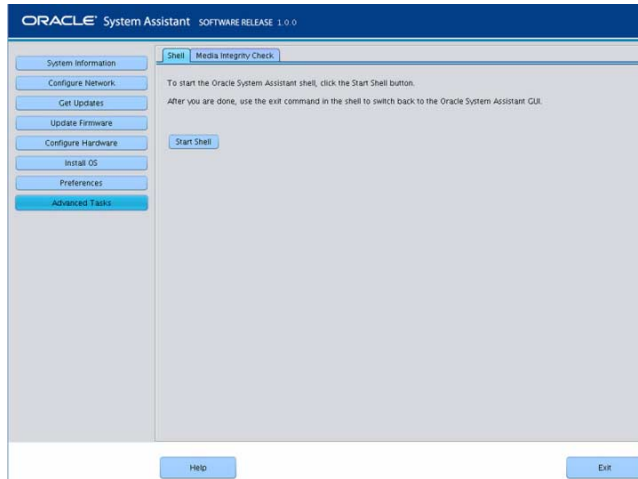


Caution – Possible loss of data or loss of Oracle System Assistant functionality. Typically, only advanced users or system administrators are allowed to access and use the Linux shell.

To access the command-line shell using Oracle System Assistant:

1. Click **Advanced Tasks**, then click the **Shell** tab.

The Shell screen is displayed.



2. Click the **Start Shell** button.

The Oracle System Assistant command-line shell window is displayed.

```
Oracle System Assistant
Enterprise Linux Command Line Environment

You are now in the shell with full root-level access!

**Caution**: Potential for loss of data or loss of server system functionality. Root-level access is for advanced
administrator only. To quit the shell and return to the Oracle System Assistant application, type 'exit' and p

-bash-4.1# _
```

3. To leave the shell and return to Oracle System Assistant user interface, type `exit` at the shell command-line prompt.

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Perform Advanced Tasks to Check Media Integrity

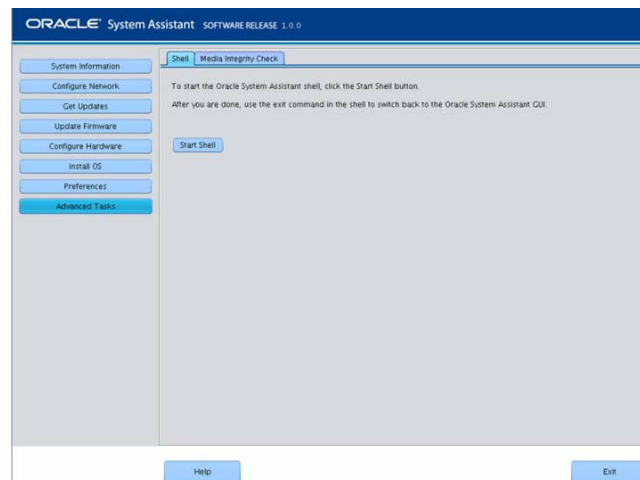
The Media Integrity Check task verifies the integrity of the internal Oracle System Assistant media files and displays a report. Perform this task when the USB device produces errors or when requested by Oracle Service personnel.

If your version of Oracle System Assistant is damaged, download the recovery ISO image file for your server from the My Oracle Support site. For more information, see [“Restore Oracle System Assistant Software” on page 96](#).

To verify that the USB media for Oracle System Assistant is working properly:

1. Click **Advanced Tasks**, then click the **Media Integrity Check** tab.

The Media Integrity Check screen is displayed.



2. Click the **Check Integrity** button.

The system tests the internal Oracle System Assistant USB device and generates a report. The test provides an estimated run time. You can cancel the test at any time.



Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

Maintaining Oracle System Assistant



Caution – OSA is used to setup, configure, and run diagnostics on a blade and cannot be relied upon during high-input ambient conditions. There is no user space on this device, and it is only intended for the functions described by OSA. The rear USB ports require Industrial temperature-rated devices to meet NEBS maximum-input ambient conditions. Oracle does not offer Industrial temperature-rated USB devices.

This section describes how to manage, troubleshoot, and restore the Oracle System Assistant software.

The following topics are covered.

Description	Links
Check Oracle System Assistant installation.	“Troubleshooting Oracle System Assistant” on page 94
Determine whether Oracle System Assistant is installed in your server and is working properly.	“Verify That Oracle System Assistant Is Installed” on page 94
Restore Oracle System Assistant.	“Restore Oracle System Assistant Software” on page 96
Enable or disable Oracle System Assistant.	“Enable Oracle System Assistant From BIOS” on page 100
Navigate the Oracle System Assistant file system.	“Access the Oracle System Assistant File System” on page 102
Mount the Oracle System Assistant USB Flash drive on Oracle VM 3.0, Oracle Solaris 10, or Linux operating systems.	“Mounting the Oracle System Assistant USB Flash Drive” on page 102
Access the firmware and software that resides on the Oracle System Assistant USB flash drive.	“Access the Firmware and Software on the Oracle System Assistant USB Flash Drive” on page 107

Troubleshooting Oracle System Assistant

By default, Oracle System Assistant is factory installed on each supported server in a USB storage device. In most cases, it is not necessary to download the Oracle System Assistant software because it is preinstalled on the server. However, a recovery image is available for download if it is needed.

Note – Oracle System Assistant is not available as a download for initial installation; however, you can recover the Oracle System Assistant image if it was installed on your server.

To troubleshoot Oracle System Assistant:

- [“Verify That Oracle System Assistant Is Installed” on page 94](#)
- [“Restore Oracle System Assistant Software” on page 96](#)
- [“Enable Oracle System Assistant From BIOS” on page 100](#)
- [“Access the Oracle System Assistant File System” on page 102](#)

▼ Verify That Oracle System Assistant Is Installed

If you cannot see the Oracle System Assistant task screen after you have tried to access it, perform the following procedure to determine if Oracle System Assistant is installed in your server and is working properly.

Your Netra Blade X3-2B supports Oracle System Assistant as a default option, and is preinstalled in the server. If Oracle System Assistant is physically installed in your server, but it is not visible from the file system, it could be offline, corrupted, or overwritten.

To check the Oracle System Assistant installation:

1. Verify that Oracle System Assistant installation using Oracle ILOM.

In Oracle ILOM web interface, go to the System Summary page to check whether Oracle System Assistant is installed in the server. See [“Access Oracle ILOM \(Web\)” on page 21](#).

2. Verify that Oracle System Assistant installation from the operating system.

Open a file system browser or command-line terminal, navigate to the computer or devices directory, and check whether the Oracle System Assistant USB device is present.

The Oracle System Assistant USB device is labeled: ORACLE_SSM. Double-click the device to ensure that it is accessible.

- If the device is present and accessible, launch the application. See [“Accessing Oracle System Assistant” on page 15](#).
- If the device is not present to the OS, perform a physical check of the server. See [Netra Blade X3-2B Service Manual, “Servicing USB Flash Drives” on page 60](#).
- If the device is present but not accessible, it might contain corrupt data. See [“Restore Oracle System Assistant Software” on page 96](#).

3. Verify that Oracle System Assistant is displayed in the BIOS Boot Priority list.

Access the server BIOS Setup Utility and navigate to the Boot menu. For information about accessing your server BIOS Setup Utility, see [“Setting Up the Blade With BIOS Setup Utility” on page 131](#).

- The Oracle System Assistant device label is Oracle_SSM.
- If the correctly labeled device is displayed on the boot list, then your server has Oracle System Assistant. For information about how to launch the Oracle System Assistant application, see [“Accessing Oracle System Assistant” on page 15](#).
- If the device is physically present in the server, but does not appear in the boot list, then Oracle System Assistant might be disabled and offline. Use the next step to check whether Oracle System Assistant is disabled and offline.

4. Check that Oracle System Assistant is disabled and offline.

See [“Enable Oracle System Assistant From BIOS” on page 100](#).

If Oracle System Assistant is disabled and offline, enable it to make it visible and bootable.

5. Perform a physical check of the server.

Oracle System Assistant is installed on a USB device inside the server. For the location of the internal USB ports for your server, see [Netra Blade X3-2B Service Manual, “Servicing USB Flash Drives” on page 60](#).

- If the device is present, try to launch the application. See [“Accessing Oracle System Assistant” on page 15](#).
- If the device is present, but cannot be seen from the operating system, it might be disabled and offline. See [“Enable Oracle System Assistant From BIOS” on page 100](#).
- If the application does not launch, it might contain corrupt data. See [“Restore Oracle System Assistant Software” on page 96](#).

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Restore Oracle System Assistant Software

If Oracle System Assistant has been erased or corrupted, you can download the image file that is available from the My Oracle Support site to restore it to the USB device. Restore Oracle System Assistant software after replacing a USB drive, or as required.

1. Download the appropriate image file from the My Oracle Support web site.

Download the image that is specific to your server. The package name for the update image for the server is: `X6270 M3 SW version -- Oracle System Assistant`

For example, for the Netra Blade X3-2B, you could download the update image: `Sun_Blade_X6270_M3-1.0.0.75555-ORACLE_SYSTEM_ASSISTANT_UPDATER_4G.iso`. This file name is an example, and you need to download the correct file.

For information about accessing My Oracle Support and downloading this image, see *Netra Blade X3-2B Product Notes*.

2. Make the update image available to the blade. Do one of the following:

- Use the image file to burn a physical DVD image.
Install the DVD in a DVD drive attached to the server.

Note – You can also make the DVD available to the server as a redirected DVD by using Oracle ILOM Remote Console application.

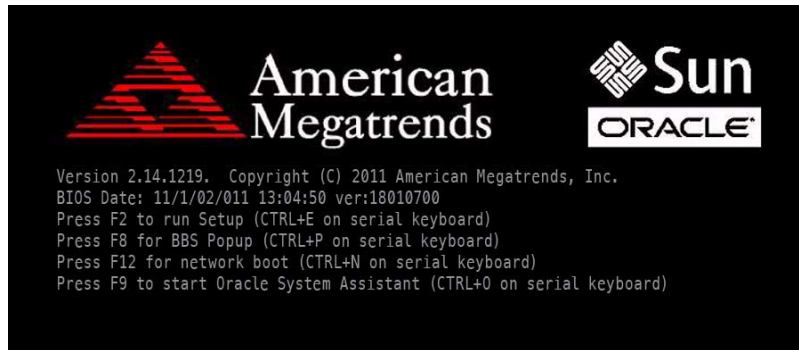
- Make the update image file available to the server as an ISO image using Oracle ILOM Remote Console application.

3. Reset or power on the server.

Choose one of the following methods:

- From the local server, press the Power button (approximately 1 second) on the server front panel to power off the server, then press the Power button again to power on the server.
- From Oracle ILOM web interface, click Host Management > Power Control, and select Reset from the Select Action list box.
- From Oracle ILOM CLI on the server SP, type `reset /System`.

The BIOS screen is displayed.



Note – The next events occur very quickly; therefore, focused attention is needed for the following steps. Please watch carefully for these messages as they appear only briefly on the screen.

4. In the BIOS screen, press F8 to specify a temporary boot device for the Oracle System Assistant installation.

The Please Select Boot Device screen is displayed.



5. Depending on the method you used to make the recovery image available to the server, perform one of the following steps:

Note – The items listed in the Please Select Boot Device menu might differ, depending on whether the system was booted in Legacy BIOS or UEFI Boot mode.

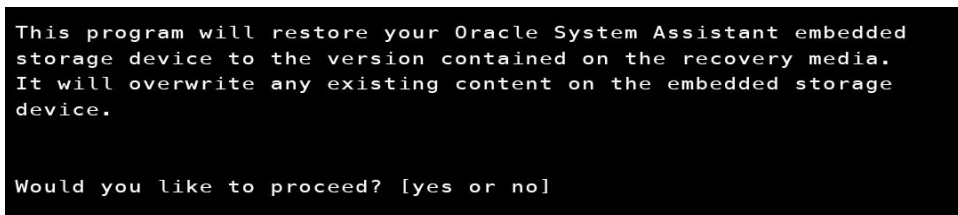
- If you chose to burn a recovery DVD and have placed the DVD into an attached DVD drive, select SATA:HDD:P4:TSSTcorp CDDVDW TS-T633C as shown in the Please Select Boot Device menu, then press Enter
- If you chose to use Oracle ILOM Remote Console application to make the recovery image available to the server as a redirected DVD or as an ISO image, select USB:VIRTUAL:AMI Virtual CDROM 1.00 as shown in the Please Select Boot Device menu, then press Enter.



A message is displayed, and a prompt asks whether you want to continue the recovery process.

6. To recover the Oracle System Assistant image, type *yes*, then press Enter.

The following message is displayed, indicates the progress of the recovery process, and, when it completes, asks whether the recovered Oracle System Assistant USB flash drive must be verified to ensure that it was programmed correctly.



7. To perform an integrity check of the USB device, type *yes*, then press Enter.

```

The embedded storage device is being recovered.
Please do not reboot or power off the server
during this process

[=====>] 100%

Recovery is complete, you may optionally perform an integrity verification
of the device to insure that it was correctly programmed.

Would you like to verify the device? [yes or no]

```

The following screen is displayed and indicates that the Oracle System Assistant USB device was verified successfully. The system then reboots and launches the Oracle System Assistant application.

```

The embedded storage device is being recovered.
Please do not reboot or power off the server
during this process

[=====>] 100%

Recovery is complete, you may optionally perform an integrity verification
of the device to insure that it was correctly programmed.

Would you like to verify the device? [yes or no]  yes

Verifying...
[=====>] 100%

Verification Succeeded.

Rebooting to start Oracle System Assistant...
Connected. Use ^D to exit.
-> set /HOST/provisioning/system-assistant _setboot=system-assistant

```

- If you do not want to perform an integrity verification of the USB device, type no, then press Enter.

The confirmation screen is displayed and indicates that the recovery is complete. The system then reboots and launches the Oracle System Assistant application.

```
The embedded storage device is being recovered.
Please do not reboot or power off the server
during this process

[=====>] 100%

Recovery is complete, you may optionally perform an integrity verification
of the device to insure that it was correctly programmed.

Would you like to verify the device? [yes or no] no

Rebooting to start Oracle System Assistant...
Connected. Use ^D to exit.
```

Related Information

- [“Overview of Oracle System Assistant” on page 25](#)

▼ Enable Oracle System Assistant From BIOS

To enable the Oracle System Assistant USB device in an online state (available to the OS), use the Configure OSA setting in the server BIOS Setup Utility Boot menu.

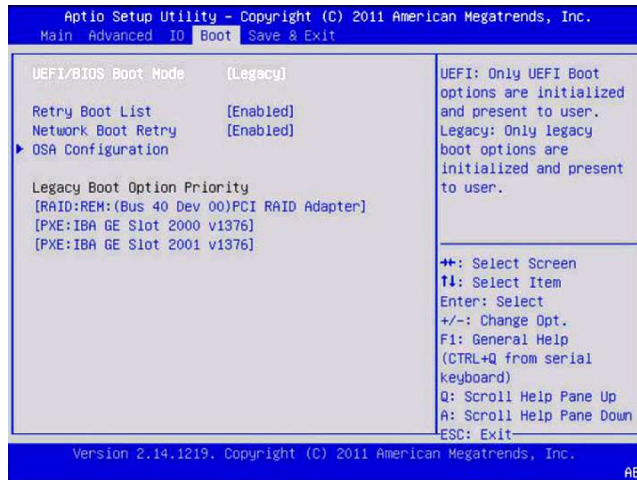
You can also disable the USB device in an offline state so it is unavailable to the server OS. This protects the device from accidental erasure and overwrite. When the device is offline, it is not bootable, and the tools, drivers, and files that reside on the Oracle System Assistant device are inaccessible. This can also be done from the Oracle System Assistant menu screens.

To enable (or disable) the Oracle System Assistant USB device:

1. **Access the server BIOS Setup Utility.**

See [“Access BIOS Setup Utility Menus” on page 131](#).

2. **Navigate to the Boot screen.**



3. Navigate to the OSA Configuration screen.



4. Select Enabled (or Disabled) for the OSA Internal Support setting, then press Enter.
5. To save and exit the BIOS utility, press F10.
The server boots.

Related Information

- "Setting Up the Blade With BIOS Setup Utility" on page 131

▼ Access the Oracle System Assistant File System

1. Click **Advanced Tasks** then click the **Shell** tab.
2. Click **Start Shell**.
The CLI prompt is displayed.
3. To access the file system root directory, type:
`cd \sysroot`
4. To exit the shell, type **exit**.

Related Information

- [“Perform Advanced Tasks to Access Oracle System Assistant Shell” on page 89](#)

Mounting the Oracle System Assistant USB Flash Drive

Before you can access the Oracle System Assistant USB Flash drive on the Oracle VM 3.0 or the Oracle Solaris 10 and Linux operating systems, you must first mount the USB flash drive.

Choose one of the following procedures to mount the Oracle System Assistant USB Flash drive:

Note – Currently you cannot directly mount the Oracle System Assistant USB flash drive if the system is using the VMware ESXi 5.0 virtual machine software. Go to My Oracle Support to retrieve the required drivers for the VMware ESXi software.

- [“Mount the Oracle System Assistant USB Flash Drive \(Oracle VM 3.0\)” on page 103](#)
- [“Mount the Oracle System Assistant USB Flash Drive \(Linux OS\)” on page 104](#)
- [“Mount the Oracle System Assistant USB Flash Drive \(Oracle Solaris 10 OS\)” on page 105](#)
- [“Access the Firmware and Software on the Oracle System Assistant USB Flash Drive” on page 107](#)

Related Information

- [“Access the Firmware and Software on the Oracle System Assistant USB Flash Drive” on page 107](#)
- [“Accessing System Management Tools” on page 15](#)

▼ Mount the Oracle System Assistant USB Flash Drive (Oracle VM 3.0)

1. Connect to your Oracle VM 3.0 server as the root user.
2. To determine the device mapping of the Oracle System Assistant USB flash drive, type the **ls SCSI** command.

An example of how this command displays the storage devices on the server is shown below.

```
# ls SCSI
[0:0:0:0] disk      SEAGATE ST360057SSUN600G 0805 /dev/sda
[0:0:1:0] disk      SEAGATE ST32000SSSUN2.0T 0313 /dev/sdb
[0:0:2:0] disk      SEAGATE ST32000SSSUN2.0T 0313 /dev/sdc
[0:0:3:0] disk      ATA INTEL HDDSA2BZ30      0362 /dev/sdd
[0:0:4:0] enclosu ORACLE BLADE14          0903 -
[7:0:0:0] disk      SUN StorEdge 3511      421F /dev/sde
[7:0:0:1] disk      SUN StorEdge 3511      421F /dev/sdf
[7:0:0:2] disk      SUN StorEdge 3511      421F /dev/sdg
[7:0:0:3] disk      SUN StorEdge 3511      421F /dev/sdh
[9:0:0:0] disk      SUN CSM200_R          0660 /dev/sdi
[9:0:0:1] disk      SUN CSM200_R          0660 /dev/sdj
[9:0:0:2] disk      SUN CSM200_R          0660 /dev/sdk
[9:0:0:3] disk      SUN CSM200_R          0660 /dev/sdl
[9:0:0:4] disk      SUN CSM200_R          0660 /dev/sdm
[9:0:0:5] disk      SUN CSM200_R          0660 /dev/sdn
[11:0:0:0] disk     ORACLE SSM             PMAP /dev/sdo
```

The Oracle System Assistant USB flash drive is the disk labelled ORACLE SSM and in this example is mapped to `/dev/sdo`.

3. To determine the name of the partition on the Oracle System Assistant USB device, type the **fdisk -l /dev/sdo** command.

An example of the output produced by this command is shown below.

```
# fdisk -l /dev/sdo
Disk /dev/sdo: 3880 MB, 3880452096 bytes
4 heads, 32 sectors/track, 59211 cylinders
```

```
Units = cylinders of 128 * 512 = 65536 bytes
Device Boot Start End   Blocks  Id System
/dev/sd01 * 17     57344 3668992 ef  EFI (FAT-12/16/32)
```

4. (Optional) Create a mount point to use when mounting the Oracle System Assistant USB flash drive.

For example:

```
# mkdir /mnt/OSA
```

5. To mount the Oracle System Assistant USB device, use the partition name determined in Step 3 and an existing mount point or the mount point that you created in Step 4.

Here is an example of a mount command:

```
# mount -t vfat -o codepage=850 /dev/sd01 /mnt/OSA
# ls /mnt/OSA
boot           Firmware      LiveOS        OracleVM      syslinux.cfg
Documentation  ldlinux.sys  manifest.xml  readme.html   Versions.txt
EFI            Linux         Oracle        Solaris       Windows
#
```

The Oracle System Assistant USB flash drive is now mounted at the mount location specified.

Related Information

- [“Access the Firmware and Software on the Oracle System Assistant USB Flash Drive” on page 107](#)
- [“Accessing System Management Tools” on page 15](#)

▼ Mount the Oracle System Assistant USB Flash Drive (Linux OS)

If the server is running a Linux operating system, you must mount the Oracle System Assistant USB flash drive before you use the filesystem to display or access its contents.

This procedure shows how to mount the Oracle System Assistant USB flash drive on a Linux operating system.

- To mount the Oracle System Assistant USB flash drive, type the commands shown below:

```
#>mkdir /mnt/OSA
#>mount LABEL=ORACLE_SSM /mnt/OSA
#>cd /mnt/OSA
#>ls -l
total 916
drwxr-xr-x 2 root root 4096 Nov 21 07:42 boot
drwxr-xr-x 3 root root 4096 Nov 21 07:42 Documentation
drwxr-xr-x 3 root root 4096 Oct 26 21:05 EFI
drwxr-xr-x 16 root root 4096 Nov 21 07:42 Firmware
-r-xr-xr-x 1 root root 15218 Oct 26 19:10 ldlinux.sys
drwxr-xr-x 5 root root 4096 Nov 21 07:41 Linux
drwxr-xr-x 2 root root 4096 Oct 26 21:05 LiveOS
-rwxr-xr-x 1 root root 787672 Nov 21 08:17 manifest.xml
drwxr-xr-x 2 root root 4096 Nov 21 08:00 Oracle
-rwxr-xr-x 1 root root 78879 Nov 21 07:42 readme.html
drwxr-xr-x 4 root root 4096 Nov 21 07:41 Solaris
-rwxr-xr-x 1 root root 263 Oct 26 21:05 syslinux.cfg
-rwxr-xr-x 1 root root 3755 Nov 21 07:42 Versions.txt
drwxr-xr-x 3 root root 4096 Nov 21 07:42 VMware
drwxr-xr-x 4 root root 4096 Nov 21 07:42 Windows
#>
```

The Oracle System Assistant USB flash drive is now mounted at the location specified.

Related Information

- [“Access the Firmware and Software on the Oracle System Assistant USB Flash Drive” on page 107](#)
- [“Accessing System Management Tools” on page 15](#)

▼ Mount the Oracle System Assistant USB Flash Drive (Oracle Solaris 10 OS)

If the server is running the Oracle Solaris 10, you must mount the Oracle System Assistant USB flash drive before you use the filesystem to display or access its contents.

To mount the Oracle System Assistant USB flash drive on an Oracle Solaris 10 Operating System:

1. To turn off the volfs service, type:

```
# svcadm disable volfs
```

2. To identify the USB flash drive, type:

```
# rmformat -l
```

The system displays a list of devices:

```
Looking for devices...
1. Logical Node: /dev/rdisk/clt0d0p0
   Physical Node:
   /pci@0,0/pci108e,484e@1a/hub@1/storage@2/disk@0,0
   Connected Device: ORACLE      SSM      PMAP
   Device Type: Removable
#
```

3. To manually mount the USB flash drive, read-only, type:

```
# mount -F pcfs -o ro /dev/dsk/clt0d0p1 /mnt
```

4. To retrieve the Oracle Solaris 10 content, type:

```
# cd /mnt/Solaris
```

```
# ls
```

The system displays:

```
10U10 11
#
```

5. To unmount the OSA device, type:

```
# cd /
```

```
# umount /mnt
```

6. To restart volfs, type:

```
# svcadm enable volfs
```

The Oracle System Assistant USB flash drive is now mounted.

Related Information

- [“Access the Firmware and Software on the Oracle System Assistant USB Flash Drive” on page 107](#)
- [“Accessing System Management Tools” on page 15](#)

▼ Access the Firmware and Software on the Oracle System Assistant USB Flash Drive

The Oracle System Assistant USB flash drive contains firmware and software for your server. The USB flash drive is accessible through the operating system or virtual machine software filesystem. Updated firmware and software are downloaded with every software release update using the Get Updates task within Oracle System Assistant.

This procedure describes how to access and view the firmware and software that resides on the Oracle System Assistant USB flash drive.

1. Ensure that the server is powered on and the operating system is running.

2. Mount the Oracle System Assistant USB flash drive.

For OS specific mounting instructions, see:

- **Oracle VM:** [“Mount the Oracle System Assistant USB Flash Drive \(Oracle VM 3.0\)” on page 103](#)
- **Linux OS:** [“Mount the Oracle System Assistant USB Flash Drive \(Linux OS\)” on page 104](#)
- **Oracle Solaris 10 OS:** [“Mount the Oracle System Assistant USB Flash Drive \(Oracle Solaris 10 OS\)” on page 105](#)

3. Use a filesystem browser to navigate to the internal Oracle System Assistant USB flash drive.

The label for the USB flash drive is: ORACLE_SSM on Oracle VM operating system, and ORACLE_SSM on the Oracle Solaris 10 operating system and Linux operating systems.

Note – If the Oracle System Assistant USB flash drive is mounted but is still is not visible, Oracle System Assistant might be disabled. To enable Oracle System Assistant, from the BIOS Setup Utility, access the Boot > OSA Configuration screen and change the setting to Enabled. For instructions for enabling Oracle System Assistant, see [“Enable Oracle System Assistant From BIOS” on page 100](#).

4. To view the contents of the Oracle_SSM drive, double-click on the drive.

The Oracle System Assistant USB flash drive directory is displayed and lists the contents of the drive.

Setting Up Software and Firmware

This section includes information about using Oracle System Assistant, Oracle ILOM, and Oracle Hardware Management Pack to set up the server software and firmware.

In most cases, use Oracle System Assistant to set up your server's software and firmware. If your server does not have Oracle System Assistant embedded in it, or you do not want to use Oracle System Assistant, you can set up the server's software and firmware using either Oracle ILOM or Oracle Hardware Management Pack.

The following topics are covered.

Description	Links
Set up software and firmware using Oracle System Assistant. (recommended)	"Set Up Software and Firmware (OSA)" on page 109
Set up software and firmware using Oracle ILOM.	"Set Up Software and Firmware (Oracle ILOM)" on page 110
Set up software and firmware using Oracle Hardware Management Pack.	"Set Up Software and Firmware (Oracle Hardware Management Pack)" on page 111

▼ Set Up Software and Firmware (OSA)

1. Connect to Oracle System Assistant.

See ["Access Oracle System Assistant From Oracle ILOM \(Web\)" on page 18](#).

2. Perform setup tasks using Oracle System Assistant.

See ["Using Oracle System Assistant for Server Configuration" on page 29](#).

a. Get updates for blade firmware, drivers, software, and documentation.

See ["Get Platform Software Release Updates" on page 34](#).

b. Configure blade network settings.

See ["Configure Network Settings" on page 32](#).

c. Update blade firmware.

Update HBA firmware.

Note – To upgrade an HBA expander firmware from the chassis CMM or the host, use the Hardware Management Pack application `fwupdate`.

See [“Update Firmware” on page 38](#).

d. Configure the blade SP network settings, user accounts, and clock settings.

See [“Configure Hardware for Oracle ILOM SP” on page 42](#).

e. Configure RAID.

See [“Configure Hardware for RAID” on page 40](#).

f. Install an operating system.

See [“Install an Operating System” on page 46](#).

Related Information

- [“Setting Up the Blade With Oracle System Assistant” on page 25](#)

▼ Set Up Software and Firmware (Oracle ILOM)

1. Ensure that the blade is in standby mode, and that firmware uploading is not in progress.

When the server is in standby mode, the Power/OK LED blinks slowly (approximately every three seconds), and the host is powered off.

2. Connect to Oracle ILOM.

For instructions, see [“Accessing Oracle ILOM” on page 20](#) and, for more information, see the *Netra Blade X3-2B Installation Guide*.

3. Apply full power to the blade. Do one of the following:

- Use Oracle ILOM web interface: On the System Information > Summary screen, next to Power State, click Turn On.
- Use Oracle ILOM command-line interface (CLI): From the server SP CLI, type `start /System`.

See *Netra Blade X3-2B Service Manual*, [“Powering On the Blade” on page 89](#).

4. **Verify that the Power/OK LED on the front panel of the server illuminates a steady-on green light after the server has successfully powered on.**

A steady-on green Power/OK LED light indicates that the host is fully booted into an OS, and is ready for normal operation.

See *Netra Blade X3-2B Service Manual*, “Front Panel LEDs” on page 4.

5. **Update Oracle ILOM and BIOS.**

See <http://www.oracle.com/pls/topic/lookup?ctx=ilom31>

6. **Configure Oracle ILOM.**

See <http://www.oracle.com/pls/topic/lookup?ctx=ilom31>.

7. **Perform additional setup tasks that are not available from Oracle ILOM.**

- a. **Update disk expander or HBA firmware.**

See *Netra Blade X3-2B Installation Guide*, “Blade Features” on page 1.

- b. **Configure RAID.**

See “Configuring RAID” on page 127.

- c. **Install an operating system, or configure a pre-installed operating system.**

See the OS installation guide for the operating system you want to install.

- *Netra Blade X3-2B Installation Guide for the Oracle Solaris Operating System*
- *Netra Blade X3-2B Installation Guide for Linux Operating Systems*
- *Netra Blade X3-2B Installation Guide for Oracle VM Operating System*
- *Netra Blade X3-2B Installation Guide for Windows Operating Systems*
- *Netra Blade X3-2B Installation Guide for ESX Software*

Related Information

- *Netra Blade X3-2B Service Manual*, “Front Panel LEDs” on page 4
- *Netra Blade X3-2B Installation Guide*
- Oracle ILOM Documentation Library
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

▼ Set Up Software and Firmware (Oracle Hardware Management Pack)

This procedure assumes that you have:

- Installed the operating system.
- Optionally configured RAID. See “Configuring RAID” on page 127.
- Installed Oracle Hardware Management Pack. See “Access Oracle Hardware Management Pack (OSA)” on page 23.

1. If not already done, connect to the blade.

For instructions, see the *Netra Blade X3-2B Installation Guide*.

2. If the server is not powered on, press the Power button on the server front panel to power on the server to full power mode.

The Power/OK LED on the front panel of the server illuminates a steady-on green light after the server has successfully powered on, indicating that the host is ready for normal operation.

See *Netra Blade X3-2B Service Manual*, “Front Panel LEDs” on page 4.

3. Install or configure the host operating system, and install any needed drivers.

See the OS installation guide for the operating system you want to install.

- *Netra Blade X3-2B Installation Guide for the Oracle Solaris Operating System*
- *Netra Blade X3-2B Installation Guide for Linux Operating Systems*
- *Netra Blade X3-2B Installation Guide for Oracle VM Operating System*
- *Netra Blade X3-2B Installation Guide for Windows Operating Systems*
- *Netra Blade X3-2B Installation Guide for ESX Software*

4. If not already installed, install Oracle Hardware Management Pack.

See the instructions at the following site:

<http://www.oracle.com/goto/system-management>.

5. Update Oracle ILOM and BIOS firmware.

Use the Oracle Hardware Management Pack `fwupdate` tool, as required.

Note – Alternate methods to update ILOM and BIOS firmware include: Oracle System Assistant, Oracle ILOM (CLI and Web browser), and `ipmiflash`.

6. Configure Oracle ILOM.

Use the Oracle Hardware Management Pack `ilomconfig` tool, as required.

Note – Alternate methods to configure Oracle ILOM include: Oracle System Assistant, and Oracle ILOM (CLI and Web browser).

7. (Optional) Configure BIOS.

Use the Oracle Hardware Management Pack `ubiosconfig` tool, as required.

Note – Alternate methods to configure BIOS firmware include: Oracle System Assistant, and Oracle ILOM (CLI and Web browser).

8. (Optional) Explore and configure RAID.

Use the Oracle Hardware Management Pack `raidconfig` tool, as required.

Note – Alternate methods to configure RAID include: Oracle System Assistant, Oracle ILOM (CLI and Web browser), the LSI MSM application, and the LSI HBA BIOS Utilities (webBIOS, configuration utility, Megacli, sas2ircu).

9. Query, update, and validate firmware versions on supported SAS storage drives, embedded SAS storage controllers, LSI SAS storage expanders, and storage drives.

Use the Oracle Hardware Management Pack `fwupdate` tool, as required.

Related Information

- Oracle Hardware Management Pack Documentation Library
(<http://www.oracle.com/pls/topic/lookup?ctx=ohmp>)
- *Netra Blade X3-2B Installation Guide*
- *Netra Blade X3-2B Installation Guide for the Oracle Solaris Operating System*
- *Netra Blade X3-2B Installation Guide for Linux Operating Systems*
- *Netra Blade X3-2B Installation Guide for Oracle VM Operating System*
- *Netra Blade X3-2B Installation Guide for Windows Operating Systems*
- *Netra Blade X3-2B Installation Guide for ESX Software*
- *Netra Blade X3-2B Service Manual*

Managing Server Policies Using Oracle ILOM

You can use Oracle Integrated Lights Out Manager (Oracle ILOM) to set power-on, and other policies for the Netra Blade X3-2B.

The following topics are covered.

Description	Link
Review service processor power-on policies.	“Service Processor Power-On Policies” on page 118
Configure management policies using Oracle ILOM web interface.	“Configure Management Policies Using Oracle ILOM (Web)” on page 124
Configure management policies using Oracle ILOM CLI interface.	“Configure Management Policies Using Oracle ILOM (CLI)” on page 125
For the following tasks see Oracle ILOM 3.1 Documentation Collection. <ul style="list-style-type: none">• Configure the blade hardware.• Set power-on policies for the blade.• Set cooling policies for the blade.• Monitor hardware errors and faults as they occur.• Send events using SNMP traps or email alerts when faults occur.• Remotely control the power state of your blade.	http://www.oracle.com/pls/topic/lookup?ctx=ilom31

Related Information

- [“Access Oracle ILOM \(Web\)” on page 21](#)
- [“Access Oracle ILOM \(CLI\)” on page 21](#)
- [Oracle ILOM Documentation Library](#)
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)
- [“Identifying Hardware Components and SNMP Messages” on page 235](#)

Oracle ILOM Features

Oracle Integrated Lights Out Manager (Oracle ILOM) offers a full set of features, functions, and protocols that you can use to monitor and manage Oracle Sun servers. Some Oracle ILOM features include:

- Browser-based web interface and SSH command-line interface
- Downloadable firmware updates
- Remote hardware monitoring
- Hardware field-replaceable unit inventory and presence detection
- Remote keyboard, video, mouse, and storage (KVMS) redirection
- System power control and monitoring
- Configuration and management of user accounts
- Error and fault management
- System alerts, including SNMP traps, IPMI PETs, remote syslog, and email alerts

For complete information about these Oracle ILOM features, and for information about how to perform procedures using Oracle ILOM, see

Oracle ILOM Documentation Library

(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

Oracle ILOM Features for x86 Sun Servers

The Netra Blade X3-2B supports all standard features in Oracle Integrated Lights Out Manager (Oracle ILOM) 3.1 firmware. In addition, Oracle ILOM 3.1 provides features that are designed specifically for x86 Sun servers.

The following table identifies Oracle ILOM 3.1 features and functions that are specific to, and supported on, x86 Sun servers. For complete information about these features and functions, see the documents in Oracle ILOM 3.1 Documentation Collection.

Oracle ILOM 3.1 Feature	For Complete Information and Procedures, See:
Sideband management	“Setting Up a Management Connection to Oracle ILOM” in <i>Oracle ILOM 3.1 Configuration and Maintenance Guide</i>

Oracle ILOM 3.1 Feature	For Complete Information and Procedures, See:
Power Management Policies	“Power Management Policies Supported” on page 118 Supported Power Management Policies: “Modify Power State on Managed Device” in <i>Oracle ILOM 3.1 Configuration and Maintenance Guide</i> Note - Features not supported in Oracle ILOM 3.1 for x86 Sun servers: <ul style="list-style-type: none"> • “Modify Power Management Policy on Managed Device” in <i>Oracle ILOM 3.1 Configuration and Maintenance Guide</i> • “Real-Time Power Monitoring Through Oracle ILOM Interfaces” in <i>Oracle ILOM 3.1 User’s Guide</i>
Diagnostics using Pc_Check and nonmaskable interrupt	“Troubleshooting Oracle ILOM Managed Devices” in <i>Oracle ILOM 3.1 User’s Guide</i> “Performing Pc-Check Diagnostics Tests” in <i>Oracle x86 Servers Diagnostics Guide for Servers With Oracle ILOM 3.1</i>
Control next boot device	“Modify Next Boot Device on x86 Managed System” in <i>Oracle ILOM 3.1 Configuration and Maintenance Guide</i>
FRU top-level indicator auto-update	“FRU TLI Auto-Update” on page 121
Switch serial port output to host management console	“Switch Serial Port Management Output to Host Serial Console” in <i>Oracle ILOM 3.1 Configuration and Maintenance Guide</i> .
Back up and restore BIOS configuration	“Manage x86 BIOS Configuration Parameters” in <i>Oracle ILOM 3.1 Configuration and Maintenance Guide</i>
Administer open problems and clear server faults	“Administering Open Problems” in <i>Oracle ILOM 3.1 User’s Guide</i> “Managing Sun Hardware Faults Through the Oracle ILOM Fault Management Shell” in <i>Oracle ILOM 3.1 User’s Guide</i>

Sideband Management

The sideband management feature is one of four ways you can establish a management connection to Oracle ILOM. By default, Oracle ILOM is set to transmit all traffic through the secure dedicated management port (NET MGT) on the Sun server chassis. However, if you support only one network connection to Oracle ILOM for both management and host traffic, you can configure a sideband management connection.

For more information about special considerations, requirements, and instructions for configuring a sideband management connection in Oracle ILOM, see “Setting Up a Management Connection to Oracle ILOM” in the *Oracle ILOM 3.1 Configuration and Maintenance Guide*.

Service Processor Power-On Policies

The service processor (SP) power-on policy determines the power state of the blade when a cold boot is performed on the blade. A server cold boot occurs only when AC power is applied to the blade.

Service processor power-on policies are mutually exclusive, meaning that if one policy is enabled, the other policy is disabled by default. If both policies are disabled, then the blade SP will not apply main power to the blade at boot time. The two power-on policies are covered in the following table.

Policy	Enabled	Disabled
Auto Power-On Host On Boot	When enabled, the service processor automatically applies main power to the blade.	When disabled (default), main power is not applied to the blade.
Set Host Power to Last Power State On Boot	When enabled, the service processor automatically applies main power to the server based on the last power state of the blade. The SP automatically tracks the last power state and restores the server to its last remembered power state following a power state change of at least 10 seconds.	When disabled (default), the last power state is not applied to the blade.

Related Information

- [“Configure Management Policies Using Oracle ILOM \(Web\)” on page 124](#)
- [“Configure Management Policies Using Oracle ILOM \(CLI\)” on page 125](#)

Power Management Policies Supported

In Oracle ILOM 3.1, the following power features are enabled for x86 Sun servers.

Power Feature	Description
Remote Power Control	<p>Configure the power state for the server remotely from an Oracle ILOM interface. Available power states include:</p> <ul style="list-style-type: none"> Cutting power to the system Shutting down the system gracefully Powering on the system with full power <p>For instructions on performing these operations, see “Modify Power State for Managed Device” in <i>Oracle ILOM 3.1 Configuration and Maintenance Guide</i>.</p>
Power-On Policies	<p>The service processor (SP) Power-On Policies determine the power state of the server when AC power is applied to the server (cold boot). Service processor power-on policies are mutually exclusive, so that if one policy is enabled, the other policy is disabled by default. If both policies are disabled, then the server SP will not apply main power to the server at boot time.</p> <p>The two power-on policies are:</p> <ul style="list-style-type: none"> Auto Power-On Post on Boot-- When this option is enabled, the SP automatically applies main power to the server. When disabled (default), main power is not applied to the server. Set Host Power to Last Power State on Boot -- When this option is enabled, the SP automatically tracks the last power state and restores the server to this last power state following a power state change of at least 10 seconds. When disabled (default) the last power state is not applied to the server. <p>For instructions on how to set the Power-On Policies, see “Modify Power State on Managed Device” in <i>Oracle ILOM 3.1 Configuration and Maintenance Guide</i>.</p>

Diagnostics Using Pc-Check and NMI

Pc-Check is a DOS-based diagnostic utility that is integrated into Oracle ILOM that enables you to detect and test all motherboard components, ports, and slots. Pc-Check has four operating modes that you can run either from Oracle ILOM:

- **Enabled** -- Run a predefined set of diagnostics when the server starts up.
- **Extended** -- Run a comprehensive test suite of diagnostics when the server starts up.

- **Manual** -- Run only the diagnostics that you specify when the server starts up.
- **Disabled** -- Do not run Pc-Check diagnostics when the server starts up.

You can also send a non-maskable interrupt (NMI) to the host operating system using Oracle ILOM. An NMI is a high-priority interrupt that reports system errors that cannot be ignored by other interrupts. Note that sending an NMI to the host operating system could cause the host to stop responding and wait for input from an external debugger. Therefore, use this feature only when instructed to do so by Oracle Services personnel.

For more information about Pc-Check diagnostics, see the *Oracle x86 Servers Diagnostics Guide* for servers with Oracle ILOM 3.1. For instructions on how to run Pc-Check and how to generate an NMI from Oracle ILOM, see “Troubleshooting Oracle ILOM Managed Devices” in *Oracle ILOM 3.1 User’s Guide*.

Control Next Boot Device

Using Oracle ILOM, you can remotely control what the next boot device will be at the next power-on. Available states for the Next Boot Device setting include the following. These settings take effect at the next host boot and will bypass the current BIOS boot order settings.

- **Default**-- No override in the BIOS setting. Also clears any previously chosen selection.
- **PXE** – Host will boot from the network, following the PXE specification
- **Disk**-- Host will boot from the first disk as determined by BIOS.
- **Diagnostic**-- Host will boot into the diagnostic partition, if configured.
- **CD-ROM** – Host will boot from the attached CD-ROM or DVD device.
- **BIOS** – Host will boot into the BIOS Setup screen.

For information about how to configure the Next Boot Device setting in Oracle ILOM, see “Modify Next Boot Device on x86 Managed System” in *Oracle ILOM 3.1 Configuration and Maintenance Guide*.

FRU TLI Auto-Update

Oracle ILOM includes a top-level indicator (TLI) auto-update feature that ensures that the TLI stored in the server's field-replaceable units (FRUs) is always correct. The TLI, which is unique to each server, is used to track the server's service entitlement and warranty coverage. When a server requires service, the server's TLI is used to verify that the server's warranty has not expired.

The TLI is stored in the FRUID (field-replaceable unit identifiers) of these components: power distribution board (PDB), motherboard (MB), and disk backplane (DBP). The TLI components stored in each component FRUID include:

- **PPN** (product part number)
- **PSN** (product serial number)
- **WWN** (world-wide name)

When a server FRU that contains the TLI is removed and a replacement module installed, the TLI of the replacement module is programmed by Oracle ILOM to contain the same TLI as the other two modules.

Switch Serial Port Output to Host Management Console

Oracle ILOM, by default, streams local management traffic through the serial management port (SER MGT). However, you can configure Oracle ILOM to stream the console output directly to the host console port (COM1). This feature is beneficial to Windows kernel debugging, as it enables you to view non-ASCII character traffic from the host console.

For more information about prerequisites and instructions for switching the serial port output between the serial port and host console, see “Switch Serial Management Port Output to Host Console” in *Oracle ILOM 3.1 Configuration and Maintenance Guide*.

Back Up and Restore BIOS Configuration

The BIOS configuration back up and restore feature in Oracle ILOM makes it easy for maintaining your host data store BIOS configuration parameters. Use this feature to back up the BIOS parameters in the host data store to Oracle ILOM or to restore the saved parameters in Oracle ILOM to the host data store. You can also reset the BIOS configuration parameters to the factory defaults.

For more information about this feature and instructions on how to perform these operations in Oracle ILOM, see “Managing x86 BIOS Configuration Parameters” in the *Oracle ILOM 3.1 Configuration and Maintenance Guide*.

Administer Open Problems

Oracle ILOM automatically detects system hardware faults and environmental conditions on a managed system. If a problem occurs on a managed system, Oracle ILOM will automatically:

- Illuminate the Service Action indicator (LED) on the managed device.
- Identify the faulted condition in an easy to read Open Problems table.
- Record system information about the fault condition in the event log.

After the component is repaired or replaced, Oracle ILOM clears the fault state from the Open Problems table.

For further information about administering hardware faults that are detected and reported in Oracle ILOM interfaces, see “View Open Problems on Managed Devices” and “Manage Sun Hardware Faults Through Oracle ILOM Fault Management Shell” in *Oracle ILOM 3.1 User’s Guide*.

Clear Blade Faults

When a server component fails, the server generates a component-specific fault that is captured by Oracle ILOM SP. Some faults are cleared automatically when the failed component is replaced, but faults generated for components that are not hot-serviceable must be cleared manually. You can use Oracle ILOM CLI to clear faults.

For the Netra Blade X3-2B, the following types of faults must be cleared manually after the faulty component is replaced:

- DIMM (memory module) faults
- Processor (CPU) faults
- PCIe faults (network ports and hot-pluggable PCI-Express Modules (PEMs))
- Motherboard faults (not necessary if the Netra Blade X3-2B is replaced)

To clear DIMM, processor, PCIe, and motherboard faults, access Oracle ILOM CLI and clear the fault. For instructions, see [Netra Blade X3-2B Service Manual, “Servicing Blade Components” on page 39](#).

Clearing Top Cover Blade Faults

In addition, the following fault does not require replacement of a faulty component; however, user action is required to clear the fault:

fault.security.integrity-compromised@/sys/sp

This fault is generated when the server's top cover is removed while the AC power cords are still connected to the power supply, that is, power is not completely removed from the server. To clear the

fault.security.integrity-compromised@/sys/sp fault, replace the server's top cover, and reboot the server's SP.

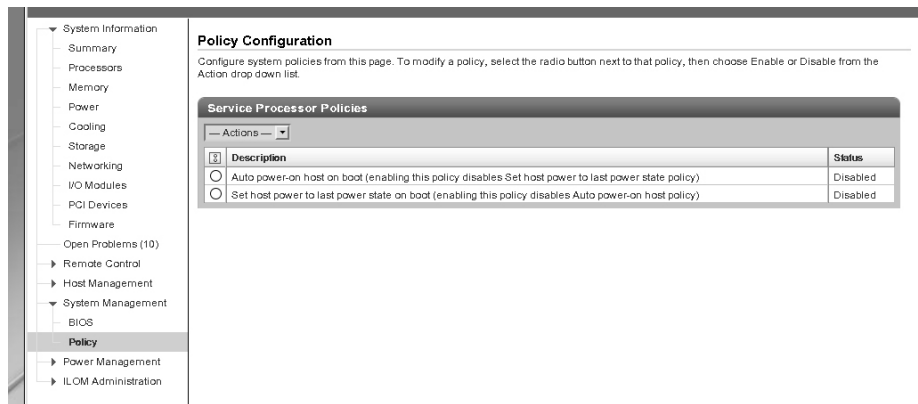
▼ Configure Management Policies Using Oracle ILOM (Web)

1. Log in to Oracle ILOM web interface.

See [“Access Oracle ILOM \(CLI\)”](#) on page 21.

2. Click **System Management > Policy**.

The Policy Configuration page is displayed.



3. Click the radio button next to the policy that you want to configure.

4. Click the drop-down list and select **Enable** or **Disable**.

The system asks you to confirm your selection.

5. Click **OK** to disable or enable the policy.

Related Information

- [“Configure Management Policies Using Oracle ILOM \(CLI\)”](#) on page 125
- [“Access Oracle ILOM \(CLI\)”](#) on page 21
- [“Service Processor Power-On Policies”](#) on page 118

▼ Configure Management Policies Using Oracle ILOM (CLI)

1. Log in to Oracle ILOM using the CLI.

See [“Access Oracle ILOM \(CLI\)”](#) on page 21.

2. To show the current policies, type.

```
-> show /SP/policy
```

The SP policy properties display. For example.

```
/SP/policy
Targets:
Properties:
  HOST_AUTO_POWER_ON = disabled
  HOST_LAST_POWER_STATE = disabled
Commands:
  cd
  set
  show
```

3. To enable or disable a policy, type a command using the following format.

```
-> set /SP/policy policy_name = enabled
```

For example, to enable the host power to last power state on boot policy, type.

```
-> set /SP/policy/ HOST_LAST_POWER_STATE=enabled
```

Then type `show /SP/policy` again to confirm the new setting.

```
/SP/policy
Targets:
Properties:
  HOST_AUTO_POWER_ON = disabled
  HOST_LAST_POWER_STATE = enabled
```

Related Information

- [“Configure Management Policies Using Oracle ILOM \(Web\)”](#) on page 124
- [“Access Oracle ILOM \(CLI\)”](#) on page 21
- [“Service Processor Power-On Policies”](#) on page 118

Configuring RAID

This section contains information about configuring RAID devices for the blade. The following topics are covered.

Description	Links
Verify that the HBA REM is supported for the blade.	“Supported HBA REMs” on page 127
Review M2 RAID considerations.	“RAID Considerations” on page 128
Create a RAID volume before installing an operating system.	“Before Installing an Operating System” on page 128
Create a RAID volume after installing an operating system.	“After Installing an Operating System” on page 129

Supported HBA REMs

The Netra Blade X3-2B supports two host bus adapter (HBA) RAID expansion modules (REM)s. These REMs can be ordered with the server or ordered separately. For instructions on installing the REMs and connecting hard drives, see the *Netra Blade X3-2B Service Manual*.

The following table lists the available HBA Express Module disk controllers for the Netra Blade X3-2B and the RAID levels available for each controller.

Disk Controller	REM Part Number	RAID Levels Supported
Optional Sun Storage 6Gb/s SAS REM HBA, LSI Fusion-MPT IR SAS2	SGX-SAS6-REM-Z	Hardware 0, 1, 10

Disk Controller	REM Part Number	RAID Levels Supported
Optional Sun Storage 6Gb/s SAS REM RAID HBA, LSI MegaRAID SAS2	SGX-SAS6-R-REM-Z	Hardware 0, 1, 5, 6, 10, 50, 60

RAID Considerations

Drives located in the Netra Blade X3-2B are considered to be in a separate “failure domain” from the drives that are in the storage module M2 disk enclosure. A failure domain is an enclosure or group of enclosures that connect to the drives in the same way.

Because the blade connects to the drives using a single wire and the storage module M2 connects to the drives using two wires, they are different failure domains. Thus:

- The drives in different failure domains must not be part of the same RAID volume (or be hot spares for that volume).
- Because two or more blade M2 disk enclosures are considered to be in the same failure domain, RAID volumes and hot spares can be composed of drives from multiple storage modules.
- Disks that only use a single wire (port) connection are not supported in the storage module M2 because it connects to disks using two wires. These unsupported drive types include SATA and SATA SSD drives. Both single wire and two wire drives are supported in the Netra Blade X3-2B.

Creating a RAID Volume

- [“Before Installing an Operating System” on page 128](#)
- [“After Installing an Operating System” on page 129](#)

Before Installing an Operating System

The following guidelines apply when you are using a storage drive connected to a supported HBA to install an operating system (OS).

- For SGX-SAS6-REM-Z, you can install an OS on a drive without creating a RAID volume. However, if you want to install the OS from an OS install disk, you will need to create the RAID volume before installing the OS.
- For SGX-SAS6-R-REM-Z, you must create a RAID volume before installing an OS on a drive. Also, you must make the drive bootable.

For information about creating RAID volumes and making drives bootable before installing an OS, see *Netra Blade X3-2B Installation Guide*, “Preparing the Storage Drives to Install an Operating System” on page 55.

After Installing an Operating System

RAID configuration is most often completed before you install an operating system and for the boot disk. However, it is possible to create a RAID volume on other non-boot disks after installing an operating system.

To create RAID volumes after an OS is installed, and manage blade RAID resources, choose one of the following tools:

- **Oracle System Assistant:** You can use Oracle System Assistant to create RAID 0 or 1 level volumes and prepare drives for OS installation. See “[Accessing Oracle System Assistant](#)” on page 15.
- **Oracle Hardware Management Pack 2.2:** You can use the `raidconfig` commands contained in this software’s Oracle Server CLI Tools component to create and manage RAID volumes on your server. For more information about accessing Oracle Hardware Management Pack, see “[Accessing Oracle Hardware Management Pack](#)” on page 22.
- **(SGX-SAS6-REM-Z only) LSI SAS2 2008 RAID Management Utility:** You can use the `sas2ircu` commands contained in the LSI SAS2 Integrated Configuration Utility to configure and manage RAID volumes on your server.

You can download the SAS2IRCU software for your operating system from the Utilities section at the following

location:
http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-rem-z.aspx
http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-rem-z.aspx
http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-rem-z.aspx

- **(SGX-SAS6-R-REM-Z only) LSI MegaCLI or MegaRAID Storage Manager:** You can use the LSI MegaCLI command-line tool or the MegaRAID Storage Manager web browser to configure and manage RAID volumes for SGX-SAS6-R-REM-Z.

You can download the MegaCLI and MegaRAID Storage Manager software for your operating system from the Utilities section at the following location:

http://www.lsi.com/sep/Pages/oracle/sg_x_sas6-r-rem-z.aspx

Setting Up the Blade With BIOS Setup Utility

These sections describe the BIOS Setup Utility.

The following topics are covered:

Description	Link
Access the BIOS Setup Utility menus.	“Access BIOS Setup Utility Menus” on page 131
Navigate the menus or options listed on a menu.	“Navigate BIOS Setup Utility Menus” on page 133
Review function keys to Control key mappings.	“BIOS Key Mappings” on page 135
Review BIOS Setup Utility menu tree.	“BIOS Setup Utility Menu Overview” on page 136

Related Information

- [“Configuring the UEFI BIOS Boot Mode” on page 139](#)
- [“Common BIOS Setup Utility Tasks” on page 145](#)
- [“BIOS Setup Utility Screen Reference” on page 167](#)
- [“BIOS LSI MegaRAID Configuration Utility Screen Reference” on page 209](#)

▼ Access BIOS Setup Utility Menus

Select one of the following interfaces to access the BIOS Setup Utility screens:

- Use a USB keyboard and VGA monitor connected directly to the server. (A mouse is not required to operate the BIOS Setup Utility.)

- Use a terminal (or terminal emulator connected to a computer) through the serial port on the back panel of the server.
 - Connect to the server using Oracle ILOM Remote Console application.
- See *Netra Blade X3-2B Installation Guide*, “Connecting to Oracle ILOM” on page 25.



1. Reset or power on the server. Select one of the following methods.

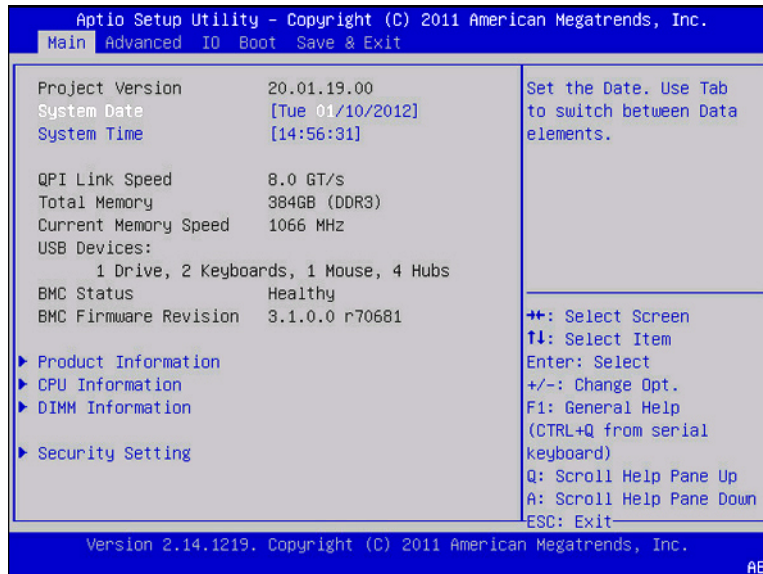
- *From the local server* -- press the Power button on the front panel of the server to power off the server, then press the Power button again to power on the server.
- *From Oracle ILOM web interface* -- click Host Management > Power Control and select Reset from the Select Action list box.
- *From Oracle ILOM CLI on the server SP* -- type `reset /System`

The POST sequence begins.

See *Netra Blade X3-2B Service Manual*, “Powering On the Blade” on page 89.

2. To enter the BIOS Setup Utility, press the F2 key (Ctrl+E from a serial connection) when prompted and while the BIOS is running the power-on self-tests (POST).

The BIOS Setup Utility main screen is displayed.



Related Information

- [“Setting Up the Blade With BIOS Setup Utility” on page 131](#)
- [“BIOS Setup Utility Screen Reference” on page 167](#)
- [“BIOS Key Mappings” on page 135](#)

▼ Navigate BIOS Setup Utility Menus

To navigate the menus or options listed on a menu, use the arrow keys. The options or fields that you can configure on a menu appear in color.

For further instructions on how to navigate and change settings in the BIOS Setup Utility, see the online navigation information provided on lower right side of the menu. The upper right side of the menu provides information about the menu selection.

1. **Access the BIOS Setup Utility screens.**
See [“Access BIOS Setup Utility Menus” on page 131](#).
2. **To select the different primary menu options, use the left and right arrow keys.**
As you select each menu option, the top-level screen for that menu option is displayed.

3. To select an option on a top-level screen, use the up and down arrow keys to navigate the options presented.
 - Only options that can be modified are highlighted when you press the up and down arrow keys.
 - If a field can be modified, as you select the option, instructions for modifying the option appear in the right column of the screen.
 - If a field is a link to a sub-screen, a description of the sub-menu content is displayed in the right column.
4. Modify the setup field by pressing the + or - keys (plus or minus keys) or by pressing Enter and selecting the option you want from the dialog box menus.
5. To return from a sub-menu to the previous menu screen, press the Esc key.

Pressing Esc from a top-level menu is equivalent to selecting the Discard Changes and Exit option from the Save and Exit menu.
6. Modify parameters as needed.
7. To save or discard your changes and exit the BIOS Setup Utility, press F10.
 - To save your changes and exit the BIOS Setup Utility, you can select the Save & Exit menu then select Save Changes and Reset.

Note – After you modify any BIOS settings and select Save Changes and Reset from the Save & Exit menu, the subsequent reboot might take longer than a typical reboot where no settings were modified. The additional delay is required to ensure that changes to the BIOS settings are synchronized with Oracle ILOM.

Note – If the BIOS Setup Utility setup data becomes invalid, the BIOS settings will return to their default, optimal values.

Related Information

- [“Setting Up the Blade With BIOS Setup Utility” on page 131](#)
- [“BIOS Setup Utility Screen Reference” on page 167](#)

BIOS Key Mappings

When you view the BIOS output from a terminal using the serial console redirection feature, some terminals do not support function keys. BIOS supports the mapping of function keys to Control key sequences when serial redirection is enabled. The following table provides a description of the function key to Control key mappings.

Function Key	Control Key Sequence	BIOS POST Function	BIOS Setup Function
F1	Ctrl+Q	Not applicable.	Activate the Setup Utility Help menu.
F2	Ctrl+E	Enter BIOS Setup Utility while the system is performing the power-on self-test (POST).	Not applicable.
F7	Ctrl+D	Not applicable.	Discard changes. Not applicable to UEFI Driver Control Menu.
F8	Ctrl+P	Activate BIOS Boot menu.	Not applicable.
F9	Ctrl+O	Launches Oracle System Assistant. BIOS boots to Oracle System Assistant, bypassing the current Boot Option Priority list for this one-time boot method.	Activate Load Optimal Values dialog box menu. Not applicable to UEFI Driver Control Menu.
F10	Ctrl+S	Not applicable.	Activate Save and Exit dialog box menu. Not applicable to UEFI Driver Control Menu.
F12	Ctrl+N	Activate Network boot.	Not applicable.

Related Information

- [“Access BIOS Setup Utility Menus” on page 131](#)

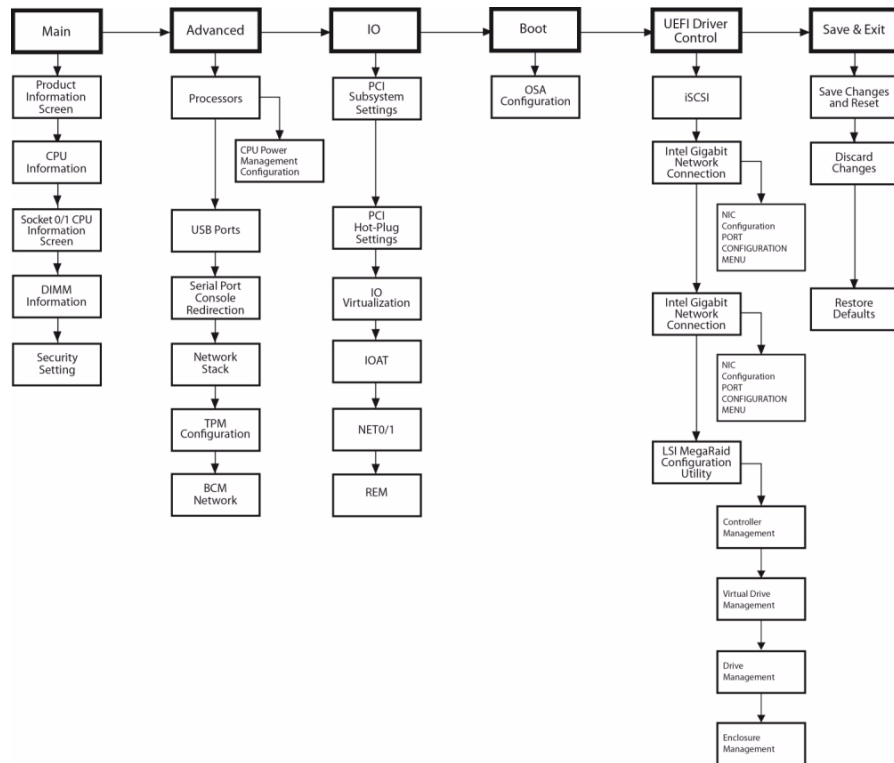
BIOS Setup Utility Menu Overview

The following table describes the top-level BIOS Setup Utility menu tabs.

Menu	Description	See:
Main	General product information, including memory, time and date, security settings, system serial number, and CPU and DIMM information.	“BIOS Main Menu Selections” on page 167
Advanced	Configuration information for the CPU, trusted computing, USB, and other information. Set the IP address for the server SP.	“BIOS Advanced Menu Selections” on page 174s
IO	Enable and disable Option ROMs.	“BIOS IO Menu Selections” on page 187
Boot	Enable or disable internal OSA support, set the boot mode to Legacy BIOS or UEFI, and configure the boot device priority.	“BIOS Boot Menu Selections” on page 195
UEFI Driver Control	Displays only if the UEFI/BIOS boot mode is set to UEFI. Only UEFI boot options are present to the user.	“BIOS UEFI Driver Control Menu Selections” on page 198
Save and Exit	Save changes and exit, discard changes and exit, discard changes, or load optimal or fail-safe defaults.	“BIOS Save & Exit Menu Selections” on page 204

For examples of each of these screens, see [“BIOS Setup Utility Screen Reference” on page 167](#).

The following figure identifies sub-menus that you can access from each of the top-level menus.



Related Information

- [“BIOS Setup Utility Screen Reference” on page 167](#)
- [“BIOS LSI MegaRAID Configuration Utility Screen Reference” on page 209](#)

Selecting Legacy and UEFI BIOS

These sections describe how to set the UEFI BIOS booting events.

The following topics are covered.

Description	Link
Understand BIOS.	“Configuring the UEFI BIOS Boot Mode” on page 139
Understand benefits of UEFI-based BIOS over Legacy BIOS boot mode.	“Supported Boot Modes” on page 140
Specify which mode of BIOS you want to use: Legacy BIOS or UEFI boot mode.	“UEFI BIOS Advantages” on page 141
Understand configuration utilities for add-in cards.	“Configuration Utilities for Add-In Cards” on page 142
Select the boot mode using the BIOS Setup Utility.	“Select UEFI or Legacy BIOS Boot Mode” on page 142

Related Information

- [“Selecting Legacy and UEFI BIOS” on page 139](#)
- [“BIOS Setup Utility Screen Reference” on page 167](#)
- [“BIOS LSI MegaRAID Configuration Utility Screen Reference” on page 209](#)

Configuring the UEFI BIOS Boot Mode

UEFI BIOS supports both Legacy and UEFI boot modes when starting the system. You can set the UEFI-BIOS boot mode using the UEFI BIOS setup utility. UEFI-BIOS boot mode option selection depends on the operating system type and configuration

that is installed on the server. Choose Legacy BIOS boot mode to allow HBAs and Express Module devices to use option ROMs. Choose UEFI boot mode to use UEFI drivers.

The BIOS firmware controls the system from power-on until an operating system is booted. The BIOS is based on the Unified Extensible Firmware Interface (UEFI) specification.

Supported Boot Modes

UEFI BIOS supports two boot modes: Legacy BIOS boot mode and UEFI boot mode. Some devices and operating systems do not yet support UEFI-based BIOS and can boot only from Legacy BIOS boot mode. Depending on your situation, you might have to specify which boot mode of UEFI BIOS you want to use: Legacy BIOS boot mode or UEFI boot mode. Choose Legacy BIOS boot mode to allow HBAs and Express Module devices to use option ROMs. Choose UEFI boot mode to use UEFI drivers.

Only devices that support the selected boot mode are listed on the BIOS Boot screen. If you select UEFI Boot Mode, only boot candidates that support UEFI BIOS boot mode are listed on the BIOS Setup Utility screens in the Boot Options Priority list. If you select Legacy BIOS boot mode, only boot candidates that support Legacy BIOS boot mode are listed in the Boot Options Priority list.

Note – If the boot mode is changed, the boot candidates from the previous Boot Mode disappears. Boot candidates for the newly changed Boot Mode appear after the 'Save Changes and Reset' BIOS command is issued, and also appear in the screens after the next boot to BIOS Setup Utility.

When you switch between Legacy BIOS Mode and UEFI Boot Mode (in either direction), BIOS settings that affect the Boot Options Priority List settings are changed. Because the settings for a given mode do not persist on a transition between modes, use the BIOS configuration back up and restore feature in Oracle ILOM to capture and preserve the BIOS configuration if you intend to switch back to the previous BIOS mode and want to retain your previous BIOS settings. For information, see “Managing x86 BIOS Configuration Parameters” in the *Oracle ILOM 3.1 Configuration and Maintenance Guide*.

Oracle Integrated Lights Out Manager Documentation Library at:
(<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>)

At the first release of the Netra Blade X3-2B, the following operating systems support UEFI BIOS boot mode.

- Oracle Enterprise Linux
- SUSE Linux Enterprise Server SP1
- RedHat Enterprise Linux
- Microsoft Windows

For updates to this list, see the *Netra Blade X3-2B Product Notes*.

When using operating systems that support booting only from Legacy BIOS, you must use the Legacy BIOS boot mode. When using operating systems that support booting from Legacy BIOS or UEFI BIOS, you can use either boot mode. However, once a boot mode is chosen, and an operating system is installed, the installation can be started only using the same mode that was used for the installation.

- When an operating system is installed using Legacy BIOS boot mode, the operating system can be started only in Legacy BIOS boot mode.
- When an operating system is installed using UEFI boot mode, the operating system can be started only in UEFI boot mode.

UEFI BIOS Advantages

When the option is available to choose between a Legacy BIOS boot mode or UEFI boot mode operating system installation, the advantages to choosing a UEFI boot mode installation include the following:

- Avoids Legacy Option ROM address constraints. For more information, see [“Legacy BIOS Option ROM Allocation Considerations” on page 154](#).
- Supports operating system boot partitions greater than 2 terabytes (2 TB) in size. For more information about limitations for supported operating systems, see *Netra Blade X3-2B Product Notes*.
- PCIe device configuration utilities are integrated with Setup Utility menus. For more information, see [“BIOS Setup Utility Screen Reference” on page 167](#).
- Bootable operating system images will appear in the boot list as labeled entities, for example Windows boot manager label versus raw device labels.

Benefits of UEFI boot mode over Legacy BIOS boot mode include:

- Support for hard drive partitions larger than 2 Tbytes
- Support for more than four partitions on a drive
- Fast booting
- Efficient power and system management
- Robust reliability and fault management

Configuration Utilities for Add-In Cards

The method for interacting with configuration utilities for add-in cards and (system resident) I/O adapters differs depending on whether Legacy BIOS boot mode or UEFI boot mode is used.

In Legacy BIOS boot mode, I/O adapter utilities are invoked during BIOS POST progression using hot keys identified by the adapter's Option ROM during POST. When the hot key is pressed, the adapter's specific configuration utility interface is presented. Often the interface will have a vendor-specific design.

In UEFI boot mode, the configuration screens for the add-in cards will appear as menu items in the IO Menu as part of the standard BIOS Setup Utility screens. For example, if the Oracle Sun Storage 6Gb/s PCIe RAID host bus adapter is installed in the server, its configuration utility is displayed as a menu selection on the BIOS UEFI Driver Control menu.

See the [“BIOS LSI MegaRAID Configuration Utility Screen Reference” on page 209](#) for more information about the LSI MegaRAID Configuration Utility.

▼ Select UEFI or Legacy BIOS Boot Mode

See [“Configuring the UEFI BIOS Boot Mode” on page 139](#).

1. Access the BIOS Setup Utility menus.

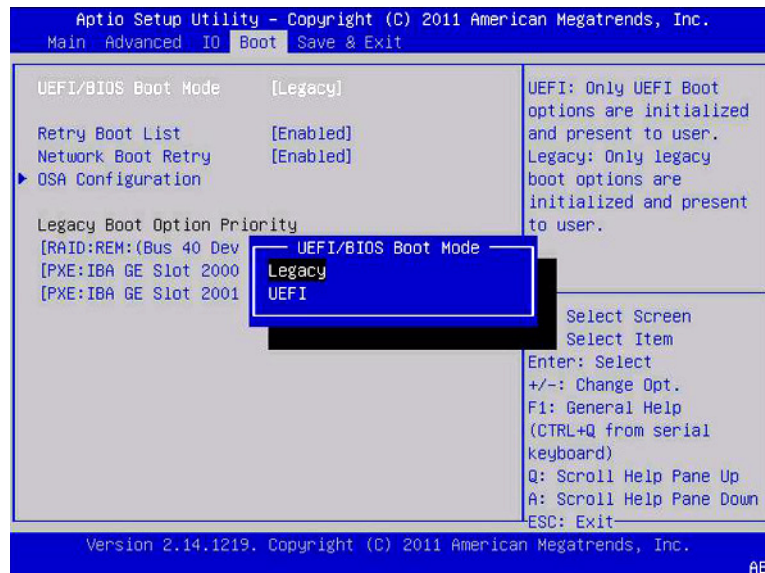
See [“Access BIOS Setup Utility Menus” on page 131](#).

2. From the BIOS Main menu screen, select Boot.

3. From the Boot screen, select UEFI/BIOS Boot Mode, and press Enter.

The UEFI/BIOS Boot Mode dialog box screen displays.

Note – You cannot configure the boot device priority after switching the boot mode. A system reboot is required to properly populate the Boot Device list with devices that support the chosen boot mode.



4. Use the up and down arrows to select the appropriate Legacy or UEFI boot mode, and press Enter.
5. Press F10 to save the changes and exit the screen.

Related Information

- "Configuring the UEFI BIOS Boot Mode" on page 139

Common BIOS Setup Utility Tasks

This section provides an overview of the BIOS Setup Utility tasks.

The following topics are covered.

Description	Link
Verify BIOS factory default settings.	“Verify BIOS Factory Default Settings” on page 146
Select the boot device.	“Select the Boot Device” on page 147
Configure TPM Support.	“Configure TPM Support” on page 148
Configure SP network settings.	“Configure SP Network Settings” on page 151
Legacy BIOS Option ROM Allocation.	“Legacy BIOS Option ROM Allocation Considerations” on page 154
Modify device configuration.	“Modify Device Configuration” on page 156n
Allocating IO resources.	“Allocating I/O Resources” on page 157
Enable or disable IO resource allocation.	“Enable or Disable I/O Resource Allocation” on page 157
Configure iSCSI Virtual Drives.	“Configure iSCSI Virtual Drives” on page 158
Exit BIOS Setup Utility.	“Exit BIOS Setup Utility” on page 164

Related Information

- [“Configuring the UEFI BIOS Boot Mode” on page 139](#)
- [“BIOS Setup Utility Screen Reference” on page 167](#)
- [“BIOS LSI MegaRAID Configuration Utility Screen Reference” on page 209](#)

▼ Verify BIOS Factory Default Settings

In the BIOS Setup Utility, you can set optimal defaults, as well as view and edit settings as needed. Any changes that you make in the BIOS Setup Utility (using the F2 key) are permanent until the next time you change the settings.

Ensure that the following requirements are met:

- A hard disk drive is properly installed in the server.
- A console connection is established to the server.

1. Reset or power on the server.

Select one of the following methods.

- From the local server -- press the Power button on the front panel of the server to power off the server. Then press the Power button again to power on the server.
- From Oracle ILOM web interface -- click Host Management > Power Control, and select Reset from the Select Action list box.
- From Oracle ILOM CLI on the server SP -- type `reset /System`

The server resets.

2. When prompted, press the F2 key to access the BIOS Setup Utility.



3. To ensure that the factory defaults are set:

a. Press the F9 key to automatically load the optimal factory default settings.

A message is displayed prompting you to continue this operation by selecting OK or to cancel the operation by selecting Cancel.

b. In the message, highlight OK, then press Enter.

The BIOS Setup Utility screen is displayed with the cursor highlighting the first value on the screen.

4. Press F10 to save the changes and exit the BIOS Setup Utility.

- Alternatively, you can save the changes and exit the BIOS Setup Utility by navigating to the Save & Exit menu and selecting Save Changes and Reset.

Related Information

- [“Access BIOS Setup Utility Menus” on page 131](#)
- [“BIOS Key Mappings” on page 135](#)
- [“Exit BIOS Setup Utility” on page 164](#)

▼ Select the Boot Device

The Boot Option Priority list contents depend on the BIOS boot mode that is selected. If UEFI boot mode is selected, only UEFI boot candidates are initialized and displayed in the Boot Option Priority list. If Legacy BIOS Mode is selected, only Legacy BIOS boot candidates are initialized and displayed in the Boot Option Priority list.

In addition to using the F2 key to view or edit the system BIOS settings (see [“Verify BIOS Factory Default Settings” on page 146](#)), you can use the F8 key during the BIOS startup to specify a temporary boot device. This selected boot device is in effect only for the current system boot. The permanent boot device specified using the F2 key will be in effect after the system boots from the temporary boot device.

1. Reset or power on the server.

Select one of the following methods.

- *From the local server* -- Press the Power button on the front panel of the server to power off the server, then press the Power button again to power on the server.
- *From Oracle ILOM web interface* -- Click Host Management > Power Control, and select Reset from the Select Action list box.
- *From Oracle ILOM CLI on the server SP* -- Type `reset /System`

The server resets.

2. Press the F8 key (or Ctrl+P from a serial connection) when prompted while the BIOS is running the power-on self-test (POST).

The Please Select Boot Device dialog box is displayed.

3. **Select the boot device option that is appropriate to the installed operating system and the BIOS boot mode selected, then press Enter.**

Use the up and down arrows to select the boot device.

Depending on the boot mode you have selected (UEFI boot mode or Legacy BIOS boot mode), the Please Select Boot Device dialog displays only the applicable boot devices. For example, when the UEFI Boot Mode is elected, only UEFI boot devices are displayed.

Related Information

- [“Access BIOS Setup Utility Menus” on page 131](#)
- [“BIOS Key Mappings” on page 135](#)
- [“Exit BIOS Setup Utility” on page 164](#)

▼ Configure TPM Support

If you intend to use the Windows 2008 TPM feature set, you must configure the server to support this feature.

Note – TPM enables you to administer the TPM security hardware in your server. For additional information about implementing this feature, see the Windows Trusted Platform Module Management documentation provided by Microsoft.

1. **Access the BIOS Setup Utility menus.**

See [“Access BIOS Setup Utility Menus” on page 131](#).

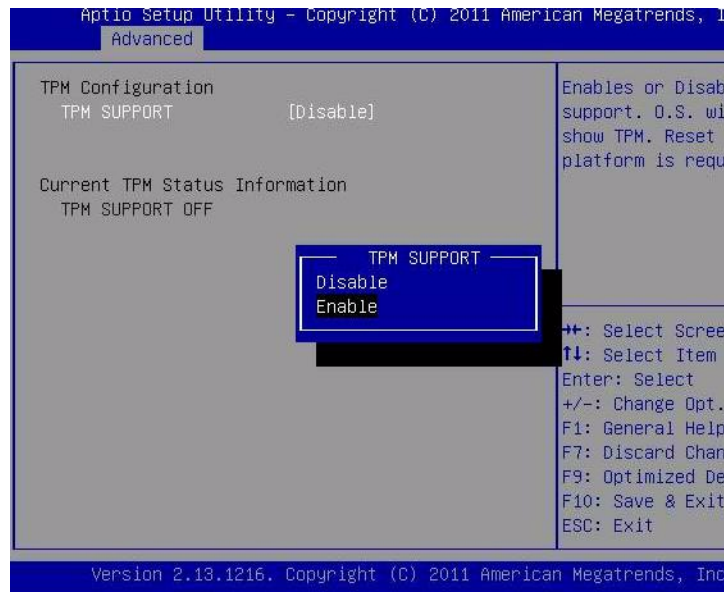
2. **From the BIOS Main menu screen, select Advanced.**

3. **From the Advanced Settings screen, select Trusted Computing.**

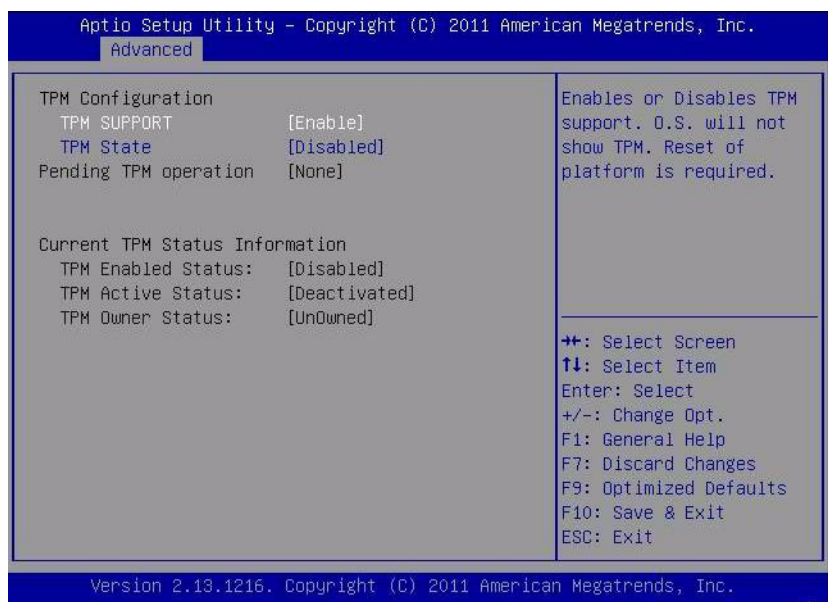
The TPM Configuration screen is displayed.



4. If the TPM State is listed as Disable, select TPM Support and press Enter.
A TPM Support dialog box is displayed.



5. Set TPM Support to Enable, and press Enter.
The updated TPM Configuration screen is displayed.



6. Verify that TPM support is configured. Do the following:

- a. Power the server off and on.
- b. Access the BIOS Setup Utility menus.
- c. Select **Advanced > Trusted Computing**.

On the TPM Configuration screen, confirm that the TPM Support setting is set to Enable.



Related Information

- “Access BIOS Setup Utility Menus” on page 131
- “Exit BIOS Setup Utility” on page 164
- Microsoft's Windows Trusted Platform Module Management documentation

▼ Configure SP Network Settings

Select one of the following methods to specify service processor (SP) network settings.

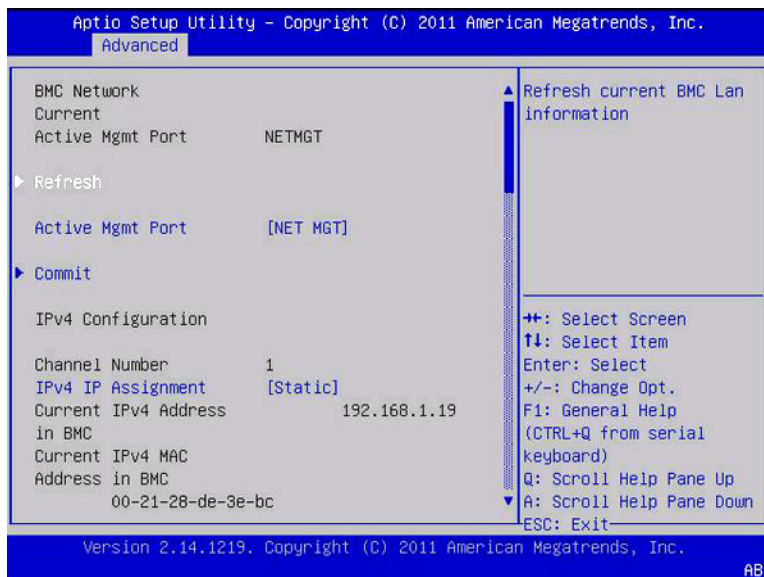
- *Oracle System Assistant* -- For instructions on using Oracle System Assistant to configure network settings, see “Configure Network Settings” on page 32.
- *Oracle ILOM* -- For instructions on setting the IP address for the server SP using Oracle ILOM, see:
Oracle Integrated Lights Out Manager Documentation Library at:
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>
- *BIOS* -- Assign the IP address for the server SP from the BIOS Setup Utility on the Advanced menu, as follows.

To assign an IP address for the server SP from the BIOS Setup Utility:

1. Access the BIOS Setup Utility menus.

See “Access BIOS Setup Utility Menus” on page 131.

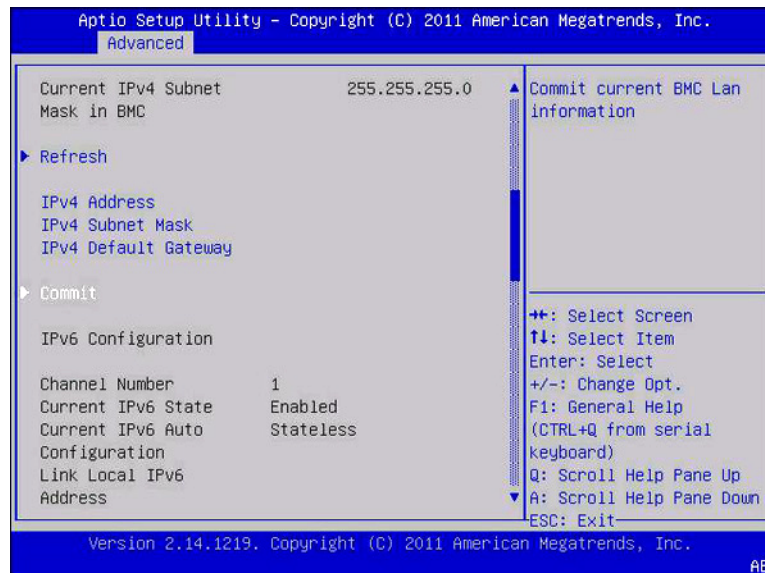
2. In the BIOS Setup Utility menu, navigate to Advanced menu.



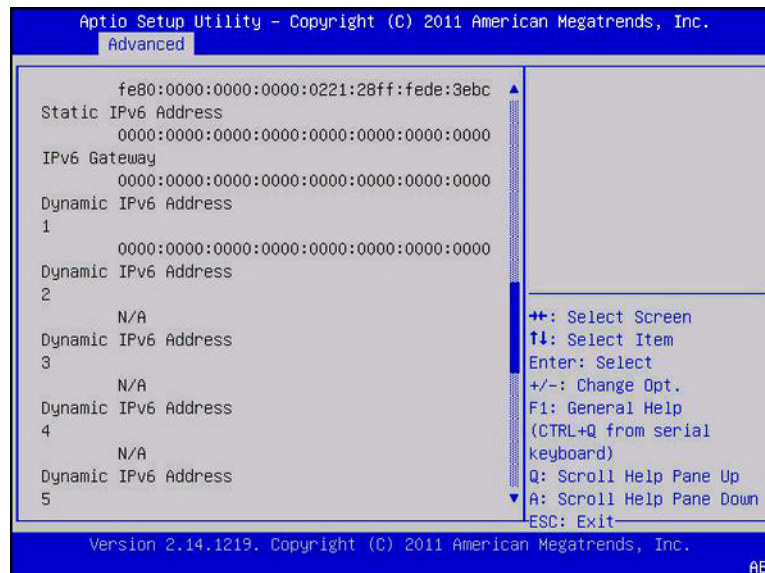
3. Navigate to BMC Network.

BMC is the Baseboard Management Controller.

The BMC Network screen is displayed.



4. In the BMC Network Configuration screen, you can view and configure settings for IPv4 Assignment or IPv6 Assignment.



5. To update the configuration settings to the latest values, select Refresh.
6. To make the changes to the latest values, select Commit.
7. To save the changes and exit the BIOS Setup Utility, press F10.

Related Information

- [“Access BIOS Setup Utility Menus” on page 131](#)
- [“BIOS Advanced Menu Selections” on page 174](#)
- [“Exit BIOS Setup Utility” on page 164](#)

Legacy BIOS Option ROM Allocation Considerations

In Legacy BIOS boot mode, PC architecture constraints are placed on Legacy Option ROM allocation. These constraints are not placed on UEFI Option ROMs, which are commonly referred to as UEFI drivers.

The system BIOS allocates 128 Kbytes of address space for Option ROMs. This address space is shared between on-board devices and PCIe plug-in cards. This fixed address space limitation is imposed by the PC architecture and not by the BIOS itself. It is possible to exhaust the available address space when installing PCIe plug-in cards. When the address space is exhausted, the BIOS displays an `Option ROM Space Exhausted` message, which means that one or more devices cannot load Option ROMs.

For example, if you install a SCSI PCIe card, you might encounter the following message in Oracle ILOM event log:

```
Option ROM Space Exhausted - Device XXX Disabled
```

By default, all on-board Options ROMs are enabled in the BIOS. However, you can disable most of these Option ROMs, unless they are required to support booting from the associated device or to provide some other boot-time function. For example, it is not necessary to load the Option ROM for the on-board network ports unless you mean to boot from one or more network ports (even then, you can disable the Options ROMs for the remaining ports).

To minimize server boot time and reduce the likelihood of exhausting the available Option ROM address space, disable the Option ROMs for all devices that you do not intend to boot from. Enable Option ROMs only for those devices from which you intend to boot.

If you encounter the Option ROM space exhausted condition even after disabling all devices you do not intend to boot from, then disable additional Option ROMs. Under some circumstances it might be necessary to disable Option ROMs for all devices except for the primary boot device.

Related Information

- “Common BIOS Setup Utility Tasks” on page 145
- “Configure Option ROM Settings” on page 155
- “Modify Device Configuration” on page 156

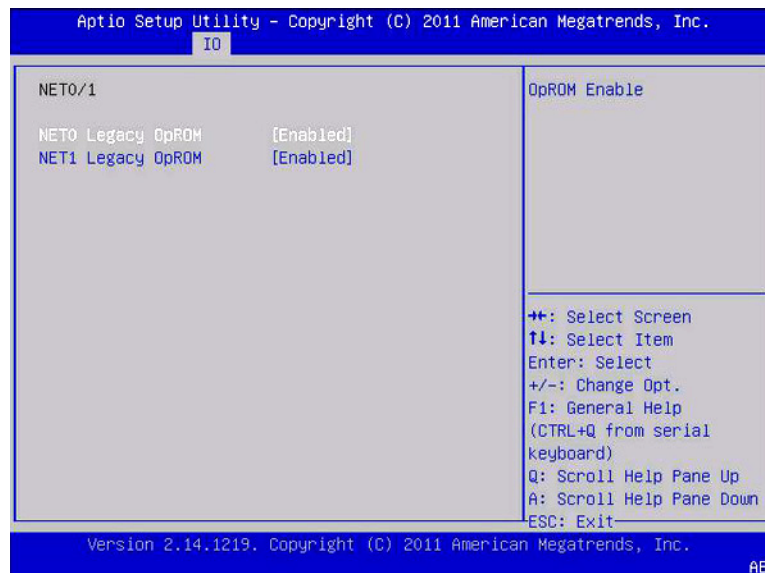
▼ Configure Option ROM Settings

1. Access the BIOS Setup Utility.

See “Access BIOS Setup Utility Menus” on page 131.

2. Select IO.

The NET0/1 screen is displayed.



3. Select a device from Internal Devices or Add-In Cards.

4. Enable or Disable the Option ROM setting.

Do one of the following:

- Select Enabled to enable I/O resource allocation for the I/O card.
- Select Disabled to disable the add-in card.

5. To save the changes and exit the BIOS Setup Utility, press F10.

▼ Modify Device Configuration

The UEFI Driver Control menu is displayed only when UEFI Boot Mode is selected.

1. Access the BIOS Setup Utility menus.

See “Access BIOS Setup Utility Menus” on page 131.

2. In the BIOS Setup Utility menus, use the arrow keys to navigate to the UEFI Driver Control menu.

Note – Ensure Legacy mode is not enabled.

A list of all controllable devices is displayed.



3. Select a device.

For example: Intel(R) I350 Gigabit Network Connection -

4. Select one of the following options:

- View controller and device properties
- Change controller and device properties
- Save changes

5. To save the changes and exit the BIOS Setup Utility, press F10.

Related Information

- [“Access BIOS Setup Utility Menus” on page 131](#)
- [“BIOS UEFI Driver Control Menu Selections” on page 198](#)
- [“Exit BIOS Setup Utility” on page 164](#)

Allocating I/O Resources

If there is one or more Sun Quad Port Gigabit Ethernet PCIe Low Profile Adapter Cards installed in the server, then the BIOS might detect a condition where legacy I/O address space resources are exhausted. The following example is a common form of error that might be logged:

```
6491 Tue Dec 7 14:19:57 2010 IPMI Log minorID = a5a9 :  
12/07/2010 : 14:19:57 : System Firmware Error :sensor number=  
0x00 : PCI resource exhaustion: Bus 147 Device 0 Func 06490 Tue  
Dec 7 14:19:57 2010 IPMI Log minorID = a5a8 : 12/07/2010 :  
14:19:57 : System Firmware Error :sensor number= 0x00 : PCI  
resource exhaustion: Bus 147 Device 0 Func 1
```

To eliminate the PCI resource exhaustion condition, disable I/O resource allocation for any slot in which the Quad Gigabit Ethernet card is installed unless you intend to use that card as a bootable device.

If you intend to use that Quad Gigabit Ethernet card as a bootable device, and you are encountering a PCI resource exhaustion event for that specific device, then you must disable I/O allocation for some of the other card slots in the system. In general, it is safe, but not typically required, to disable I/O resource allocation for any cards not intended to be used as bootable devices, similar to the disabling of Option ROMs.

- [“Enable or Disable I/O Resource Allocation” on page 157](#)

Related Information

- [“Access BIOS Setup Utility Menus” on page 131](#)
- [“BIOS IO Menu Selections” on page 187](#)

▼ Enable or Disable I/O Resource Allocation

See [“Allocating I/O Resources” on page 157](#).

1. Access the BIOS Setup Utility menus.

See “Access BIOS Setup Utility Menus” on page 131.

2. In the BIOS Setup Utility menus, use the arrow keys to navigate to the IO menu.



3. Do one of the following:

- Select Enabled to enable I/O resource allocation for the I/O card.
- Select Disabled to disable the add-in card.

4. To save the changes and exit the BIOS Setup Utility, press F10.

Related Information

- “Access BIOS Setup Utility Menus” on page 131
- “BIOS IO Menu Selections” on page 187

▼ Configure iSCSI Virtual Drives

iSCSI virtual drives are used primarily to run supported operating systems that reside on an external server that function as the Netra Blade X3-2B host operating system.

iSCSI virtual drives must be configured in the iSCSI BIOS Setup Utility screens. You must set the iSCSI parameters on the selected port.

- Be familiar with iSCSI theory of operation for the selected OS.
- See the OS documentation to verify that iSCSI targets can be mounted on a client.
- You will need access to an external iSCSI server running on any supported OS.
- The Netra Blade X3-2B must be in UEFI boot mode, not legacy boot mode. See [“Common BIOS Setup Utility Tasks” on page 145](#).
- You must provide the following information from the iSCSI target server. The following items are entered in to the Netra Blade X3-2B iSCSI BIOS Setup Utility screens:

Item	Example
1 Target name	iqn.1988-12.com.oracle:x6270-m3-target
2 iSCSI initiator name	iqn.1988-12.com.oracle:002222de444e
3 Virtual device	Virtual Disk 0
4 Logical Unit Number	LUN 0
<i>Additional Information:</i>	
5 IP address of iSCSI server	111.111.1.11 (ipv4)
6 Port number	3210

Note – iSCSI requires iqn formats for its initiator and target names.

To configure iSCSI virtual drives in the iSCSI BIOS Setup Utility:

1. **Access the BIOS Setup Utility menus.**
See [“Access BIOS Setup Utility Menus” on page 131](#).
2. **In the BIOS Setup Utility menus, use the arrow keys to navigate to the UEFI Driver Control menu.**

Note – Ensure Legacy boot mode is not enabled.

A list of all controllable devices is displayed.

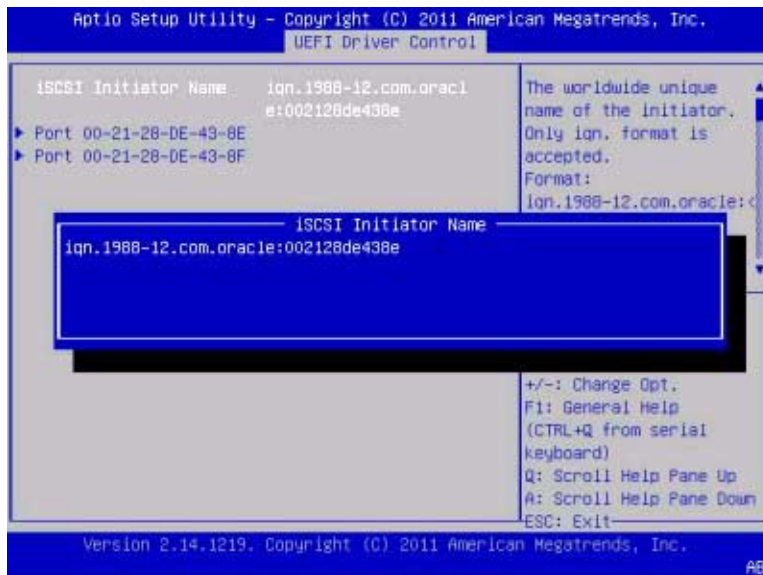


3. To access the iSCSI screen, select iSCSI.

4. Enter the iSCSI Initiator name.

a. Select iSCSI Initiator Name.

The iSCSI Initiator Name dialog is displayed.



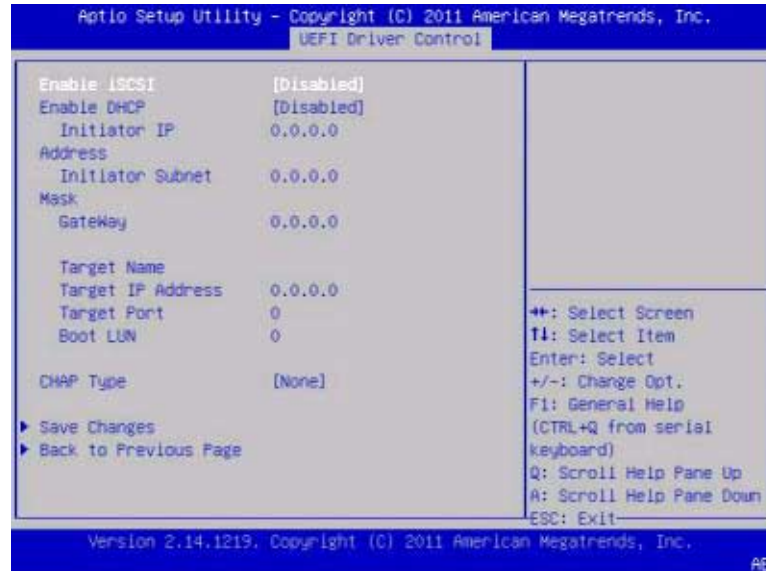
b. Type the initiator name in iqn format.

For example: iqn.1988-12.com.oracle:000000000000

5. Select the NIC port MAC address to connect to the iSCSI drive to.

For example: Port 00-11-22-DD-2E-AB

The port configuration screen is displayed.



6. Set Enable iSCSI to Enabled.

Select Enable iSCSI, then select Enabled or Disabled.

7. Set Enable DHCP to Enabled, as required.

The Initiator IP address, Initiator Subnet Mask, and GateWay settings are removed.

If you set DHCP to disabled:

- Type the Initiator IP address.
- Type the Initiator Subnet Mask.
- Type the GateWay.

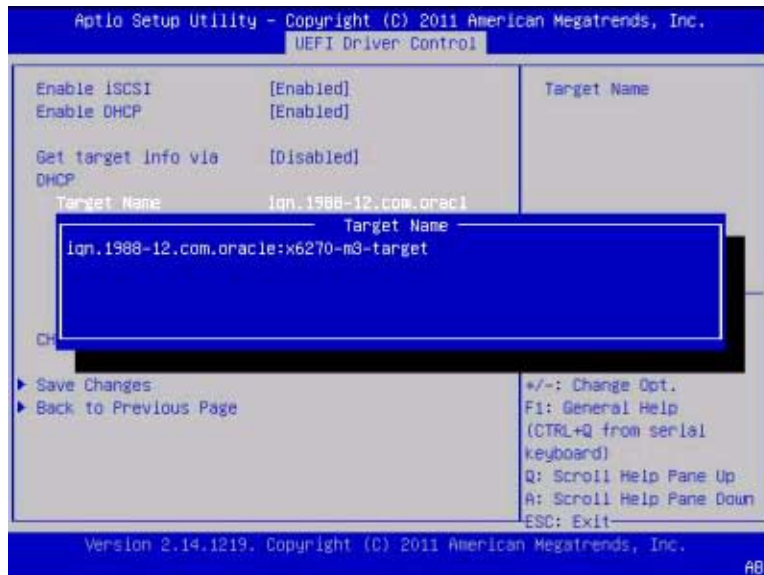
Note – Use the same subnet.

8. Set Get target info via DHCP to Disabled, as required.

9. Set the Target Name.

a. Select Target Name.

The Target Name dialog is displayed.



b. Type the iqn target name.

For example: iqn.1988-12.com.oracle:x6270-m3-target

10. Set the Target IP address.

a. Select Target IP address.

The Target IP address dialog is displayed.

b. Type the target IP address of the iSCSI server in dotted-decimal notation.

For example: 111.111.1.11

11. Set the Target port.

a. Select Target port.

b. Type the target port of the iSCSI server.

For example: 3210

Note – When iSCSI is enabled on a network port, PXE is disabled for that port.

12. Set the Logical Unit Number.

a. Select Boot LUN.

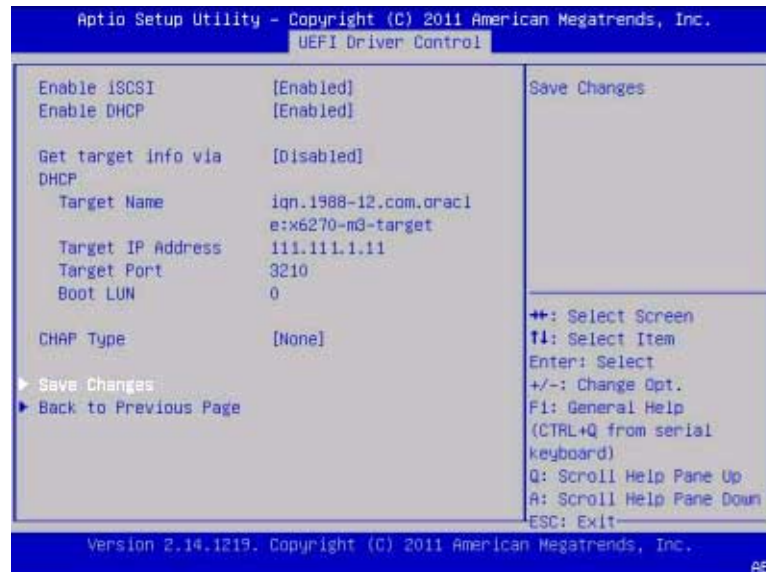
The Boot LUN dialog is displayed.

b. Type the hexadecimal representation of the logical unit number.

For example: 0

13. Set CHAP type to none, one way CHAP, or mutual CHAP, as required.

14. Verify that your settings match the iSCSI target server information.



15. Save the changes and exit the BIOS Setup Utility.

16. Restart the server.

17. Press the F8 key (or Ctrl+P from a serial connection) when prompted while the BIOS is running the power-on self-test (POST) checkpoints.

The Please Select Boot Device dialog box is displayed.

18. Verify that the iSCSI target entry is displayed in the boot list.

19. See the supported OS installation documentation for instructions on installing an OS on an iSCSI drive.

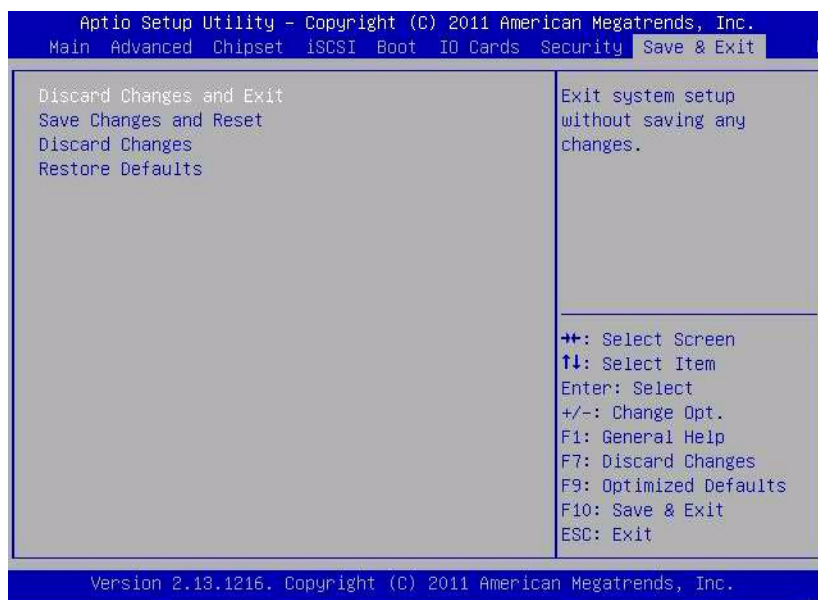
Related Information

- "Access BIOS Setup Utility Menus" on page 131
- "BIOS UEFI Driver Control Menu Selections" on page 198

▼ Exit BIOS Setup Utility

1. Navigate to the top-level Save & Exit menu.
2. Use the up and down arrows to select the exit action you want.
3. Press the Enter key to select the option.

A confirmation dialog box is displayed.



4. In the confirmation dialog box, select OK to proceed and exit the BIOS Setup Utility.

Save the changes and exit the Setup utility, or select an alternative exit option.

- Alternatively, you can select the Save & Exit Menu then select the Save Changes and Reset to save your changes and exit the BIOS Setup Utility.
- Or select Cancel to stop the exit process.

Note – After modifying any BIOS settings and selecting Save Changes and Reset from the Save & Exit menu, the subsequent reboot might take longer than a typical reboot when no settings were modified. The additional delay is required to ensure that changes to the BIOS settings are synchronized with Oracle ILOM.

Related Information

- [“Access BIOS Setup Utility Menus” on page 131](#)
- [“BIOS Save & Exit Menu Selections” on page 204](#)

BIOS Setup Utility Screen Reference

This section includes web browser and searchable text-based representations of all screens in the BIOS Setup Utility.

The following topics are covered.

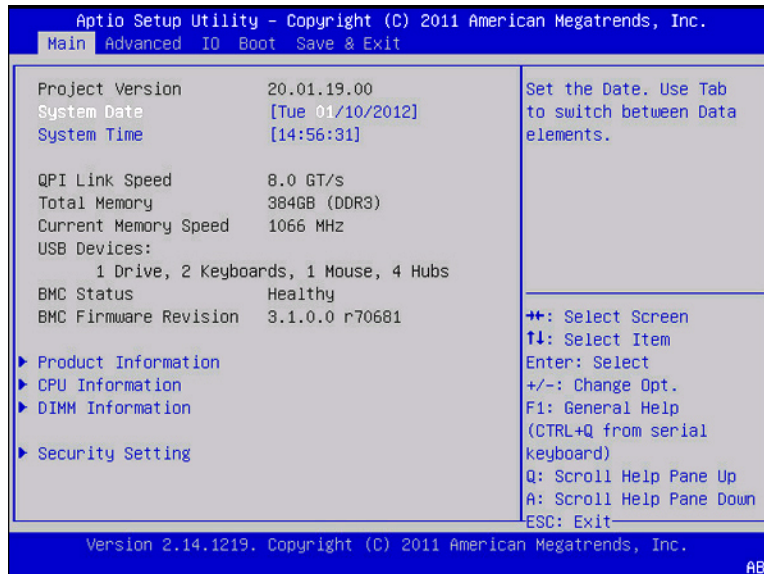
BIOS Menu Description	Link
Review BIOS Main menu selections.	“BIOS Main Menu Selections” on page 167
Review BIOS Advanced menu selections.	“BIOS Advanced Menu Selections” on page 174
Review BIOS IO menu selections.	“BIOS IO Menu Selections” on page 187
Review BIOS Boot menu selections.	“BIOS Boot Menu Selections” on page 195
Review BIOS UEFI Driver Control menu selections.	“BIOS UEFI Driver Control Menu Selections” on page 198
Review BIOS Save & Exit menu selections.	“BIOS Save & Exit Menu Selections” on page 204

BIOS Main Menu Selections

This section includes web browser and searchable text-based representations of the BIOS Main menu selections.

- [“Main Menu” on page 168](#)
- [“Main > Product Information Screen” on page 169](#)
- [“Main > CPU Information” on page 170](#)
- [“Main > CPU Information > Socket 0 CPU Information Screen” on page 171](#)
- [“Main > DIMM Information” on page 172](#)
- [“Main > Security Setting” on page 173](#)

Main Menu

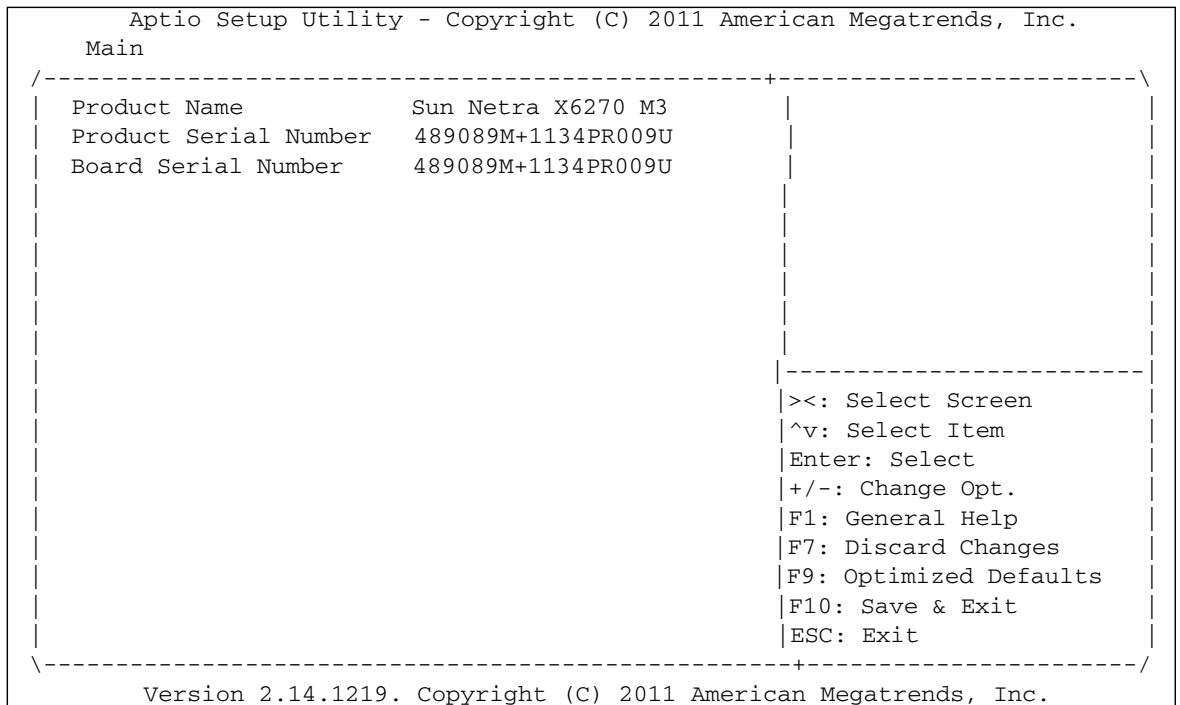
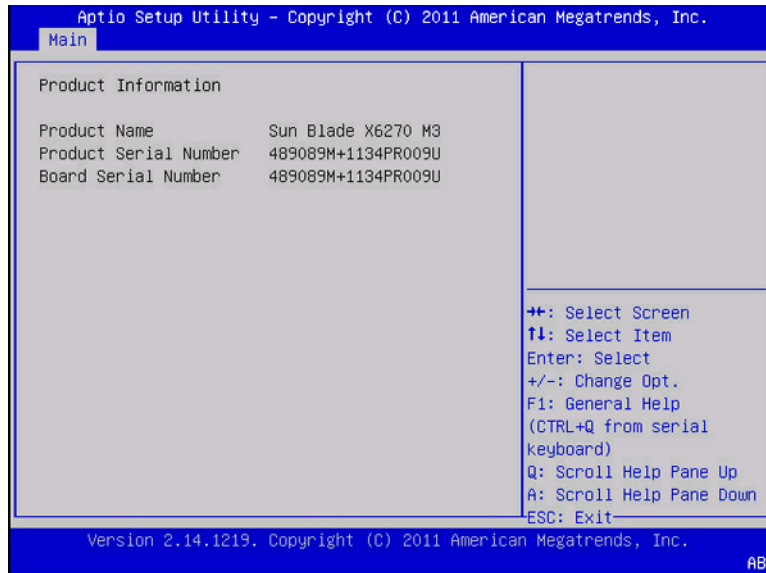


```

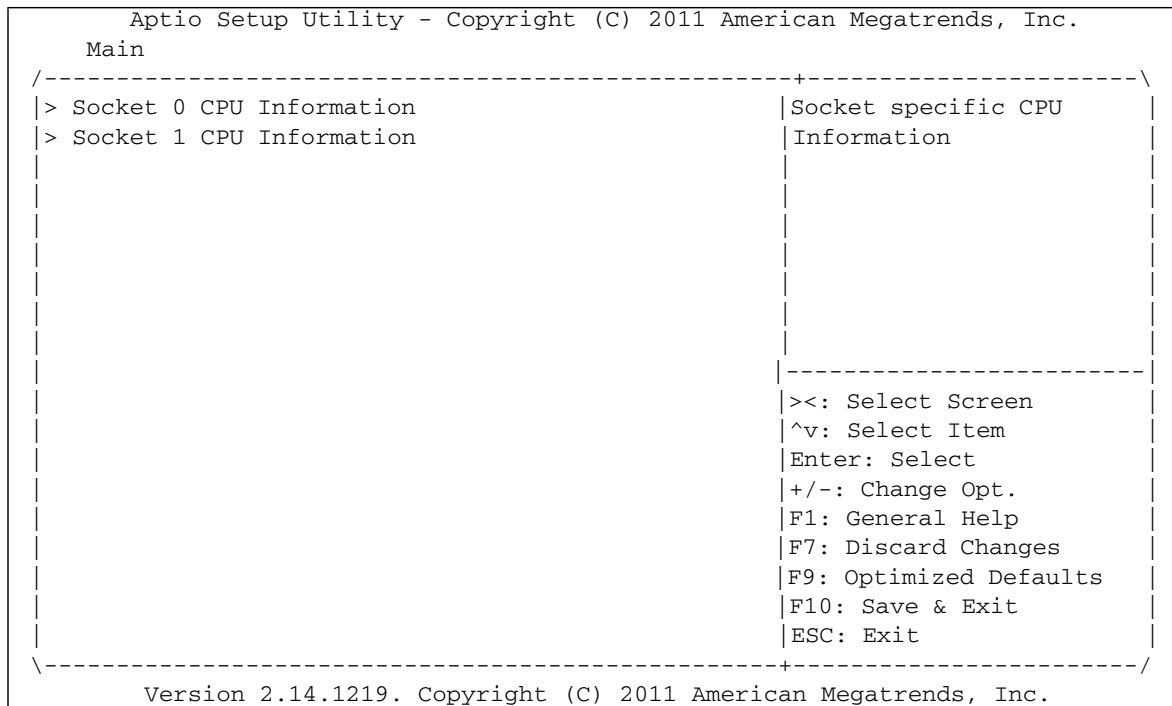
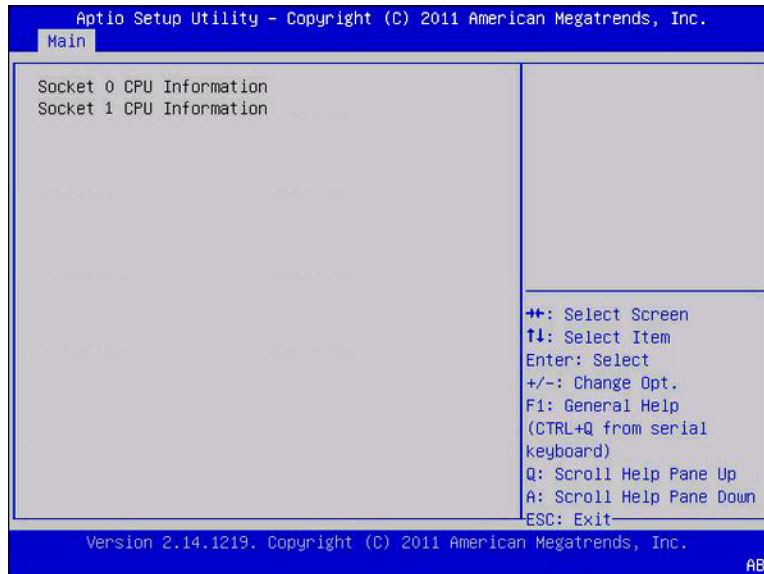
Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
  Main  Advanced  IO  Boot  Save & Exit

/-----+-----\
| Project Version      20.01.19.00          |Security Setting| |
| System Date         [Tue 01/10/2012]      |                |
| System Time         [16:29:47]            |                |
| QPI Link Speed       8.0 GT/s              |                |
| Total Memory        384GB (DDR3)           |                |
| Current Memory Speed 1066 MHz              |                |
| USB Devices:        |                    |                |
|   1 Drive, 2 Keyboards, 1 Mouse, 4 Hubs    |                |
| BMC Status          Healthy                 |                |
| BMC Firmware Revision 3.1.0.0 r70681        |                |
|> Product Information|                    |                |
|> CPU Information   |                    |                |
|> DIMM Information  |                    |                |
|> Security Setting  |                    |                |
|                    |                    |                |
\-----+-----+ESC:
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
  
```

Main > Product Information Screen

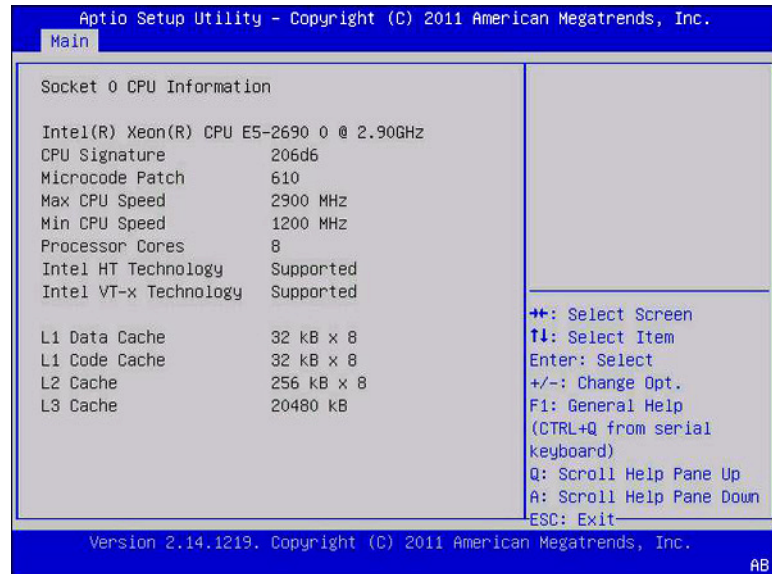


Main > CPU Information



Main > CPU Information > Socket 0 CPU Information Screen

Note – Socket 0 CPU Information (shown) is similar to Socket 1 CPU Information (not shown).



Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Main		
/-----+-----\		
Socket 0 CPU Information		
Genuine Intel(R) CPU @ 2.70GHz		
CPU Signature	206d5	
Microcode Patch	512	
Max CPU Speed	2700 MHz	
Min CPU Speed	1200 MHz	
Processor Cores	8	
Intel HT Technology	Supported	
Intel VT-x Technology	Supported	

L1 Data Cache	32 kB x 8	><: Select Screen
L1 Code Cache	32 kB x 8	^v: Select Item
L2 Cache	256 kB x 8	Enter: Select
L3 Cache	20480 kB	+/-: Change Opt.
		F1: General Help
		F7: Discard Changes

	F9: Optimized Defaults	
	F10: Save & Exit	
	ESC: Exit	
-----+-----/		
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

Main > DIMM Information

Apdio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main

Socket 0 DIMMs

D6

Present

16GB (DDR3)

D7

Present

16GB (DDR3)

D8

Present

16GB (DDR3)

D9

Present

16GB (DDR3)

D10

Present

16GB (DDR3)

D11

Present

16GB (DDR3)

D5

Present

16GB (DDR3)

D4

Present

16GB (DDR3)

D3

Present

16GB (DDR3)

D2

Present

16GB (DDR3)

D1

Present

16GB (DDR3)

D0

Present

16GB (DDR3)

↔: Select Screen

↑↓: Select Item

Enter: Select

+/-: Change Opt.

F1: General Help

(CTRL+Q from serial keyboard)

Q: Scroll Help Pane Up

A: Scroll Help Pane Down

ESC: Exit

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

AB

Apdio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Main		
-----+-----\		
Socket 0 DIMMs		
D6	Present	16GB (DDR3)
D7	Present	16GB (DDR3)
D8	Present	16GB (DDR3)
D9	Present	16GB (DDR3)
D10	Present	16GB (DDR3)
D11	Present	16GB (DDR3)
D5	Present	16GB (DDR3)
D4	Present	16GB (DDR3)
D3	Present	16GB (DDR3)
D2	Present	16GB (DDR3)
D1	Present	16GB (DDR3)
D0	Present	16GB (DDR3)
		-----+-----\
		><: Select Screen
		^v: Select Item
		Enter: Select
		+/-: Change Opt.

		F1: General Help (CTRL+Q from serial keyboard) Q: Scroll Help Pane Up A: Scroll Help Pane Down +ESC: Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

Main > Security Setting



Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Main		
Administrator Password		Set Administrator Password
/ Create New Password -\		
\-----/		><: Select Screen

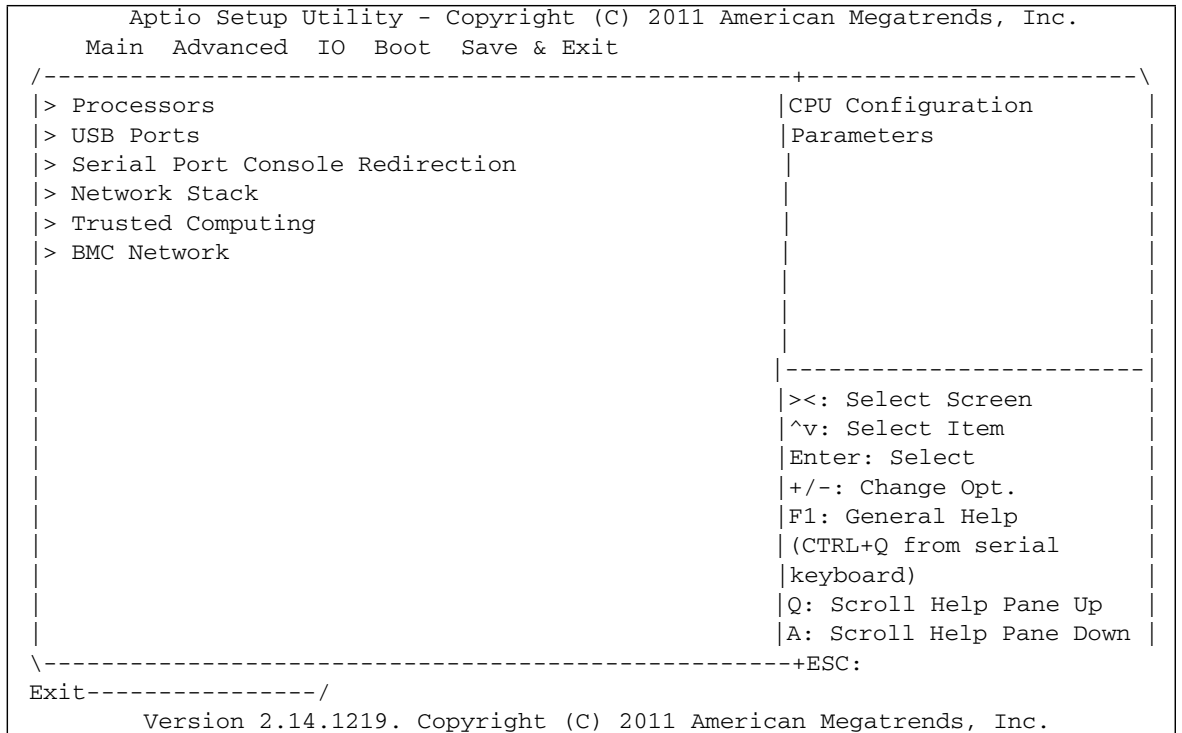
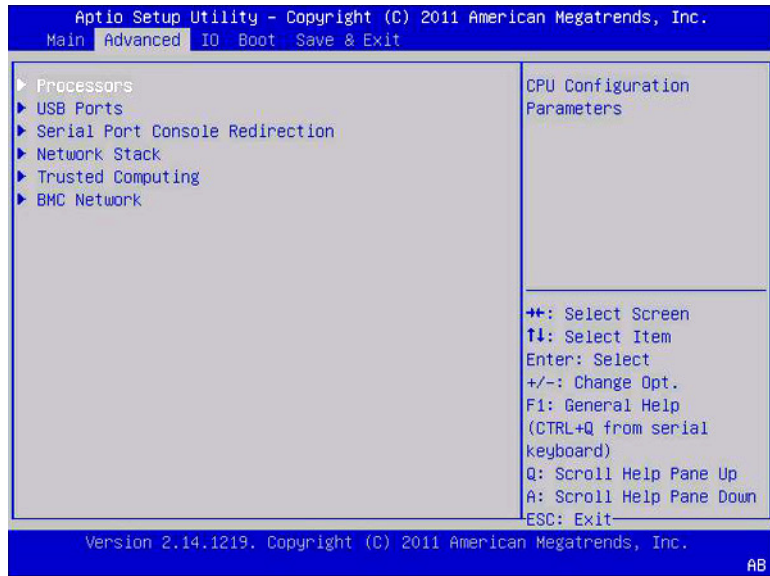
	^v: Select Item	
	Enter: Select	
	+/-: Change Opt.	
	F1: General Help	
	(CTRL+Q from serial	
	keyboard)	
	Q: Scroll Help Pane Up	
	A: Scroll Help Pane Down	
	+ESC:	
\-----		
Exit-----/		
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

BIOS Advanced Menu Selections

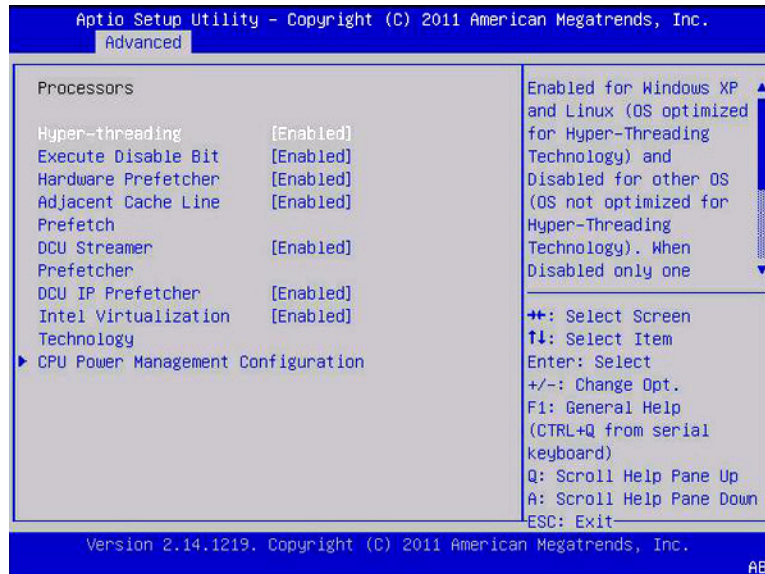
This section includes web browser and searchable text-based representations of all Advanced menu selection screens in the BIOS Setup Utility.

- [“Advanced” on page 175](#)
- [“Advanced > Processors” on page 176](#)
- [“Advanced > Processors > CPU Power Management Configuration” on page 177](#)
- [“Advanced > USB Ports” on page 178](#)
- [“Advanced > Serial Port Console Redirection” on page 179](#)
- [“Advanced > Network Stack” on page 180](#)
- [“Advanced > TPM Configuration” on page 181](#)
- [“Advanced > BMC Network” on page 182](#)
- [“Advanced > BMC Network \(Continued\)” on page 183](#)
- [“Advanced > BMC Network \(Continued\)” on page 185](#)
- [“Advanced > BMC Network \(Continued\)” on page 186](#)

Advanced



Advanced > Processors



```

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Advanced

/-----+-----\
| Processors                                     |Enabled for Windows XP ^|
|                                                |and Linux (OS optimized *|
| Hyper-threading           [Enabled]          |for Hyper-Threading    *|
| Execute Disable Bit       [Enabled]          |Technology) and        *|
| Hardware Prefetcher       [Enabled]          |Disabled for other OS  *|
| Adjacent Cache Line       [Enabled]          |(OS not optimized for  +|
| Prefetch                  |Hyper-Threading   +|
| DCU Streamer              [Enabled]          |Technology). When      +|
| Prefetcher                |Disabled only one v|
| DCU IP Prefetcher         [Enabled]          |-----|
| Intel Virtualization       [Enabled]          |><: Select Screen      |
| Technology                 |^v: Select Item              |
|> CPU Power Management Configuration |Enter: Select          |
|                               |+/-: Change Opt.            |
|                               |F1: General Help          |
|                               |(CTRL+Q from serial      |
|                               |keyboard)                  |
|                               |Q: Scroll Help Pane Up   |
|                               |A: Scroll Help Pane Down  |
|                               |-----+ESC:                |
\-----+-----/
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

```

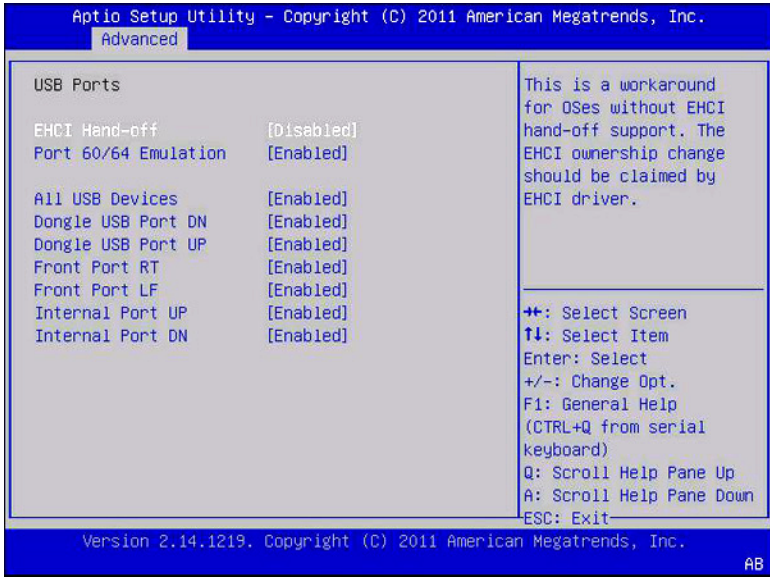
Advanced > Processors > CPU Power Management Configuration



Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Advanced		
CPU Power Management Configuration		Enable the power management features.
Power Technology	[Custom]	
Intel SpeedStep	[Enabled]	
Turbo Mode	[Enabled]	
CPU C3 Report	[Disabled]	
CPU C6 report	[Enabled]	
CPU C7 report	[Enabled]	
Package C-States	[Enabled]	
Uncore Frequency	[Enabled]	
Scaling		
		><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help (CTRL+Q from serial keyboard) Q: Scroll Help Pane Up

```
|
|
|A: Scroll Help Pane Down|
\-----+ESC:
Exit-----/
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

Advanced > USB Ports



```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.  
Advanced  
-----+-----  
| USB Ports | This is a workaround |  
|           | for OSeS without EHCI |  
| EHCI Hand-off [Disabled] | hand-off support. The |  
| Port 60/64 Emulation [Enabled] | EHCI ownership change |  
|           | should be claimed by |  
| All USB Devices [Enabled] | EHCI driver. |  
| Dongle USB Port DN [Enabled] | |  
| Dongle USB Port UP [Enabled] | |  
| Front Port RT [Enabled] | |  
| Front Port LF [Enabled] | ----- |  
| Internal Port UP [Enabled] | >=: Select Screen |  
| Internal Port DN [Enabled] | ^v: Select Item |  
|           | Enter: Select |  
|           | +/-: Change Opt. |  
|           | F1: General Help |
```

	(CTRL+Q from serial keyboard)
	Q: Scroll Help Pane Up
	A: Scroll Help Pane Down
	+ESC:
Exit-----/	
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.	

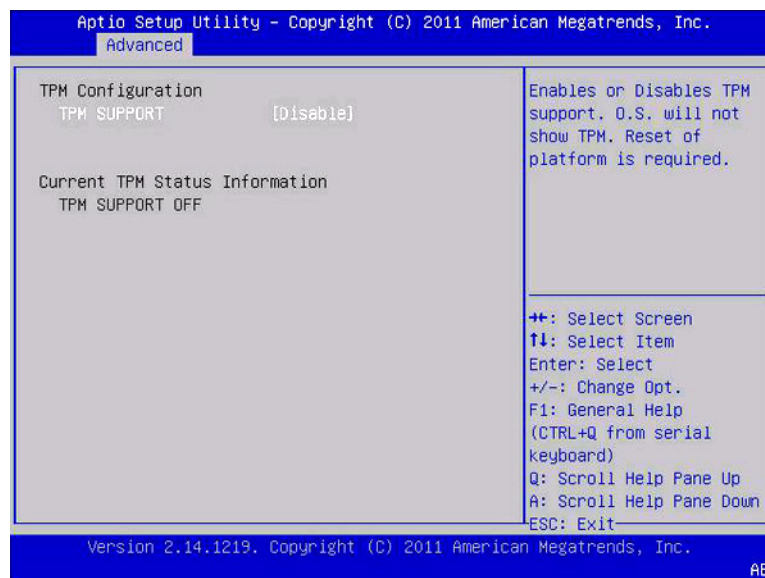
Advanced > Serial Port Console Redirection

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.	
Advanced	
Serial Port Console Redirection	
External Serial Port	[System]
EMS Console Redirection	[Disabled]
Console Redirection	[Enabled]
Terminal Type	[VT100+]
Bits per second	[9600]
Data Bits	[8]
Parity	[None]
Stop Bits	[1]
Flow Control	[None]
Control whether the external serial port connects to the BMC or directly to the System.	
++: Select Screen F1: Select Item Enter: Select +/-: Change Opt. F1: General Help (CTRL+Q from serial keyboard) Q: Scroll Help Pane Up A: Scroll Help Pane Down ESC: Exit	
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.	
AB	

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.	
Advanced	
-----+-----\	
Serial Port Console Redirection	Control whether the external serial port connects to the BMC or directly to the System.
External Serial Port [System]	
EMS Console Redirection [Disabled]	
Console Redirection [Enabled]	
Terminal Type [VT100+]	
Bits per second [9600]	
Data Bits [8]	
Parity [None]	
	-----\
	><: Select Screen
	^v: Select Item

	<pre> -->: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help (CTRL+Q from serial keyboard) Q: Scroll Help Pane Up A: Scroll Help Pane Down \-----+ESC: Exit-----/ Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc. </pre>
--	---

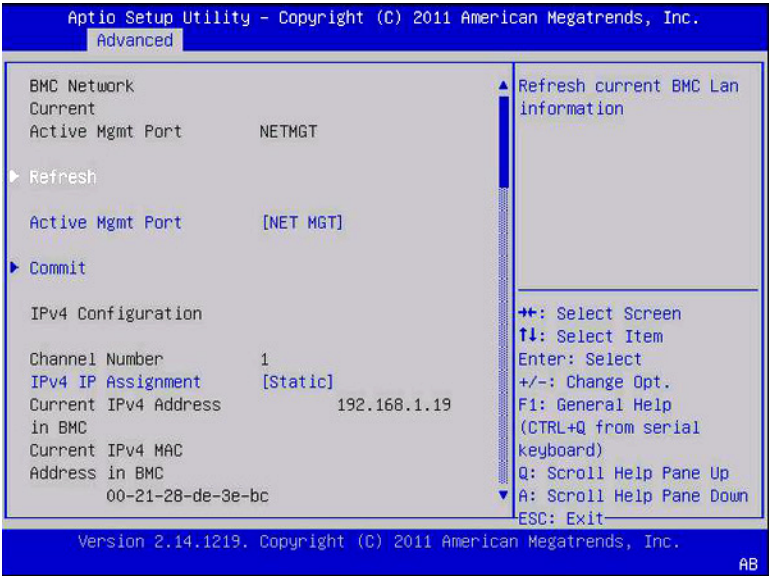
Advanced > TPM Configuration



<pre> Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc. Advanced /-----+-----\ TPM Configuration Enables or Disables TPM TPM SUPPORT support. O.S. will not show TPM. Reset of platform is required. Current TPM Status Information TPM SUPPORT OFF \-----+-----\ </pre>	
---	--

```
|
|
|-----|
|><: Select Screen
|^v: Select Item
|Enter: Select
|+/-: Change Opt.
|F1: General Help
|(CTRL+Q from serial
|keyboard)
|Q: Scroll Help Pane Up
|A: Scroll Help Pane Down
|-----+ESC:
|
|Exit-----/
|
|Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

Advanced > BMC Network



```

|
|Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
|Advanced
|-----+-----|
|BMC Network|Refresh current BMC Lan| |
|Current|*|information|
|Active Mgmt Port|NETMGT|*|
|
|
```

> Refresh	*	
Active Mgmt Port [NET MGT]	*	
	+	
> Commit	+	
	+	
IPv4 Configuration	+	-----
Channel Number 1	+	><: Select Screen
IPv4 IP Assignment [Static]	+	^v: Select Item
Current IPv4 Address 192.168.1.19	+	Enter: Select
in BMC	+	+/-: Change Opt.
Current IPv4 MAC	+	F1: General Help
Address in BMC	+	(CTRL+Q from serial
00-21-28-de-3e-bc	+	keyboard)
	+	Q: Scroll Help Pane Up
	v	A: Scroll Help Pane Down
		+ESC:
Exit-----/		
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

Advanced > BMC Network (Continued)

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.

Advanced

Current IPv4 Subnet 255.255.255.0	▲ Commit current BMC Lan information
Mask in BMC	
► Refresh	
IPv4 Address	
IPv4 Subnet Mask	
IPv4 Default Gateway	
► Commit	
IPv6 Configuration	
Channel Number 1	◆◆: Select Screen
Current IPv6 State Enabled	↑↓: Select Item
Current IPv6 Auto Stateless	Enter: Select
Configuration	+/-: Change Opt.
Link Local IPv6 Address	F1: General Help
	(CTRL+Q from serial keyboard)
	Q: Scroll Help Pane Up
	A: Scroll Help Pane Down
	ESC: Exit

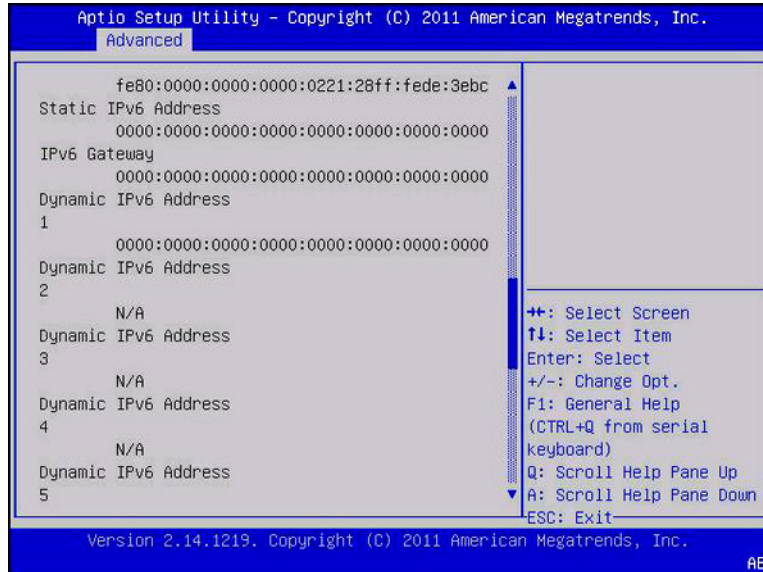
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

AB

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Advanced
/-----+-----\

Current IPv4 Subnet	255.255.255.0	^	Commit current BMC Lan
Mask in BMC		+	information
		+	
> Refresh		+	
		+	
IPv4 Address		*	
IPv4 Subnet Mask		*	
IPv4 Default Gateway		*	
		*	
> Commit		+	-----
		+	>: Select Screen
IPv6 Configuration		+	^v: Select Item
		+	Enter: Select
Channel Number	1	+	+/-: Change Opt.
Current IPv6 State	Enabled	+	F1: General Help
Current IPv6 Auto	Stateless	+	(CTRL+Q from serial
Configuration		+	keyboard)
Link Local IPv6		+	Q: Scroll Help Pane Up
Address		v	A: Scroll Help Pane Down
			+ESC:
Exit-----/			
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.			
			AB

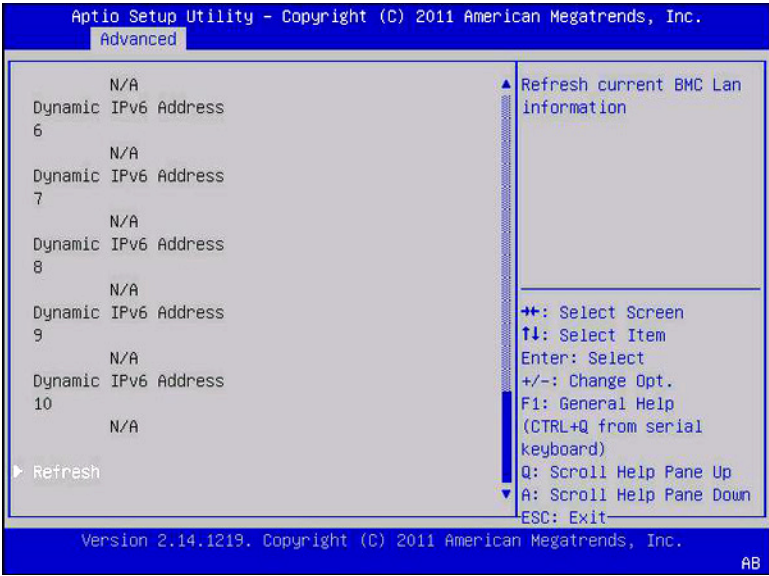
Advanced > BMC Network (Continued)



Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Advanced		
fe80:0000:0000:0000:0221:28ff:fef0:a878	^	
Static IPv6 Address	+	
0000:0000:0000:0000:0000:0000:0000:0000	+	
IPv6 Gateway	+	
0000:0000:0000:0000:0000:0000:0000:0000	+	
Dynamic IPv6 Address	+	
1	+	
0000:0000:0000:0000:0000:0000:0000:0000	+	
Dynamic IPv6 Address	+	
2	*	-----
N/A	*	><: Select Screen
Dynamic IPv6 Address	*	^v: Select Item
3	*	Enter: Select
N/A	+	+/-: Change Opt.
Dynamic IPv6 Address	+	F1: General Help
4	+	(CTRL+Q from serial
N/A	+	keyboard)
Dynamic IPv6 Address	+	Q: Scroll Help Pane Up
5	v	A: Scroll Help Pane Down

```
\-----+ESC:
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
AB
```

Advanced > BMC Network (Continued)



```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Advanced
/-----+-----\
|          N/A          ^|Refresh current BMC Lan
| Dynamic IPv6 Address   +|information
| 6                    +|
|          N/A          +|
| Dynamic IPv6 Address   +|
| 7                    +|
|          N/A          +|
| Dynamic IPv6 Address   +|
| 8                    +|
|          N/A          +|-----+
| Dynamic IPv6 Address   +|><: Select Screen
| 9                    +|^v: Select Item
|          N/A          +|Enter: Select
| Dynamic IPv6 Address   +|+/-: Change Opt.
| 10                   *|F1: General Help
|                    +|-----+
\-----+-----\
```

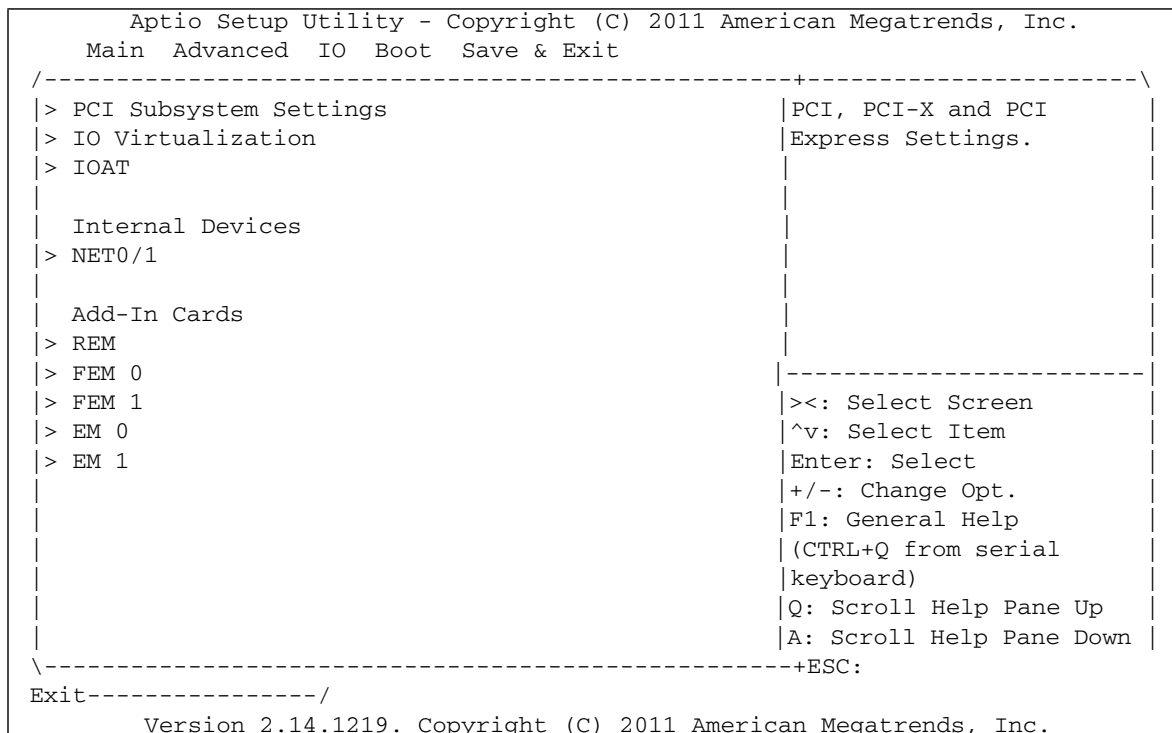
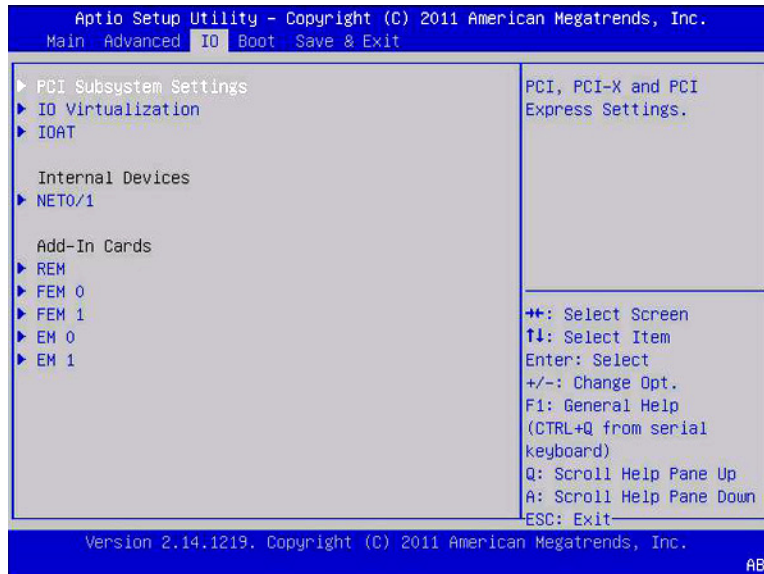
N/A	* (CTRL+Q from serial
	* keyboard)
> Refresh	* Q: Scroll Help Pane Up
	v A: Scroll Help Pane Down
\	+ESC:
Exit-----/	
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.	
AB	

BIOS IO Menu Selections

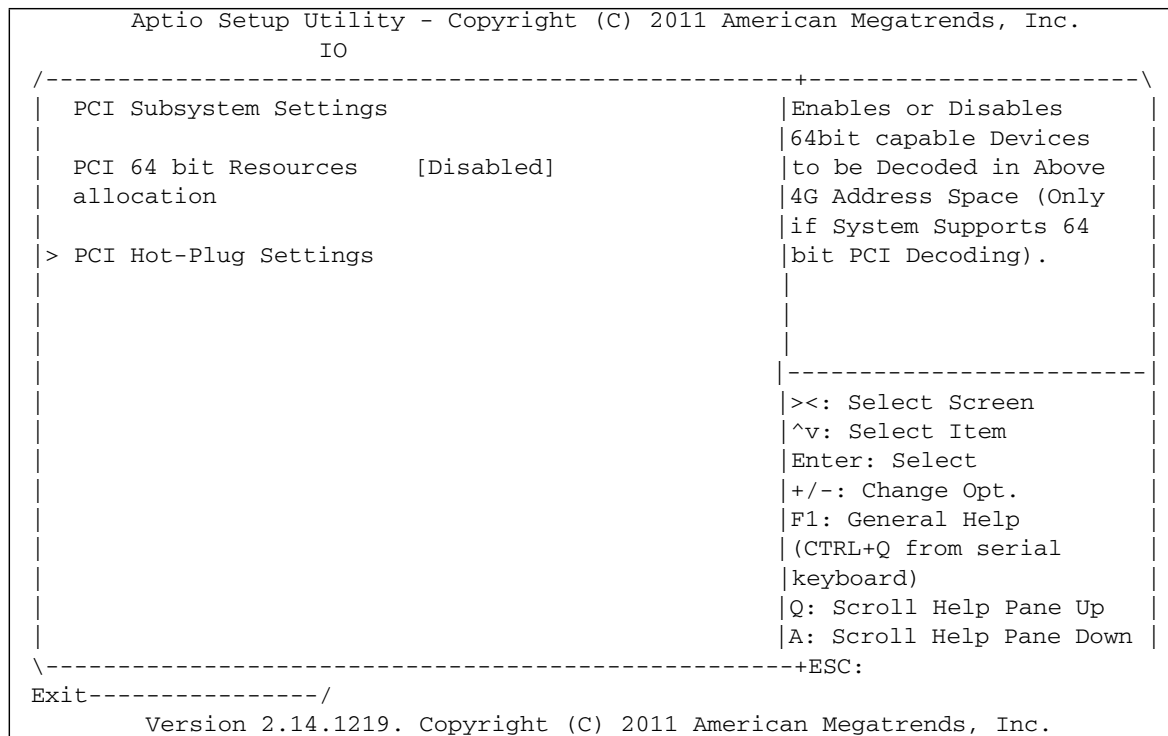
This section includes searchable text-based representations of the BIOS IO menu selections.

- [“IO Menu Screen” on page 188](#)
- [“IO > PCI Subsystem Settings” on page 189](#)
- [“IO > PCI Hot-Plug Settings” on page 190](#)
- [“IO > IO Virtualization” on page 191](#)
- [“IO > IOAT” on page 192](#)
- [“IO > NET0/1” on page 193](#)
- [“IO > REM” on page 194](#)

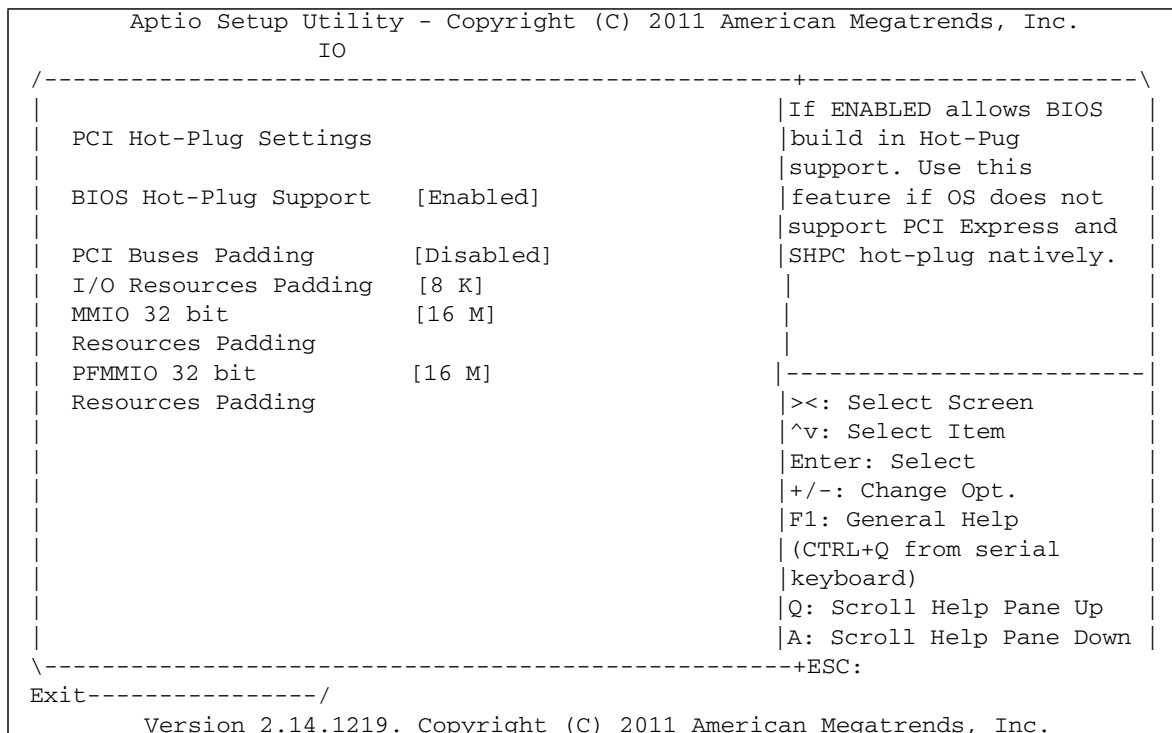
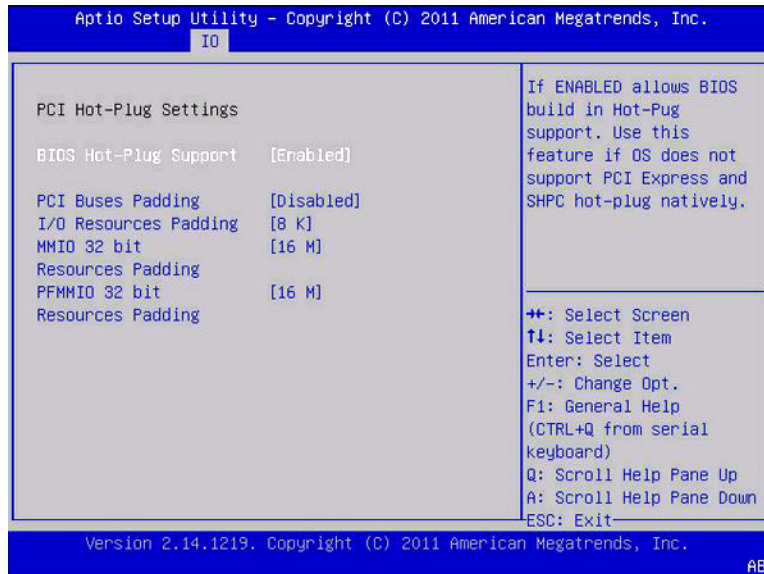
IO Menu Screen



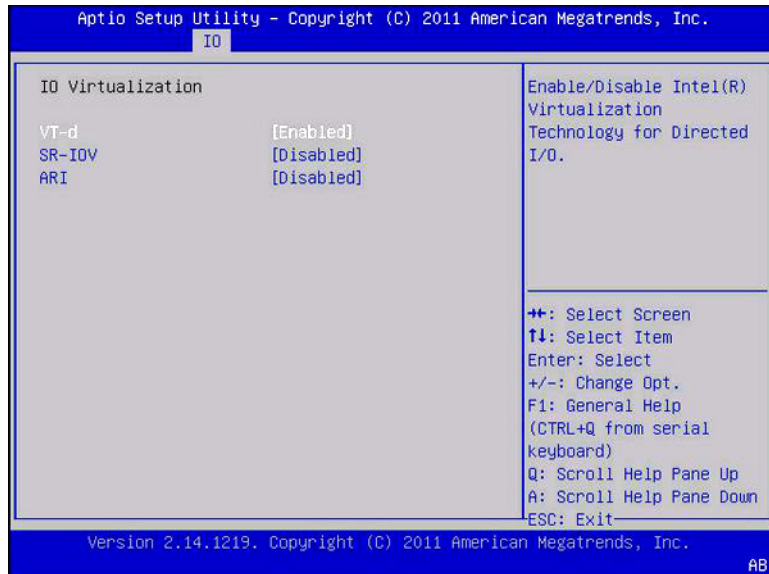
IO > PCI Subsystem Settings



IO > PCI Hot-Plug Settings



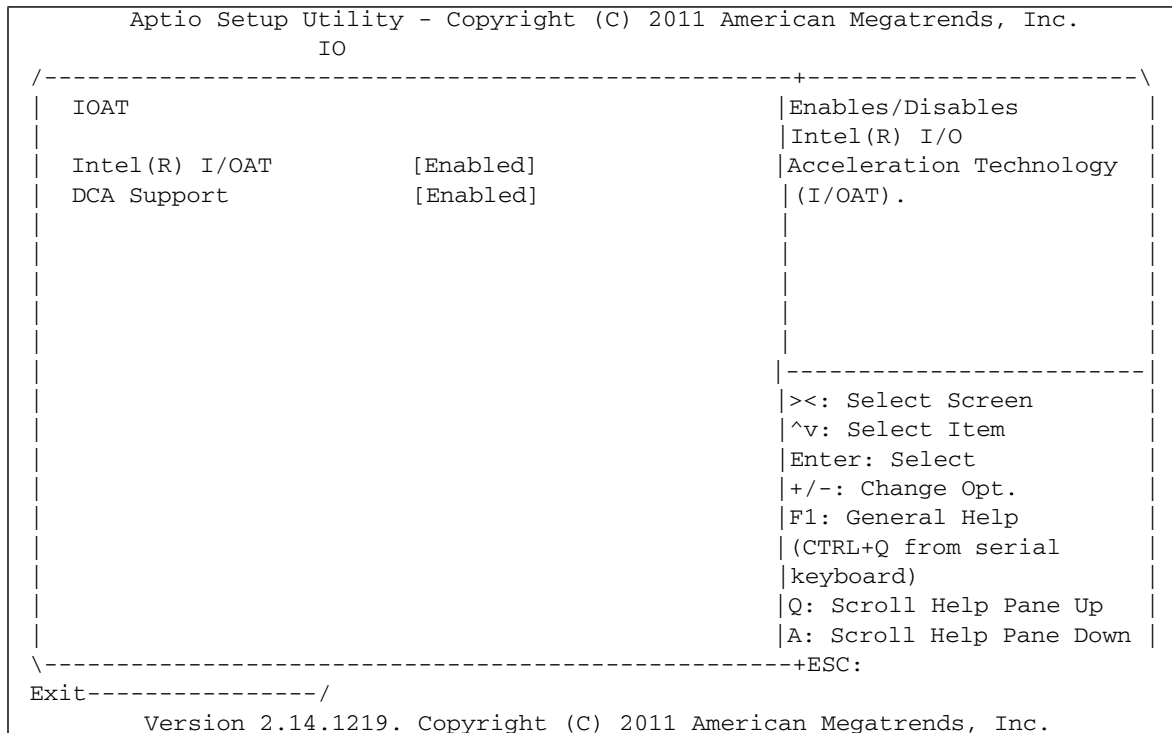
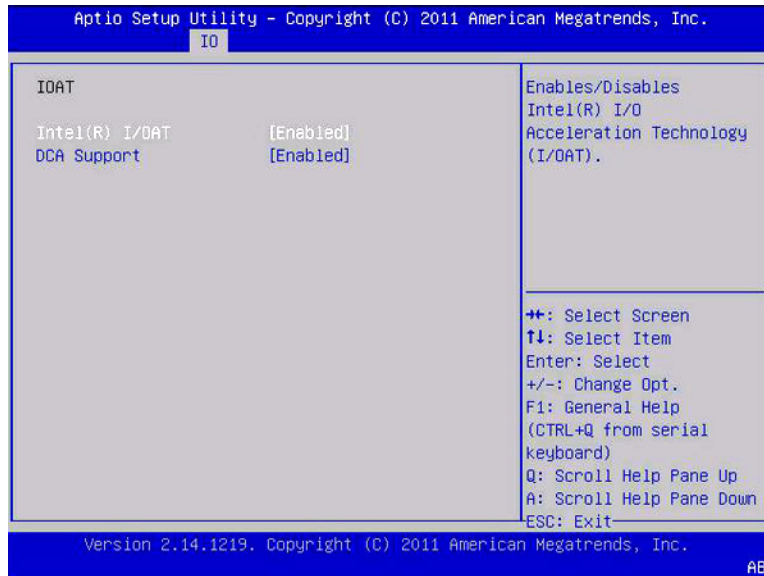
IO > IO Virtualization



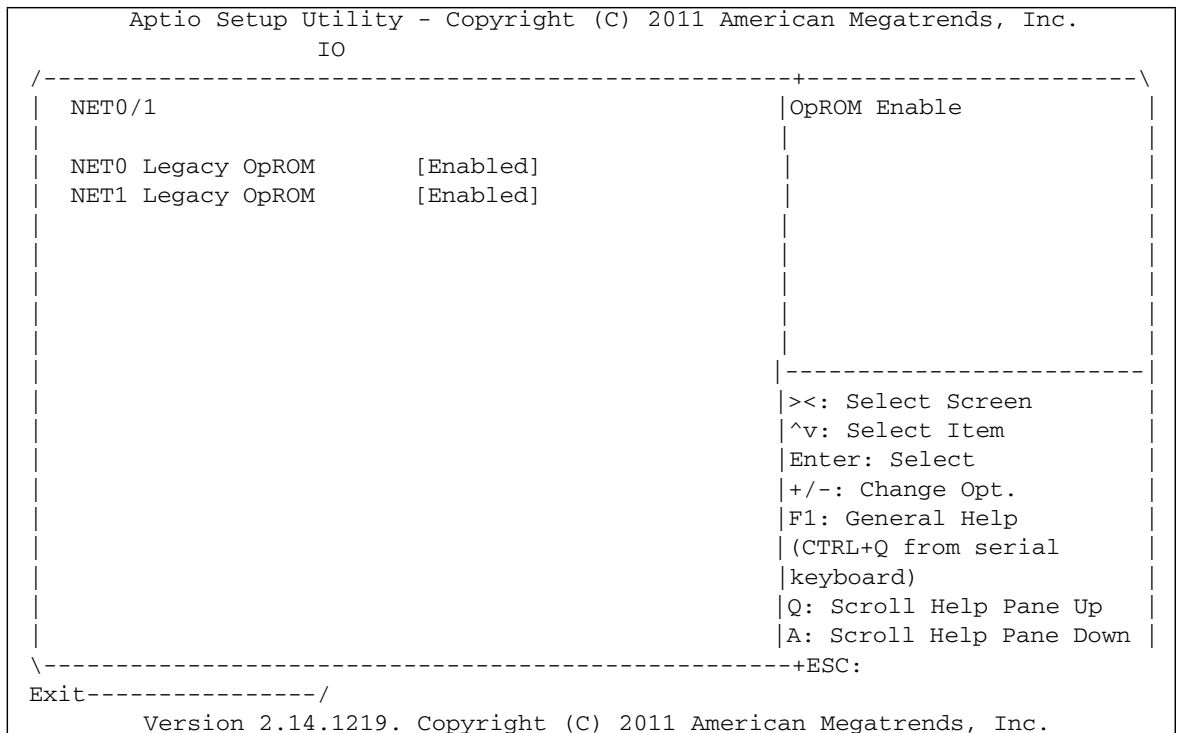
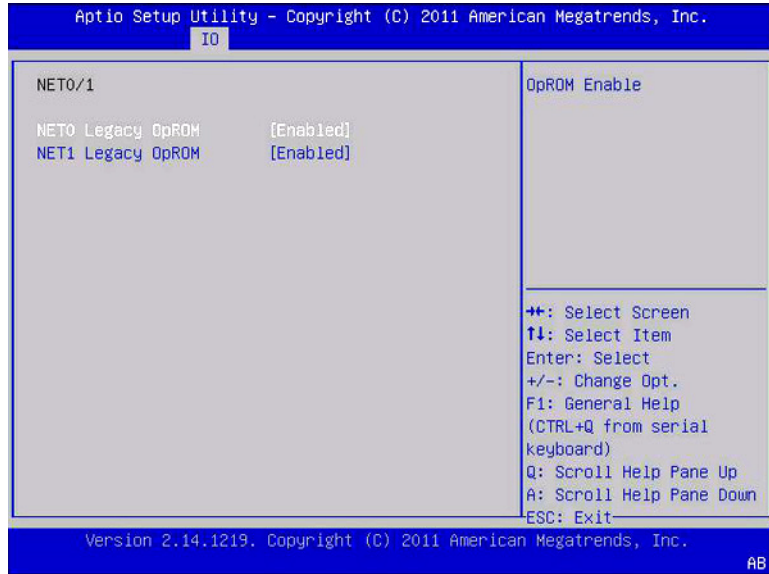
Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
IO		
/-----+-----\		
IO Virtualization		Enable/Disable Intel(R)
		Virtualization
		Technology for Directed
		I/O.

		><: Select Screen
		^v: Select Item
		Enter: Select
		+/-: Change Opt.
		F1: General Help
		(CTRL+Q from serial
		keyboard)
		Q: Scroll Help Pane Up
		A: Scroll Help Pane Down
		-----+ESC:
\-----/		
Exit-----/		
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

IO > IOAT

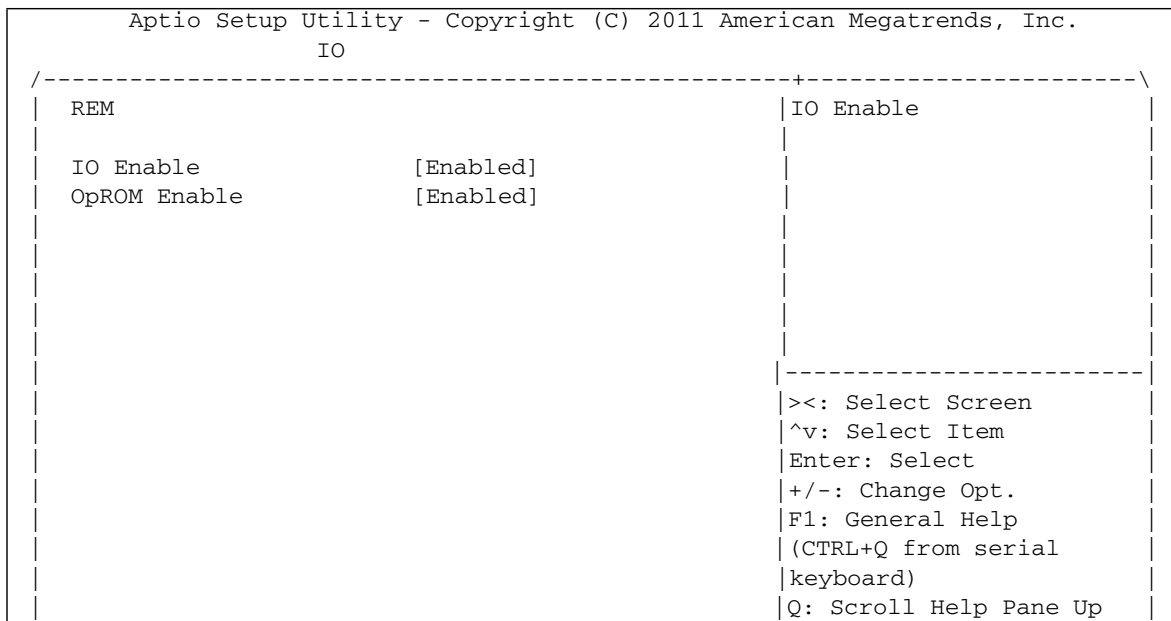
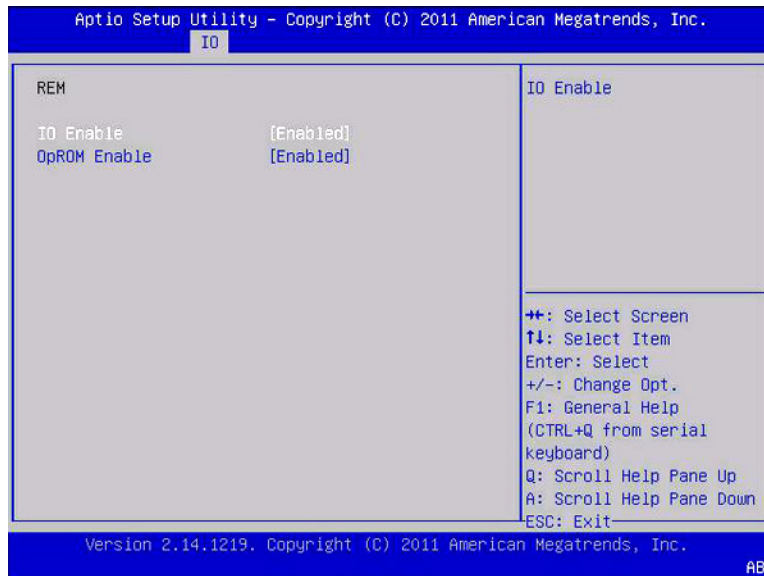


IO > NET0/1



IO > REM

A REM screen is shown as sample add-in card. REMs, FEMs, and EMs are similar.



	A: Scroll Help Pane Down
\-----+ESC:	
Exit-----/	
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.	

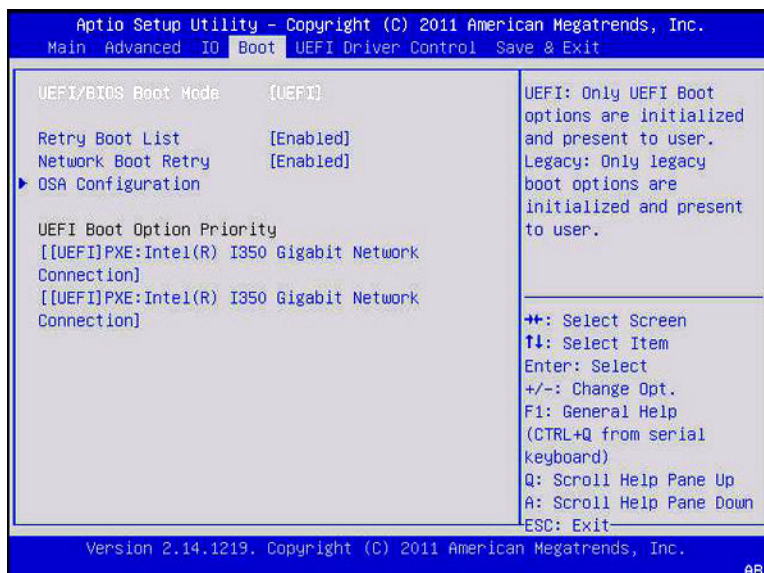
BIOS Boot Menu Selections

This section includes searchable text-based representations of the BIOS Boot menu selections.

- [“UEFI/BIOS Boot Mode” on page 195](#)
- [“Boot > OSA Configuration” on page 197](#)

UEFI/BIOS Boot Mode

Note – UEFI must be selected in the UEFI/BIOS Boot Mode screen for the UEFI Driver Control menu to appear.

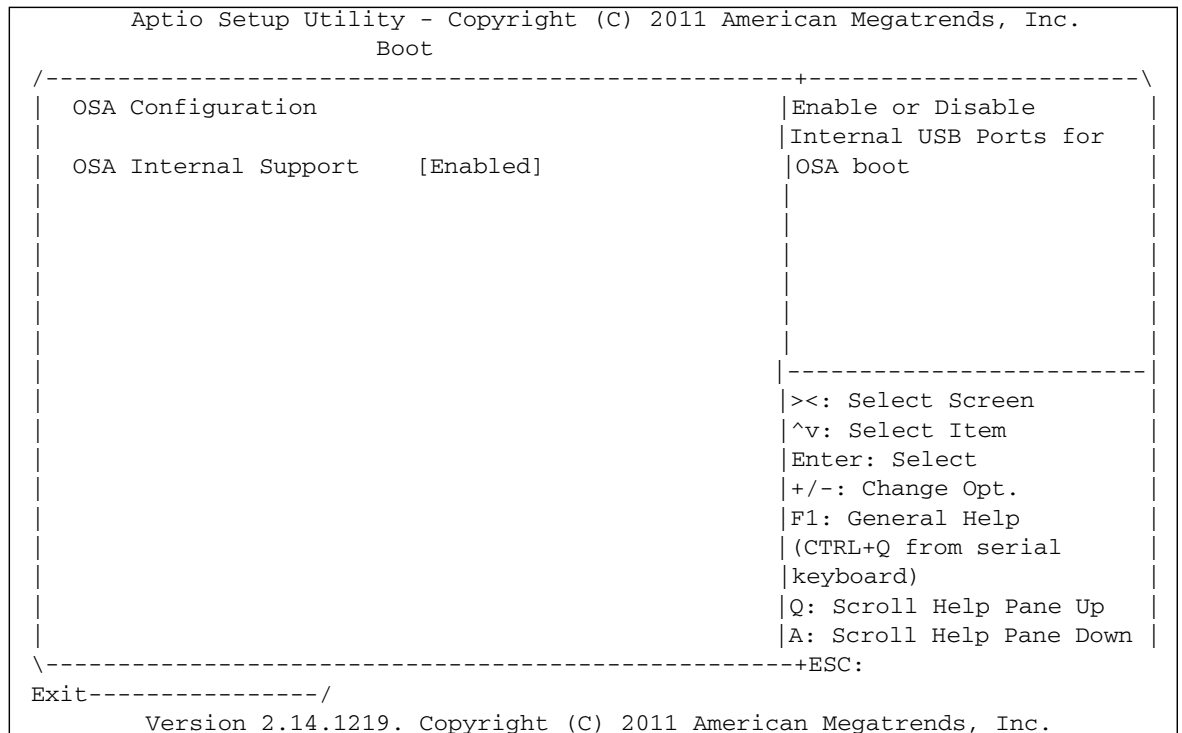
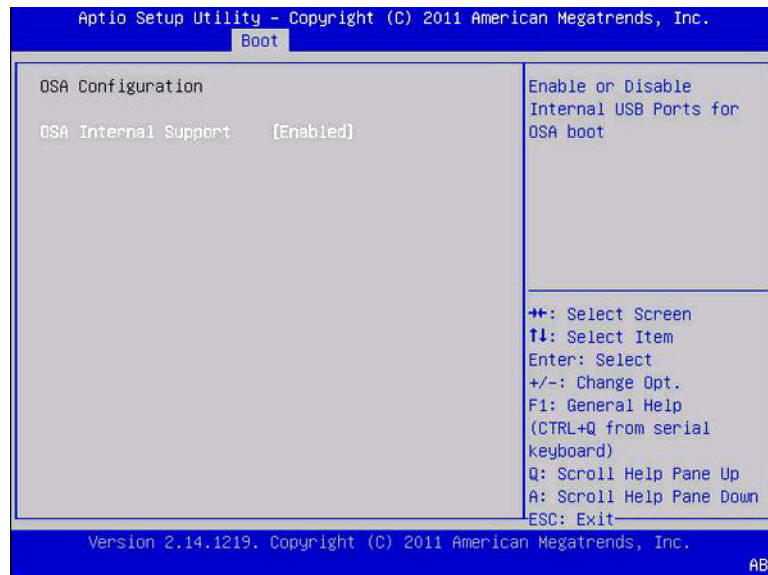


```

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main  Advanced  IO  Boot  UEFI Driver Control  Save & Exit
/-----+-----\
| UEFI/BIOS Boot Mode      [UEFI]          |UEFI: Only UEFI Boot| |
|                           |              |options are initialized|
| Retry Boot List          [Enabled]        |and present to user.|
| Network Boot Retry       [Enabled]        |Legacy: Only legacy  |
| > OSA Configuration      |boot options are     |
|                           |initialized and present |
|                           |to user.              |
| UEFI Boot Option Priority|              |
| [[UEFI]PXE:Intel(R) I350 Gigabit Network |              |
| Connection]              |              |
| [[UEFI]PXE:Intel(R) I350 Gigabit Network |              |
| Connection]              |              |
|                           |-----+-----|
|                           |><: Select Screen  |
|                           |^v: Select Item   |
|                           |Enter: Select    |
|                           |+/-: Change Opt.   |
|                           |F1: General Help  |
|                           |(CTRL+Q from serial|
|                           |keyboard)         |
|                           |Q: Scroll Help Pane Up|
|                           |A: Scroll Help Pane Down|
|                           |-----+-----|
|                           |+ESC:              |
\-----+-----/
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

```


Boot > OSA Configuration



BIOS UEFI Driver Control Menu Selections

This section includes searchable text-based representations of the UEFI Driver Control menu selections.

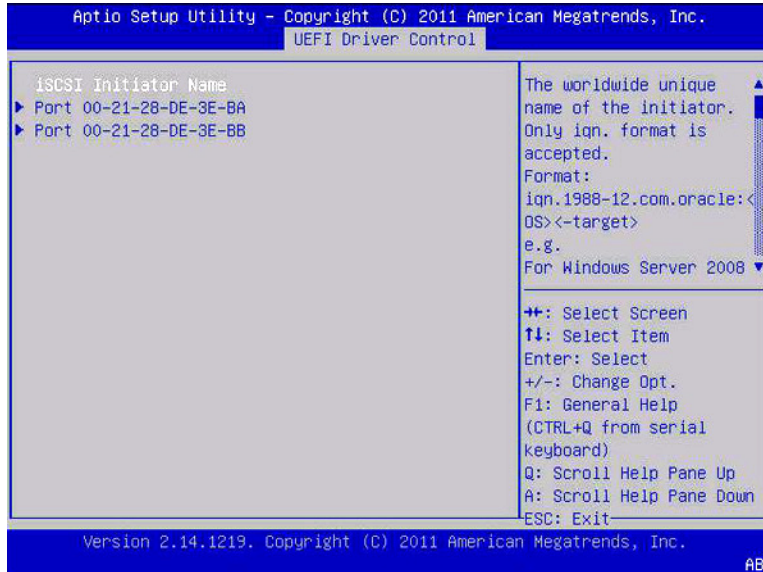
Note – UEFI must be selected in the UEFI/BIOS Boot Mode for the UEFI Driver Control menu to appear.

- [“UEFI Driver Control” on page 198](#)
- [“UEFI Driver Control > iSCSI” on page 200](#)
- [“UEFI Driver Control > iSCSI > Gigabit Network Connection > PORT CONFIGURATION MENU” on page 201](#)
- [“UEFI Driver Control > Gigabit Network Connection > NIC Configuration” on page 202](#)

UEFI Driver Control

UEFI must be selected in the UEFI/BIOS Boot Mode for the UEFI Driver Control menu to appear.

UEFI Driver Control > iSCSI



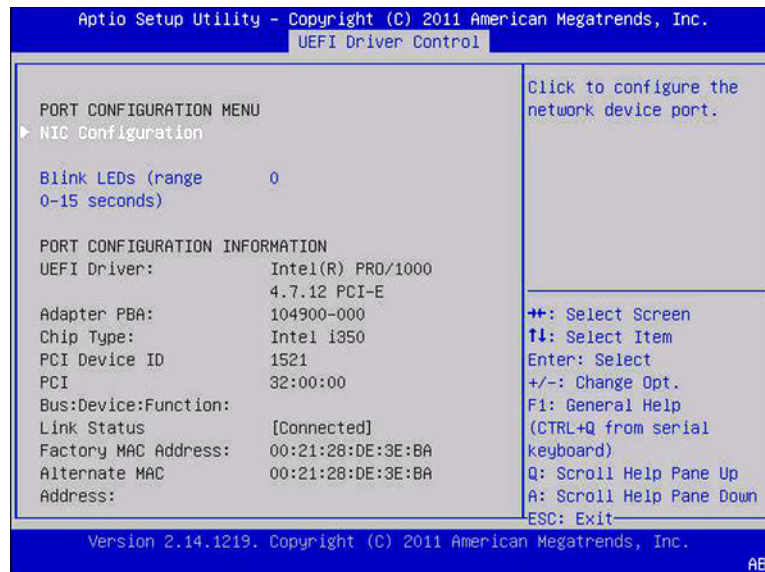
```

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
UEFI Driver Control

/-----+-----\
| iSCSI Initiator Name | The worldwide unique ^ | |
| > Port 00-21-28-DE-3E-BA | name of the initiator. * |
| > Port 00-21-28-DE-3E-BB | Only iqn. format is + |
| | | accepted. + |
| | | Format: + |
| | | iqn.1988-12.com.oracle:<+ |
| | | OS><-target> + |
| | | e.g. + |
| | | For Windows Server 2008 v |
| | | ----- |
| | | ><: Select Screen |
| | | ^v: Select Item |
| | | Enter: Select |
| | | +/-: Change Opt. |
| | | F1: General Help |
| | | (CTRL+Q from serial |
| | | keyboard) |
| | | Q: Scroll Help Pane Up |
| | | A: Scroll Help Pane Down |
| | | ----- |
| | | +ESC: |
| | | |
\-----+-----/
Exit-----/
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```

UEFI Driver Control > iSCSI > Gigabit Network Connection > PORT CONFIGURATION MENU



Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc. UEFI Driver Control	
/-----+-----\	
PORT CONFIGURATION MENU	Click to configure the network device port.
> NIC Configuration	
Blink LEDs (range 0-15 seconds) 0	
PORT CONFIGURATION INFORMATION	
UEFI Driver: Intel(R) PRO/1000 4.7.12 PCI-E	
Adapter PBA: 104900-000	
Chip Type: Intel i350	
PCI Device ID: 1521	
PCI: 32:00:00	
Bus:Device:Function:	
Link Status: [Connected]	
Factory MAC Address: 00:21:28:DE:3E:BA	
Alternate MAC: 00:21:28:DE:3E:BA	

	><: Select Screen
	^v: Select Item
	Enter: Select
	+/-: Change Opt.
	F1: General Help
	(CTRL+Q from serial keyboard)
	Q: Scroll Help Pane Up

```
| Address: |A: Scroll Help Pane Down |
\-----+ESC:
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

UEFI Driver Control > Gigabit Network Connection > NIC Configuration



```

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
UEFI Driver Control
/-----+-----\
|
| Legacy Boot Protocol      [NONE]
| Link Speed                [AutoNeg]
| Wake on LAN               [Enabled]
|
|
|
|
|
|
|-----+-----|
|><: Select Screen
|^v: Select Item
|Enter: Select
|+/-: Change Opt.
|

```

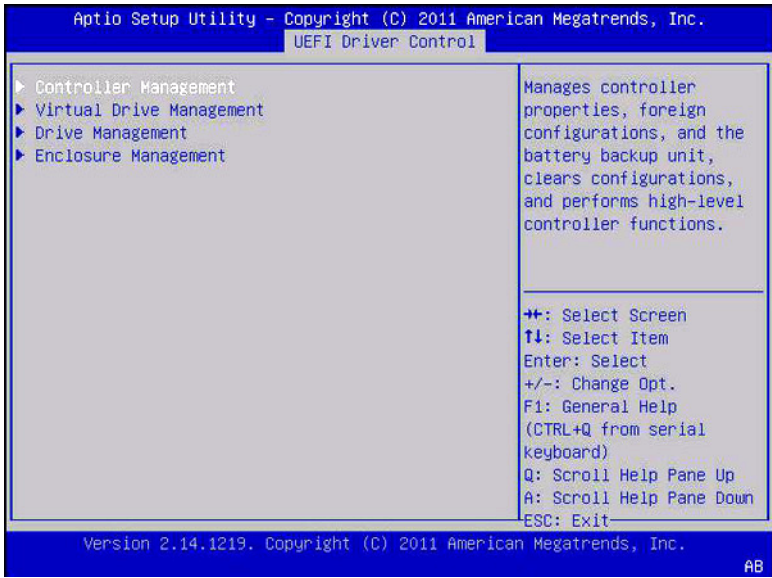
```

|F1: General Help|
| (CTRL+Q from serial|
| keyboard)|
|Q: Scroll Help Pane Up|
|A: Scroll Help Pane Down|
\-----+ESC:
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

```

UEFI Driver Control > LSI MegaRAID Configuration Utility

See “BIOS LSI MegaRAID Configuration Utility Screen Reference” on page 209 for additional screens.



```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
UEFI Driver Control
/-----+-----\
|> Controller Management      |Manages controller    |
|> Virtual Drive Management  |properties, foreign   |
|> Drive Management          |configurations, and the|
|> Enclosure Management     |battery backup unit,  |
|                             |clears configurations,|
|                             |and performs high-level|
|                             |controller functions.  |
|                             |                       |
```

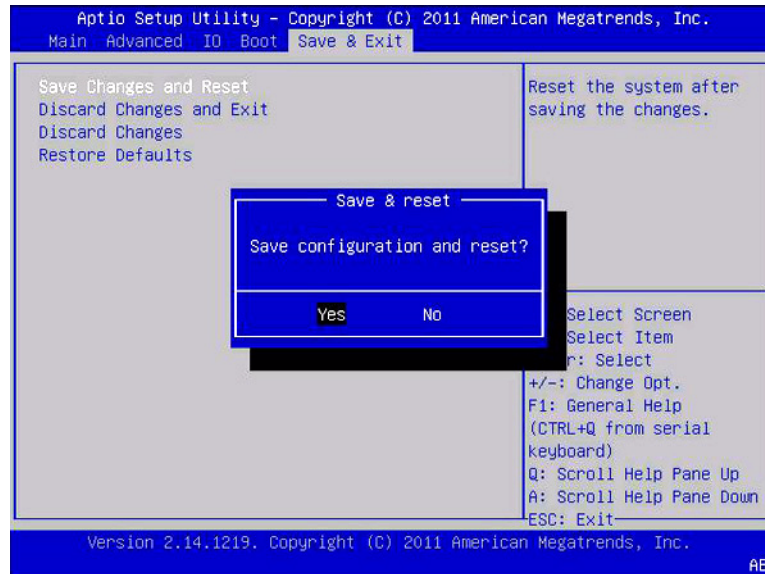
	<pre> ----- ><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help (CTRL+Q from serial keyboard) Q: Scroll Help Pane Up A: Scroll Help Pane Down -----+ESC: Exit-----/ Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc. </pre>
--	---

BIOS Save & Exit Menu Selections

This section includes searchable text-based representations of the BIOS Exit menu selections.

- [“Save & Exit > Save Changes and Reset” on page 205](#)
- [“Save & Exit > Discard Changes and Exit” on page 206](#)
- [“Save & Exit > Discard Changes” on page 207](#)
- [“Save & Exit > Restore Defaults” on page 208](#)

Save & Exit > Save Changes and Reset

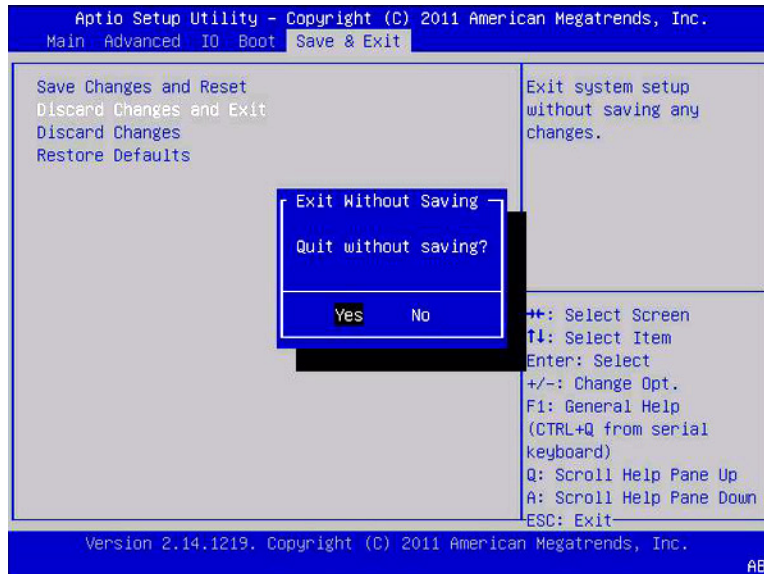


```

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced IO Boot Save & Exit
/-----\
| Save Changes and Reset                               | Reset the system after
| Discard Changes and Exit                             | saving the changes.
| Discard Changes                                     |
| Restore Defaults                                     |
|                                                     |
|               /----- Save & reset -----\         |
|               | Save configuration and reset? |         |
|               |                               |         |
|               | Yes       No       |         |
|               \-----/                     |         |
|                                                     |
|                                                     | Select Screen
|                                                     | Select Item
|                                                     | r: Select
|                                                     | +/-: Change Opt.
|                                                     | F1: General Help
|                                                     | (CTRL+Q from serial
|                                                     | keyboard)
|                                                     | Q: Scroll Help Pane Up
|                                                     | A: Scroll Help Pane Down
|                                                     |
|-----+-----+ESC:
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

```

Save & Exit > Discard Changes and Exit



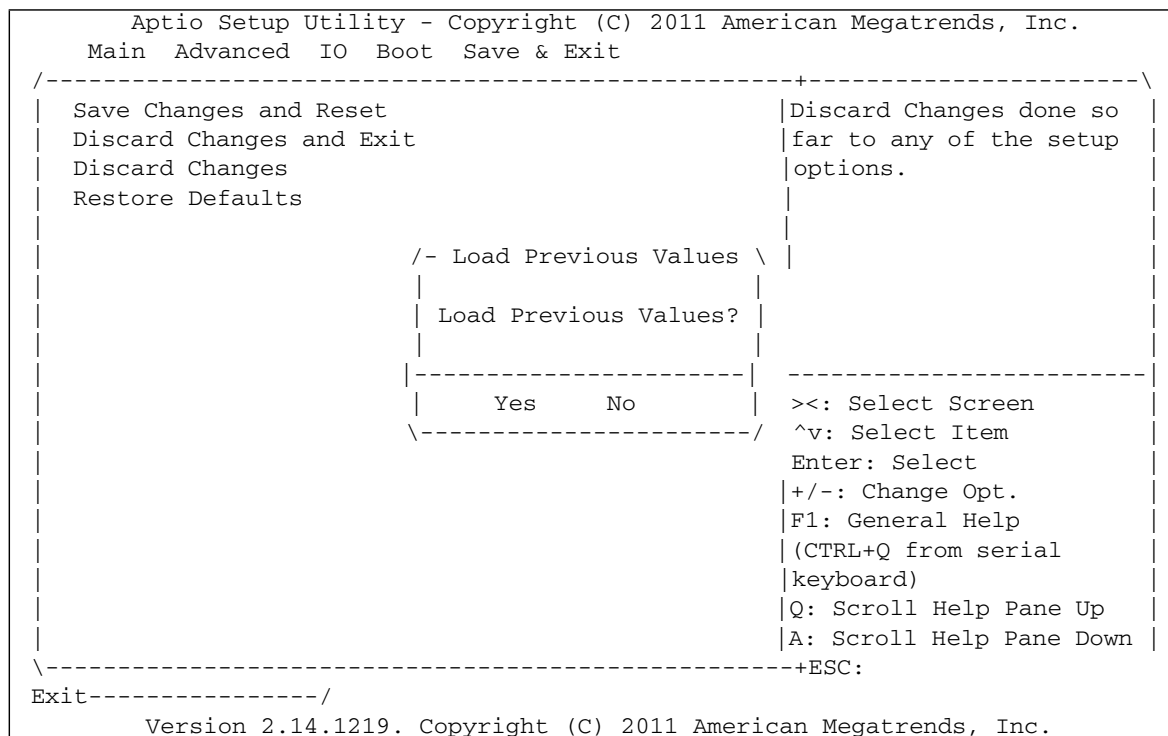
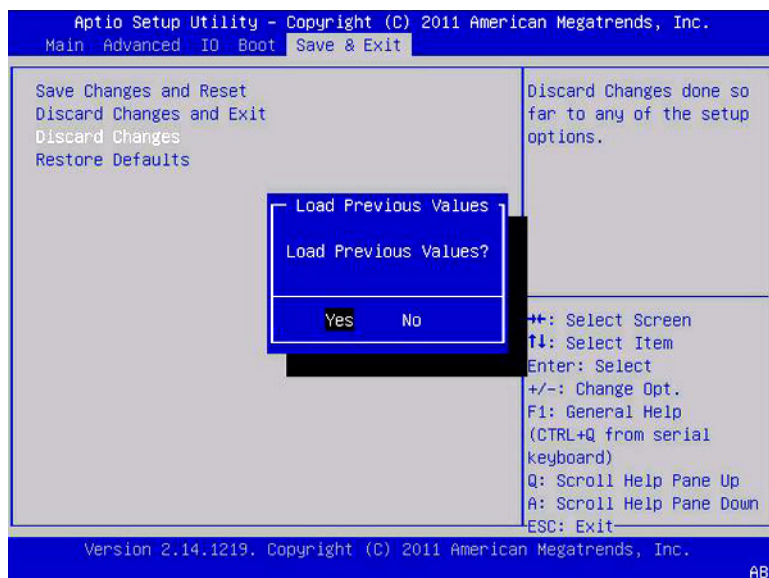
```

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced IO Boot Save & Exit

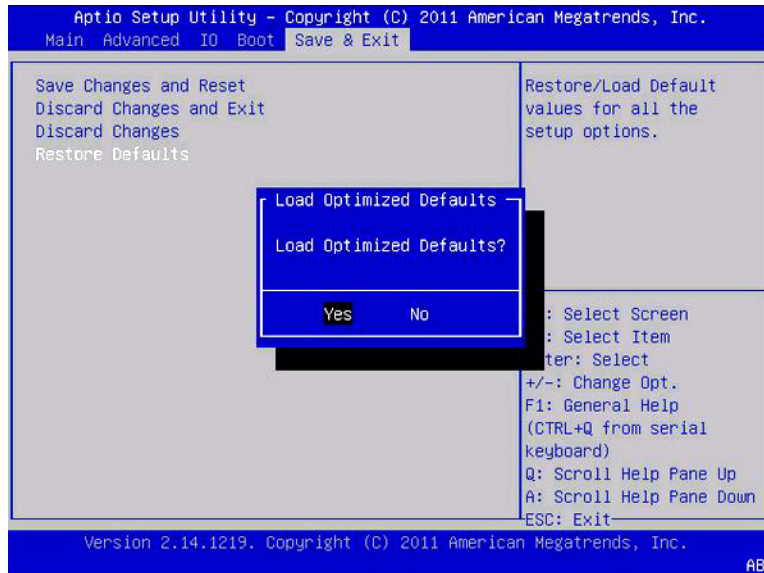
/-----+-----\
| Save Changes and Reset | Exit system setup |
| Discard Changes and Exit | without saving any |
| Discard Changes | changes. |
| Restore Defaults | |
| | |
| / Exit Without Saving -\ |
| | Quit without saving? | | |
| | | |
| |-----| |-----|
| | Yes No | ><: Select Screen |
| \-----/ | ^v: Select Item |
| | | Enter: Select |
| | | +/-: Change Opt. |
| | | F1: General Help |
| | | (CTRL+Q from serial |
| | | keyboard) |
| | | Q: Scroll Help Pane Up |
| | | A: Scroll Help Pane Down |
| | | +ESC: |
\-----+-----/
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

```

Save & Exit > Discard Changes



Save & Exit > Restore Defaults



```

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced IO Boot Save & Exit

/-----+-----\
| Save Changes and Reset | Restore/Load Default |
| Discard Changes and Exit | values for all the |
| Discard Changes | setup options. |
| Restore Defaults | |
| | |
| / Load Optimized Defaults -\ |
| | Load Optimized Defaults? | | | |
| | | |
| |-----| |-----| |
| | Yes No | | : Select Screen |
| \-----/ | | : Select Item |
| | | | | ter: Select |
| | | | | +/-: Change Opt. |
| | | | | F1: General Help |
| | | | | (CTRL+Q from serial |
| | | | | keyboard) |
| | | | | Q: Scroll Help Pane Up |
| | | | | A: Scroll Help Pane Down |
| | | | | +ESC: |
\-----+-----/
Exit-----/
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

```

BIOS LSI MegaRAID Configuration Utility Screen Reference

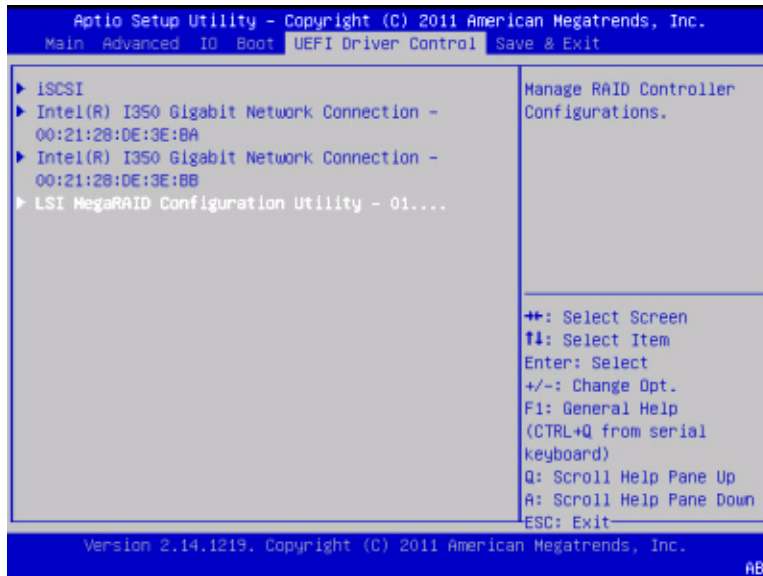
This section includes representations of all screens in the BIOS Setup Utility, LSI MegaRAID Configuration Utility menus.

The following topics are covered.

LSI MegaRAID Configuration Utility Description	Link
Review BIOS Controller Management selections.	“Accessing BIOS LSI MegaRAID Configuration Utility Controller Management Menus” on page 209
Review BIOS Drive Management menu selections.	“BIOS LSI MegaRAID Configuration Utility Drive Management Menu Selections” on page 226
Review BIOS Virtual Drive Management menu selections.	“BIOS LSI MegaRAID Configuration Utility Virtual Drive Management Menu Selections” on page 229
Review BIOS Enclosure Management menu selections.	“BIOS LSI MegaRAID Configuration Utility Enclosure Management Menu Selections” on page 233

Accessing BIOS LSI MegaRAID Configuration Utility Controller Management Menus

The BIOS LSI MegaRAID Configuration Utility is accessed from the UEFI Driver Control menu. The UEFI Driver Control menu is visible in the BIOS menu only while the system is in UEFI boot mode.



To access the LSI MegaRAID Configuration Utility: UEFI Driver Control > LSI MegaRAID Configuration Utility, and select one of the following options.

- “Accessing BIOS LSI MegaRAID Configuration Utility Controller Management Menus” on page 209
- “BIOS LSI MegaRAID Configuration Utility Drive Management Menu Selections” on page 226
- “BIOS LSI MegaRAID Configuration Utility Virtual Drive Management Menu Selections” on page 229
- “BIOS LSI MegaRAID Configuration Utility Enclosure Management Menu Selections” on page 233

See LSI MegaRAID Configuration Utility documentation for detailed information.

Related Information

- See “BIOS UEFI Driver Control Menu Selections” on page 198.

BIOS LSI MegaRAID Configuration Utility Controller Management Selections

This section includes representations of the BIOS LSI MegaRAID Configuration Utility Controller Management menu selections.

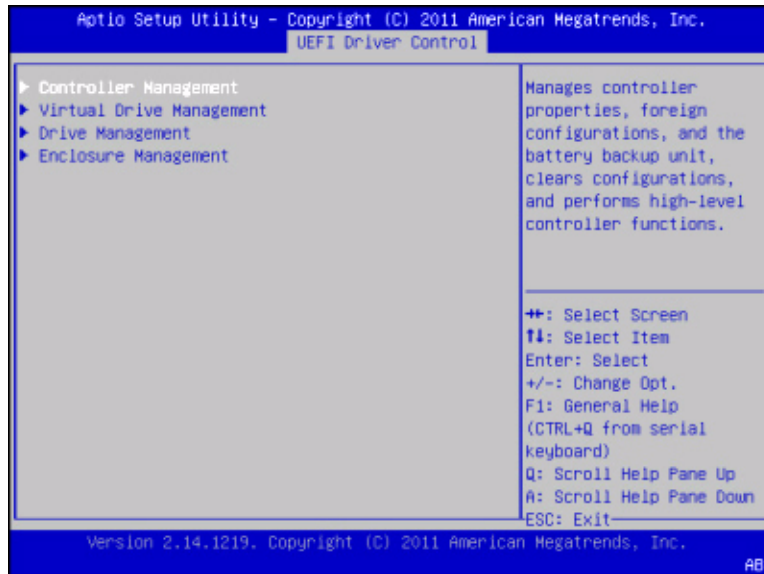
To access the BIOS LSI MegaRAID Configuration Utility: UEFI Driver Control > LSI MegaRAID Configuration Utility > Controller Management, then select one of the following items.

- Controller Management
- Drive Management
- Virtual Drive Management
- Enclosure Management

The following topics are covered in this section:

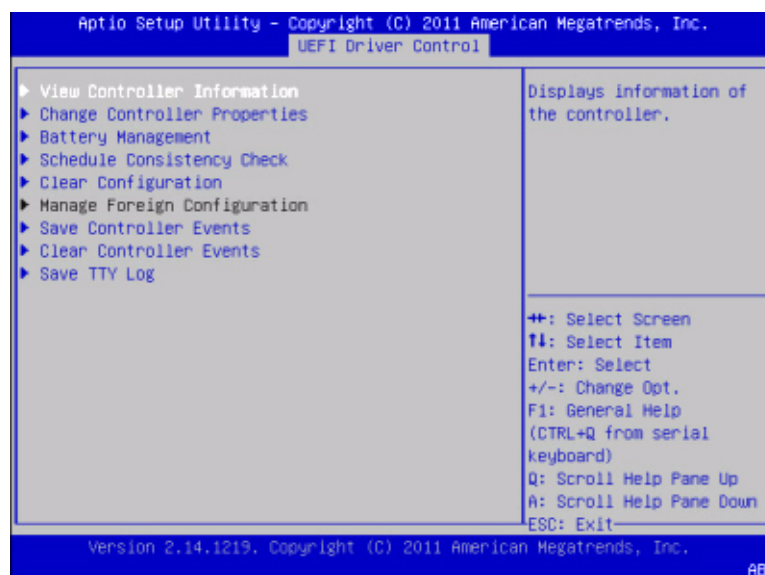
- [“Controller Management Menu” on page 212](#)
- [“View Controller Information” on page 213](#)
- [“Change Controller Properties” on page 215](#)
- [“Battery Management” on page 221](#)
- [“Schedule Consistency Check” on page 223](#)
- [“Clear Configuration” on page 224](#)
- [“Save Controller Events” on page 224](#)
- [“Clear Controller Events” on page 225](#)
- [“Save TTY Log” on page 225](#)

Controller Management Menu

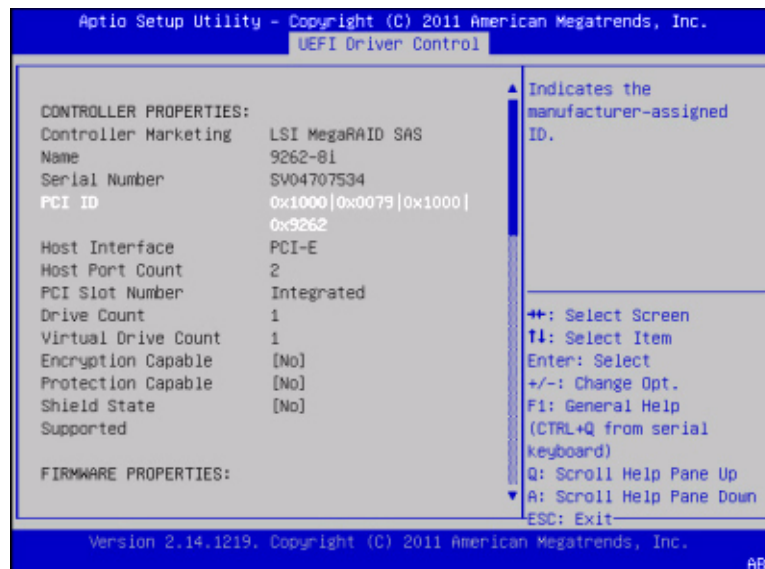


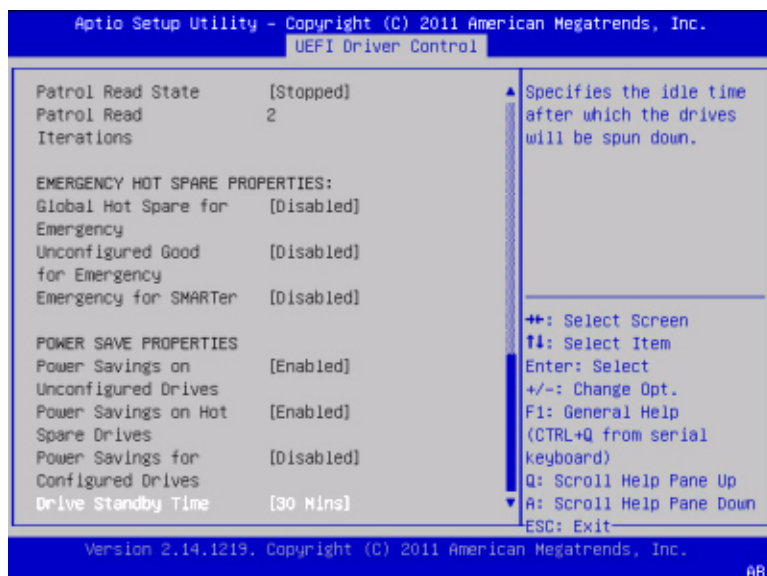
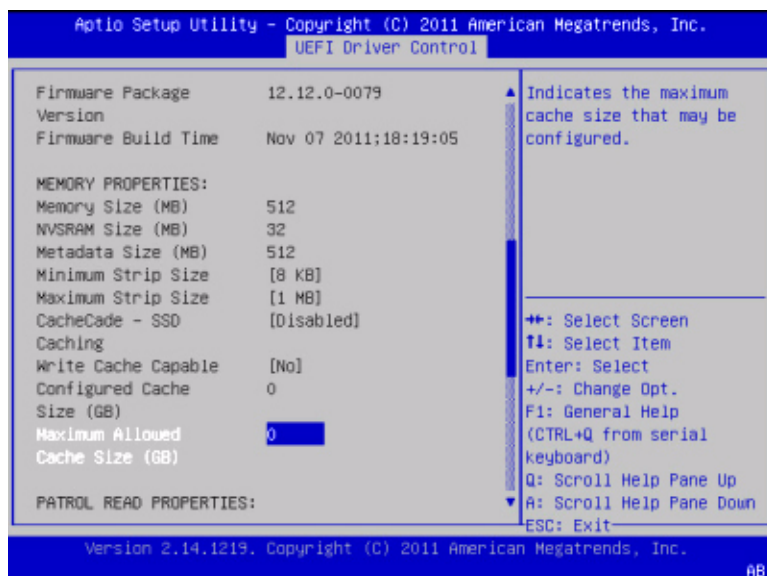
To access the BIOS LSI MegaRAID Configuration Utility, navigate to: UEFI Driver Control Menu > LSI MegaRAID Configuration Utility > Controller Management, then select one of the following items.

- View Controller Information
- Change Controller Properties
- Battery Management
- Schedule Consistency Check
- Clear Configuration
- Manage Foreign Configuration (not shown)
- Save Controller Events
- Clear Controller Events
- Save TTY Log

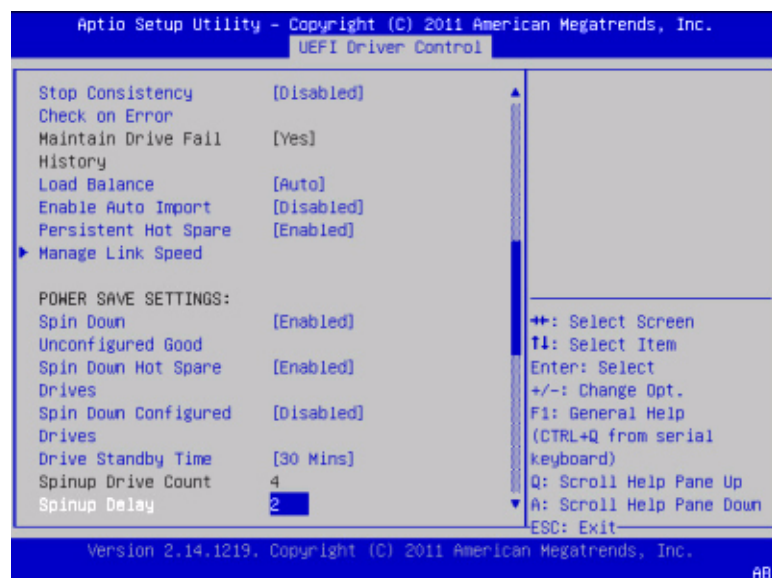
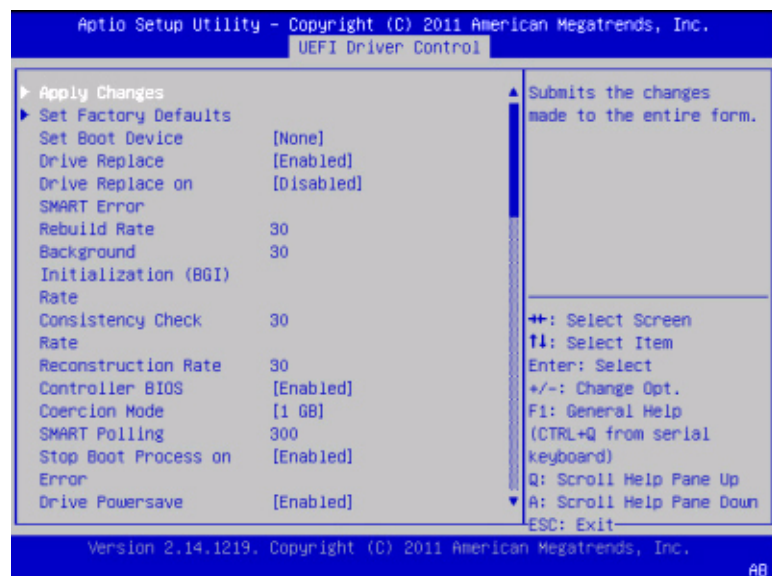


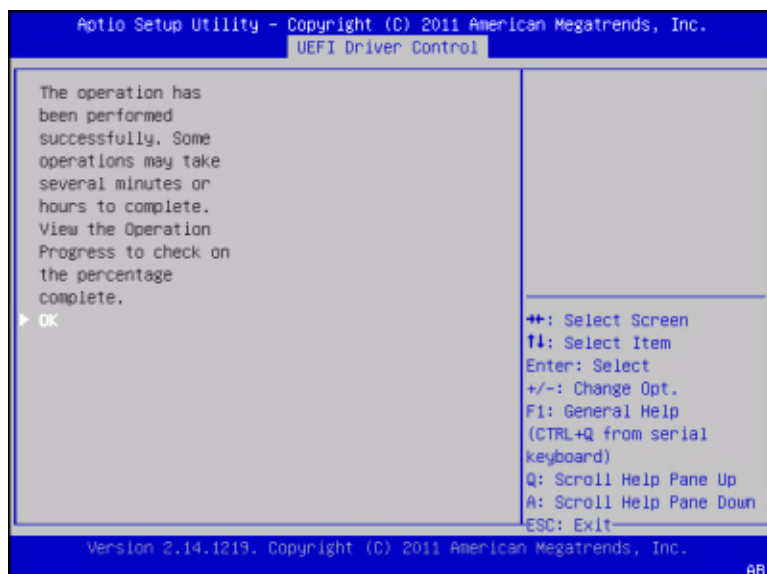
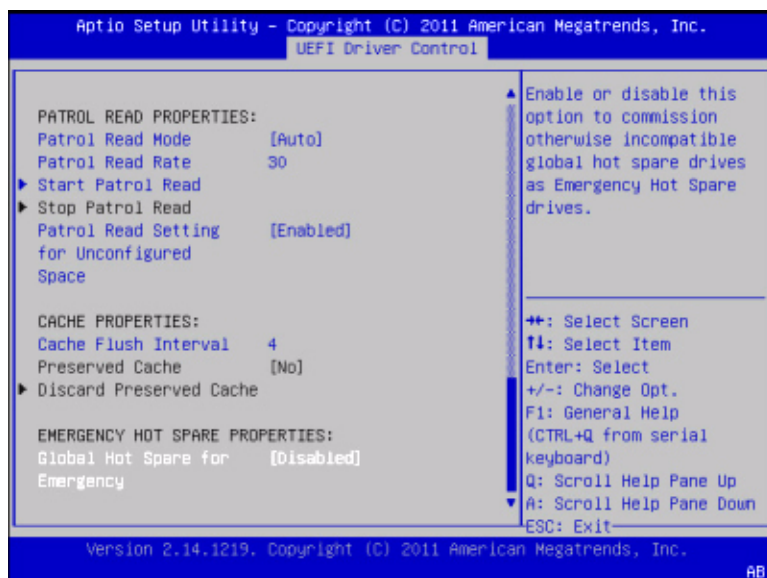
View Controller Information

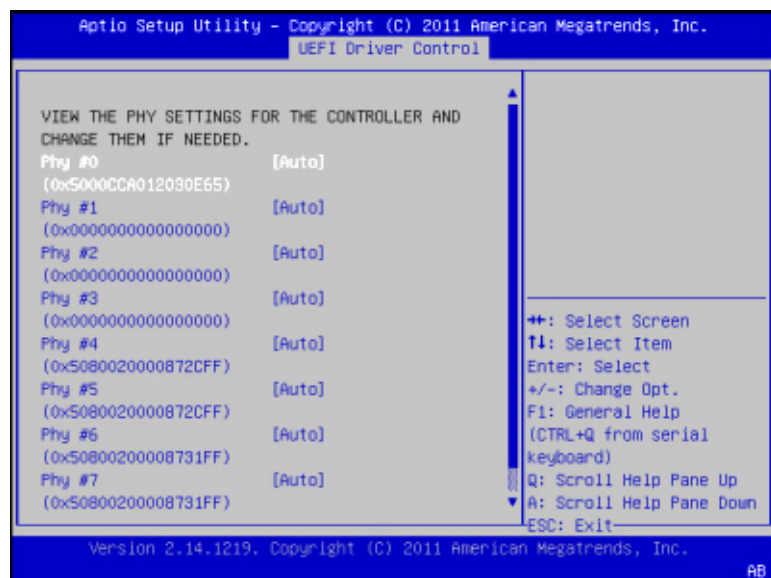
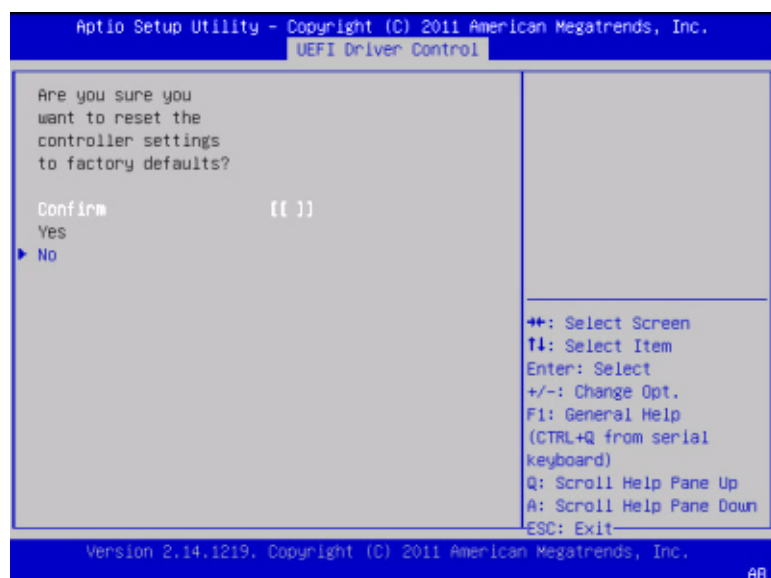


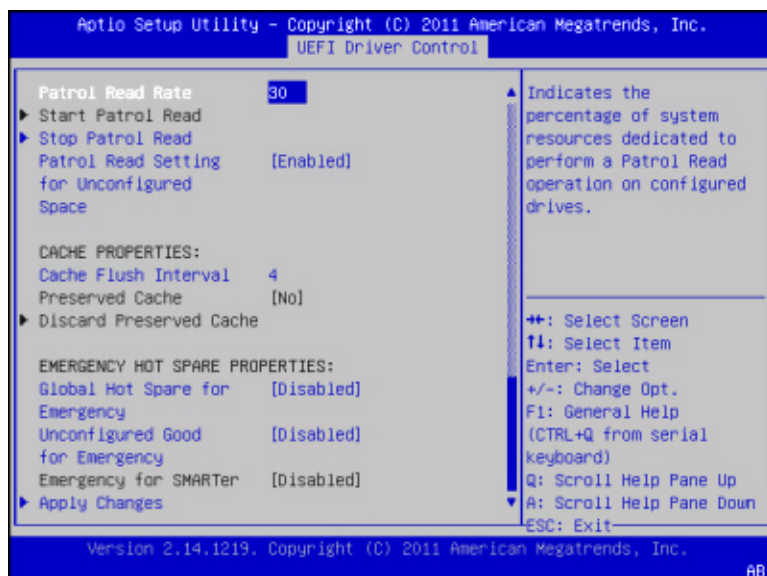
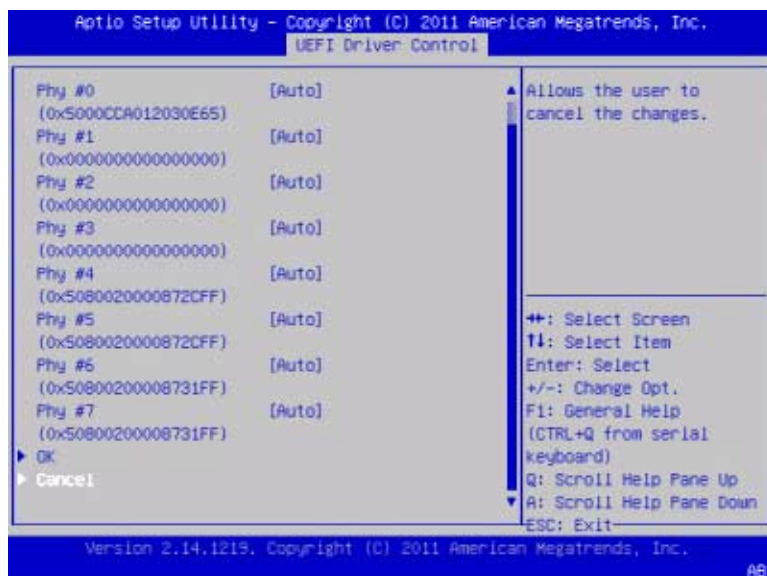


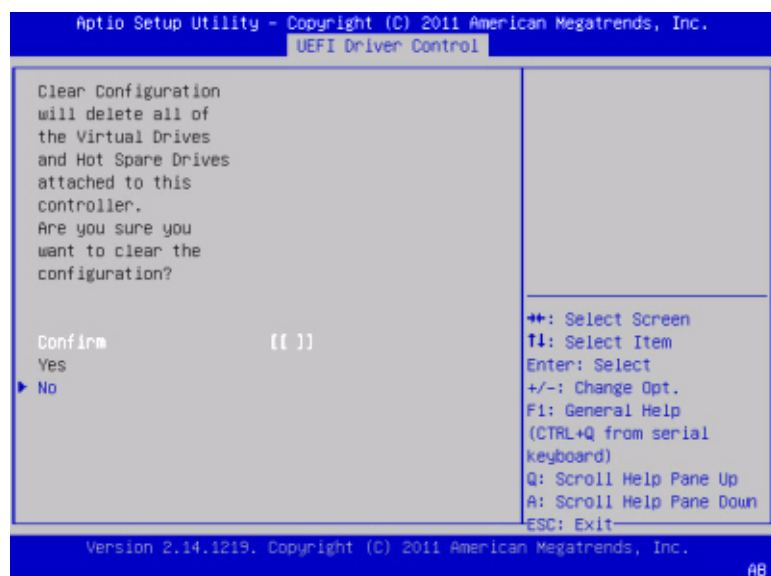
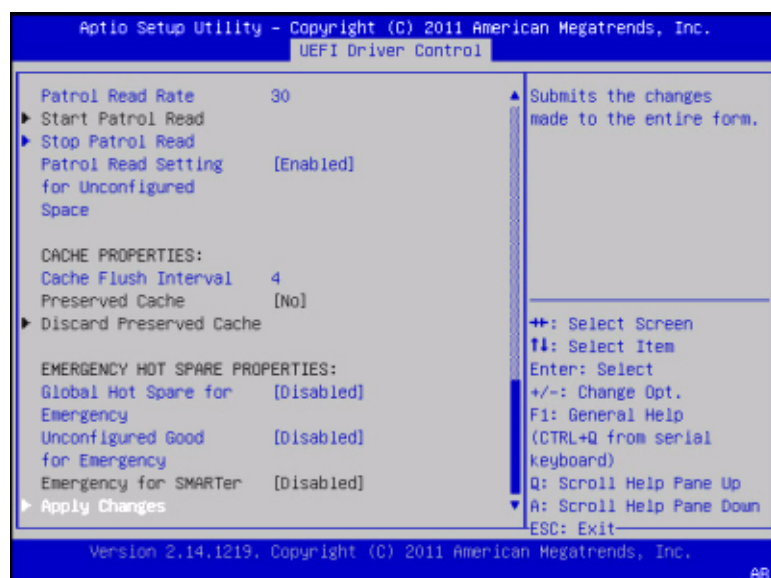
Change Controller Properties

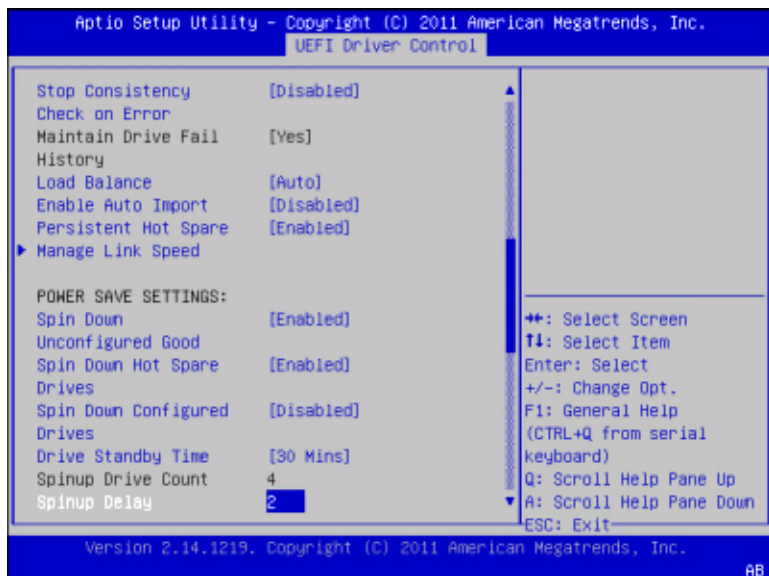
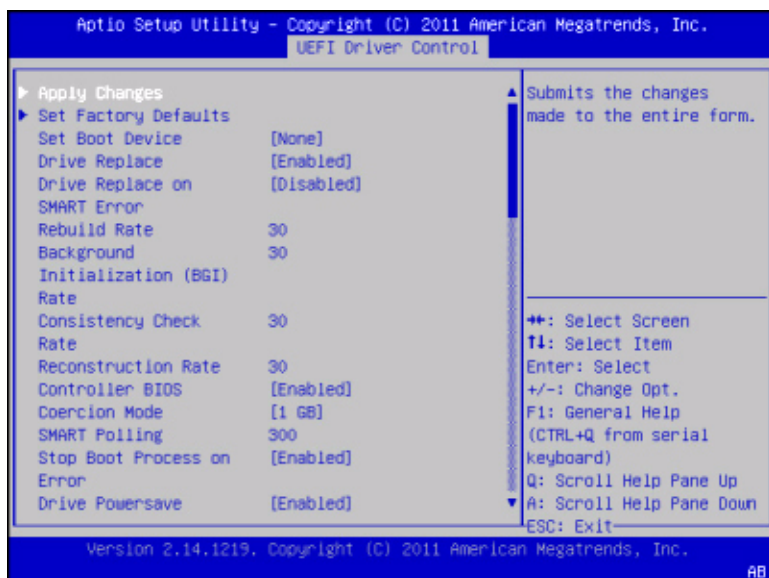


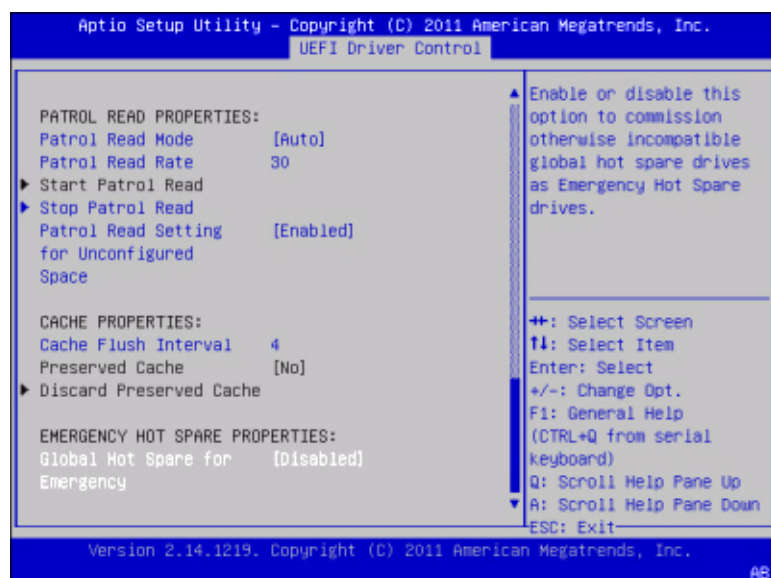




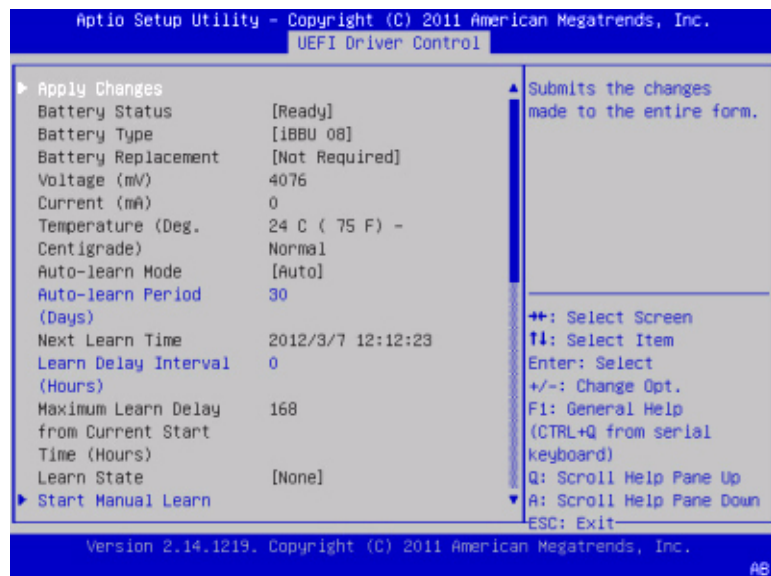








Battery Management



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UEFI Driver Control

<p>CAPACITY INFORMATION:</p> <p>Full Charge Capacity 1307 (mAh)</p> <p>Remaining Capacity 1306 (mAh)</p> <p>Battery Retention Time [48+ hours]</p> <p>Estimated Time To Recharge (Minutes) 65535</p>		<p>▲ Displays the theoretical capacity of a new battery.</p>
<p>DESIGN INFORMATION:</p> <p>Manufacturing Name LS36681</p> <p>Manufacturing Date [Sat 12/18/2010]</p> <p>Battery Module Version</p> <p>Serial Number 1546</p> <p>FRU None</p> <p>Design Capacity (mAh) 1530</p>		

++: Select Screen
 ↑↓: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help (CTRL+Q from serial keyboard)
 Q: Scroll Help Pane Up
 A: Scroll Help Pane Down
 ESC: Exit

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AB

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UEFI Driver Control

<p>Remaining Capacity 1306 (mAh)</p> <p>Battery Retention Time [48+ hours]</p> <p>Estimated Time To Recharge (Minutes) 65535</p>		<p>▲ Submits the changes made to the entire form.</p>
<p>DESIGN INFORMATION:</p> <p>Manufacturing Name LS36681</p> <p>Manufacturing Date [Sat 12/18/2010]</p> <p>Battery Module Version</p> <p>Serial Number 1546</p> <p>FRU None</p> <p>Design Capacity (mAh) 1530</p> <p>Design Voltage (mV) 4100</p> <p>Device Name bq27541</p> <p>Device Chemistry LPMR</p> <p>► Apply Changes</p>		

++: Select Screen
 ↑↓: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help (CTRL+Q from serial keyboard)
 Q: Scroll Help Pane Up
 A: Scroll Help Pane Down
 ESC: Exit

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AB

Schedule Consistency Check

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UEFI Driver Control

Consistency Check Frequency	[Weekly]	Selects the frequency of the consistency check runs. This setting can be set to disabled, hourly, daily, or weekly.
Consistency Check Start (mm/dd/yy)	[Sat 02/11/2012]	
Consistency Check Start Time	[03:00:00]	
Consistency Check Mode	[Concurrent]	
SELECT VIRTUAL DRIVES TO CHECK:		

▶ Exclude Virtual Drives

▶ Apply Changes

↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
(CTRL+Q from serial keyboard)
Q: Scroll Help Pane Up
A: Scroll Help Pane Down
ESC: Exit

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AB

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UEFI Driver Control

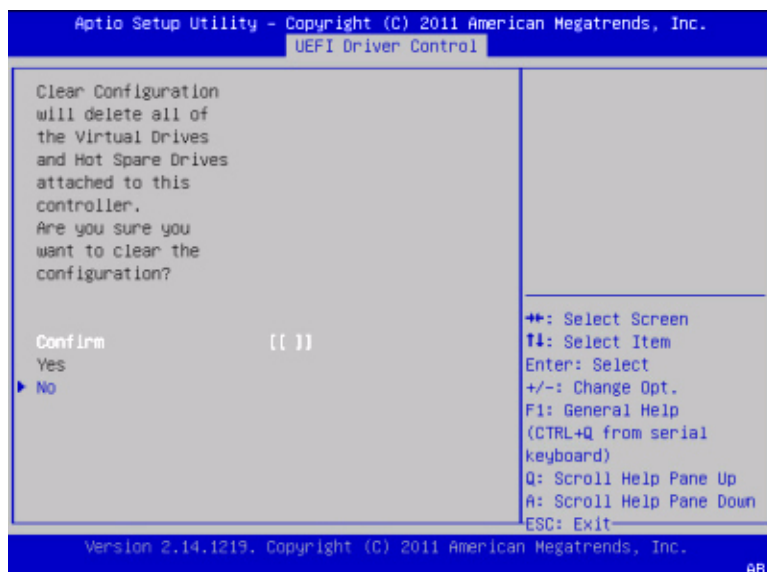
SELECT VIRTUAL DRIVES TO BE EXCLUDED:	
Virtual Drive 0:	[]
RAID0, 557GB, Optimal	
▶ Apply Changes	

↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
(CTRL+Q from serial keyboard)
Q: Scroll Help Pane Up
A: Scroll Help Pane Down
ESC: Exit

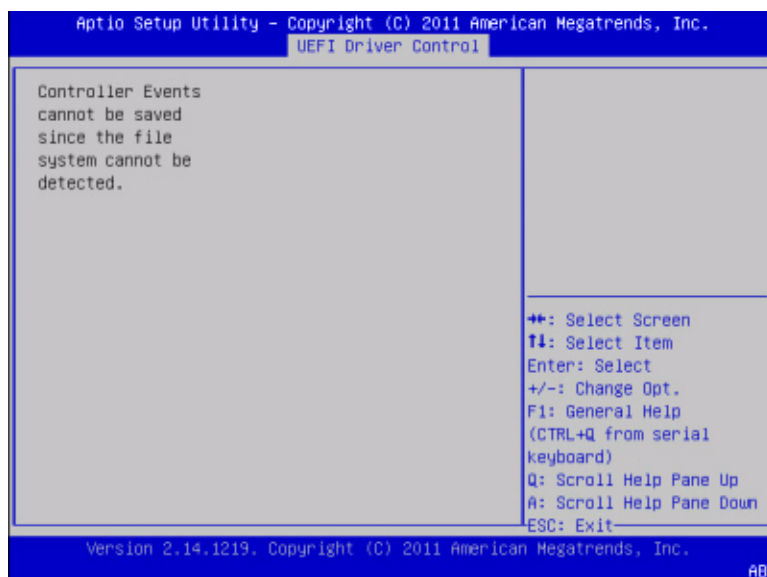
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

AB

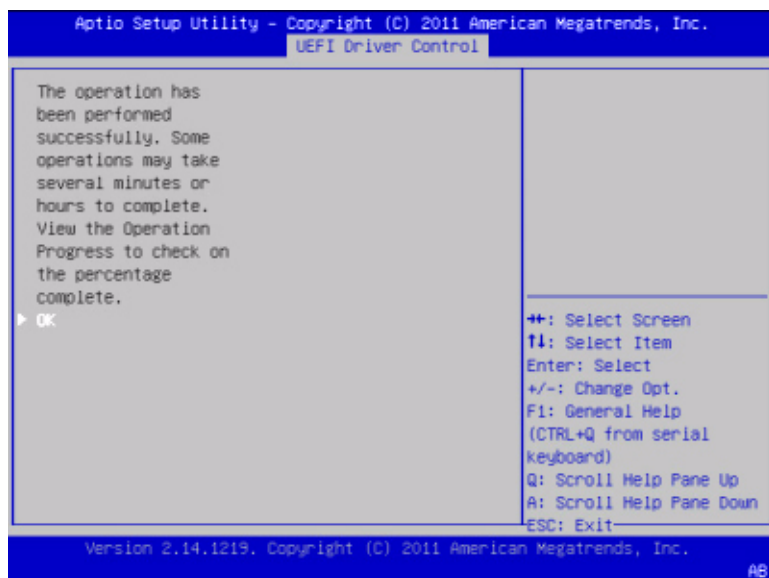
Clear Configuration



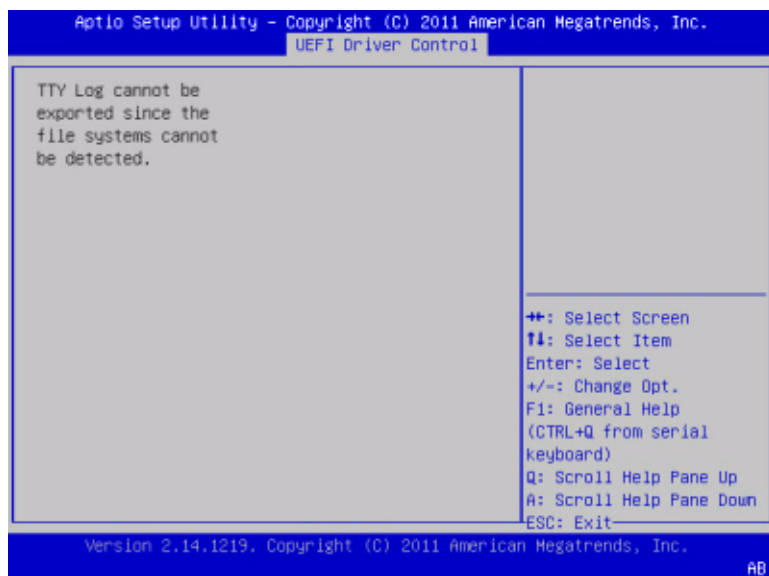
Save Controller Events



Clear Controller Events



Save TTY Log



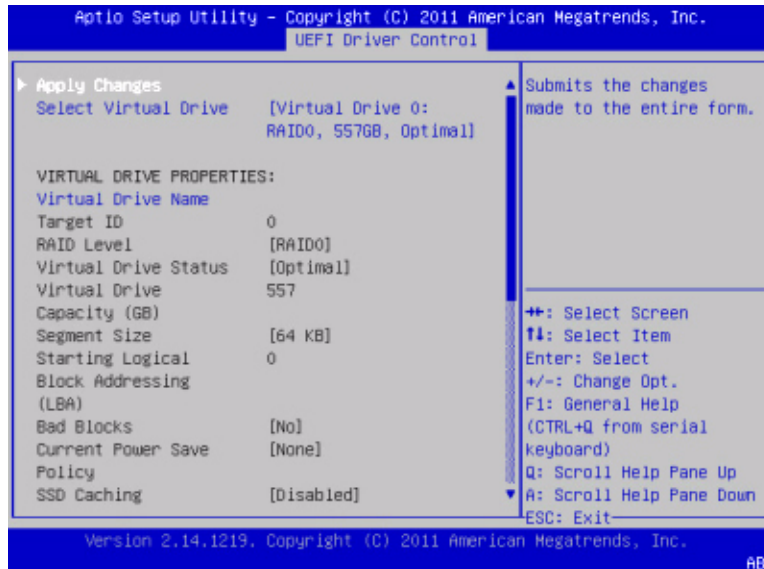
BIOS LSI MegaRAID Configuration Utility Drive Management Menu Selections

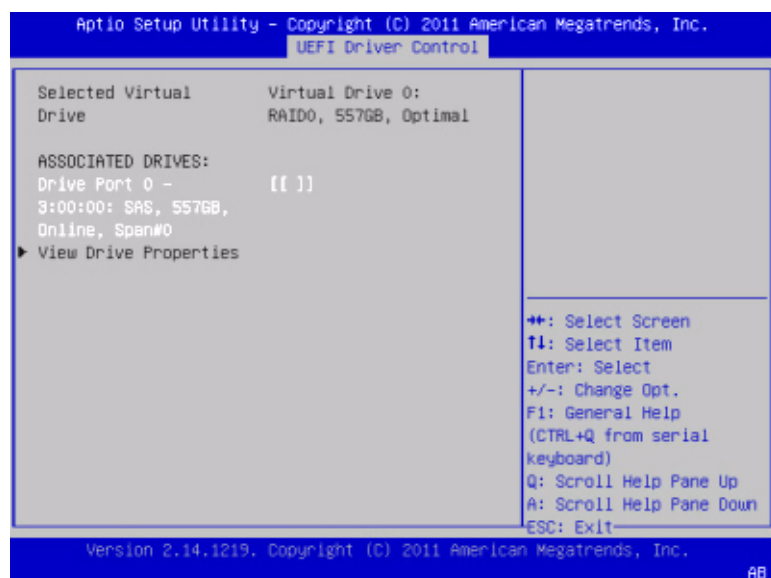
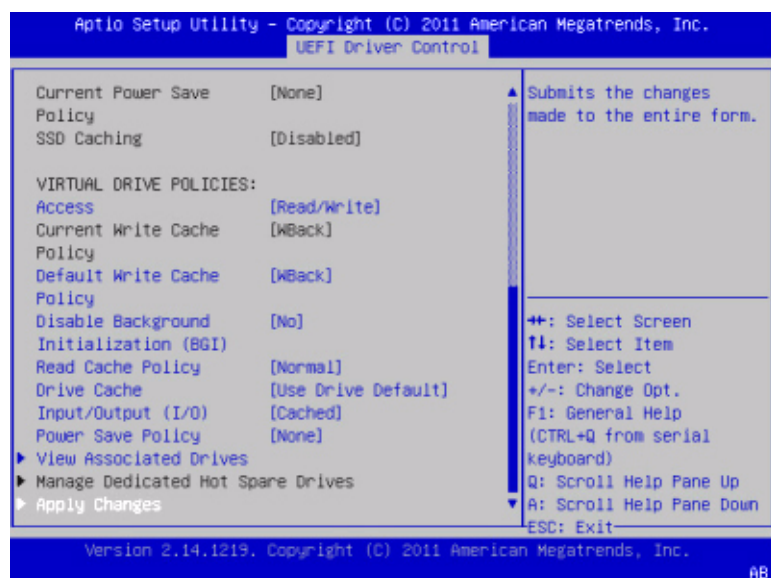
This section includes representations of BIOS LSI MegaRAID Configuration Utility Drive Management menu selections.

To access the BIOS LSI MegaRAID Configuration Utility: UEFI Driver Control > LSI MegaRAID Configuration Utility > Drive Management, then select the following item: View Associated Drives.

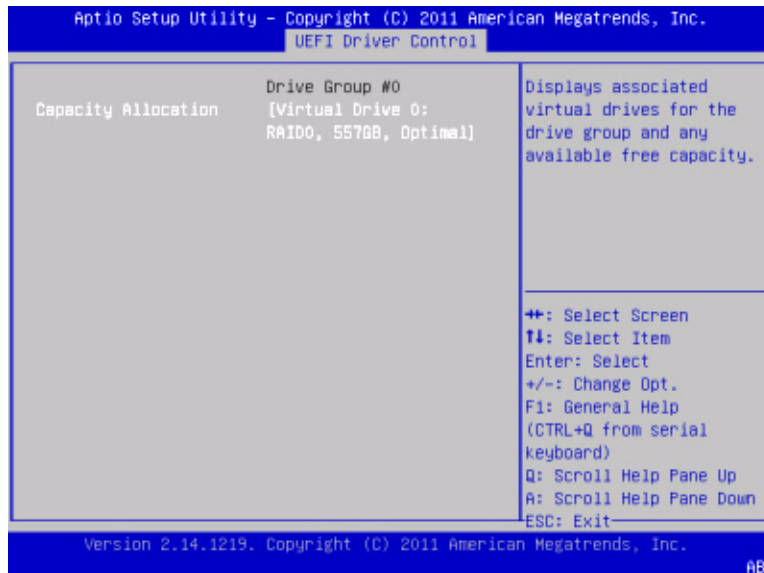
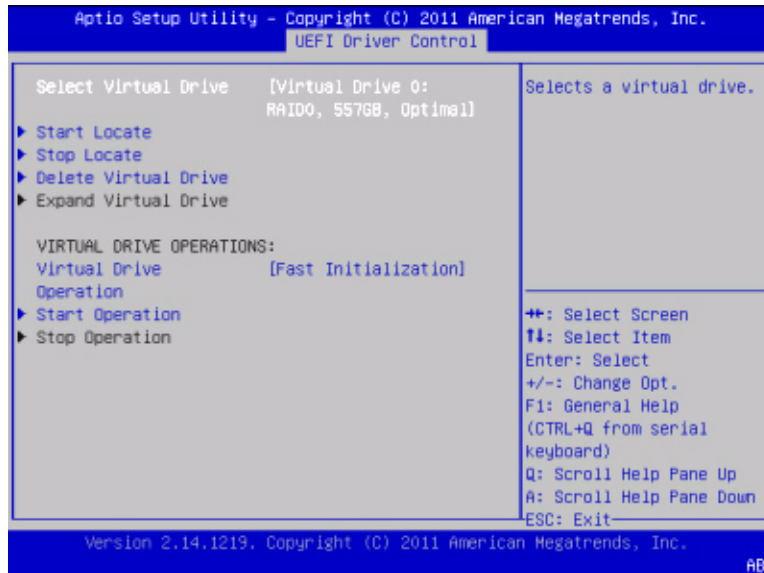
- “Drive Management Menu” on page 226
- “View Associated Drives” on page 228

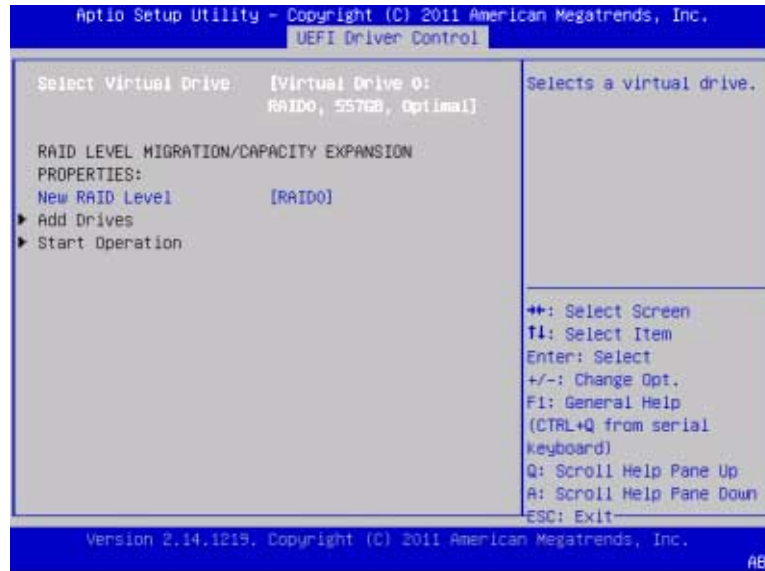
Drive Management Menu





View Associated Drives





BIOS LSI MegaRAID Configuration Utility Virtual Drive Management Menu Selections

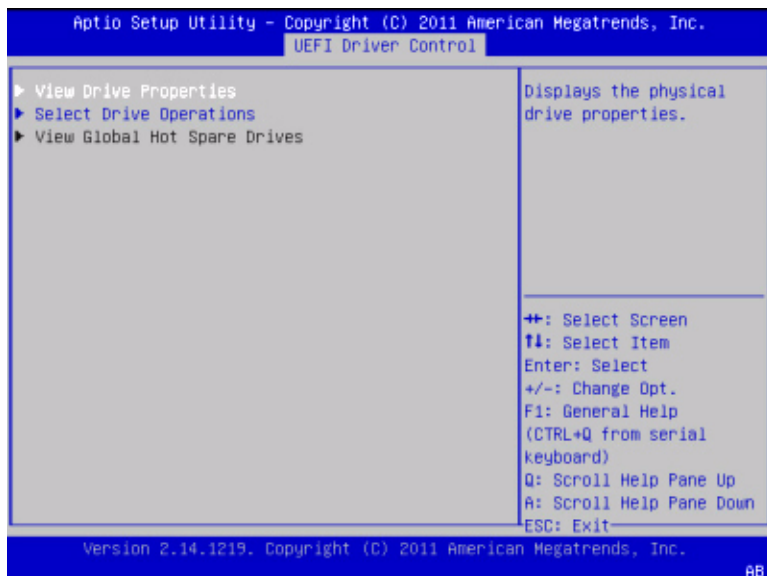
This section includes representations of the BIOS LSI MegaRAID Configuration Utility Virtual Drive Management menu selections.

To access the BIOS LSI MegaRAID Configuration Utility, Virtual Drive Management: UEFI Driver Control > LSI MegaRAID Configuration Utility > Virtual Drive Management, then select one of the following items, as required:

- Create Configuration
- Manage Virtual Drive Properties
- Select Virtual Drive Operations
- View Drive Group Properties
- Reconfigure Virtual Drives
- [“Virtual Drive Management” on page 230](#)
- [“View Drive Properties” on page 231](#)
- [“Select Drive Operations” on page 232](#)

- “View Global Hot Spare Drives” on page 232

Virtual Drive Management



View Drive Properties

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
UEFI Driver Control

Select Drive	[Drive Port 0 - 3:00:00: SAS, 557GB, Online]	▲ Selects a physical drive.
DRIVE PROPERTIES:		
Drive ID	Port 0 - 3:00:0	
State	[Online]	
Certified	[No]	
Coerced Size (GB)	557	
SMART Status	[Enabled]	
Revision	A202	
Device Type	[Disk]	
Connected Port	0	↔: Select Screen
Media Errors	0	↑↓: Select Item
Predicted Fail Count	0	Enter: Select
SAS Address	0x5000CCA012030E65:0x0000000000000000	+/-: Change Opt.
Drive Power State	[Spun Up]	F1: General Help (CTRL+Q from serial keyboard)
Commissioned Hot	[No]	Q: Scroll Help Pane Up
Spare		A: Scroll Help Pane Down
		ESC: Exit

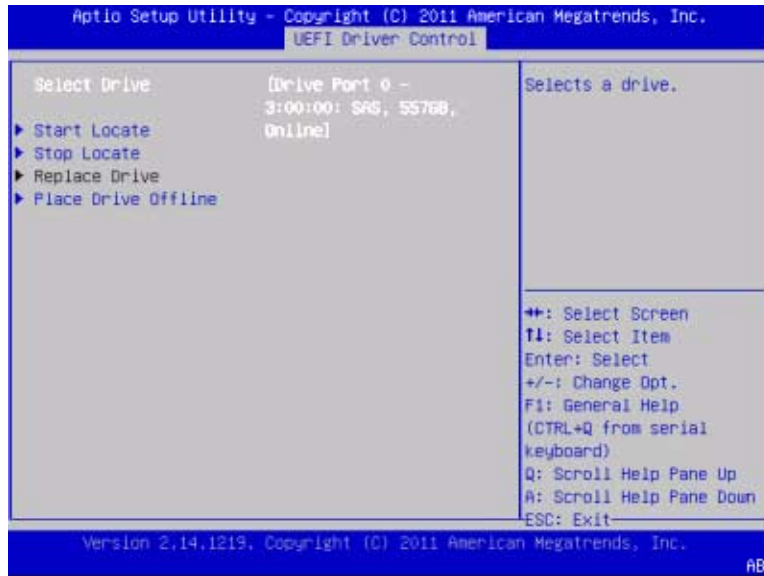
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc. AB

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
UEFI Driver Control

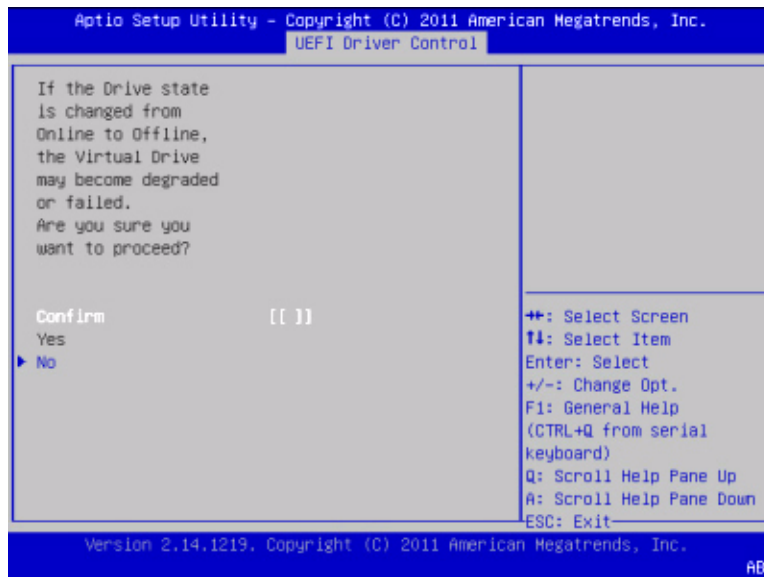
Media Errors	0	▲ Indicates the temperature of the drive.
Predicted Fail Count	0	
SAS Address	0x5000CCA012030E65:0x0000000000000000	
Drive Power State	[Spun Up]	
Commissioned Hot	[No]	
Spare		
Cache Setting	[Disabled]	↔: Select Screen
Hard Disk Drive RPM	10025	↑↓: Select Item
Available Size (GB)	0	Enter: Select
Used Space (GB)	557	+/-: Change Opt.
Disk Protocol	[SAS]	F1: General Help (CTRL+Q from serial keyboard)
Negotiated Drive	[3.0Gb/s]	Q: Scroll Help Pane Up
Transfer Speed		A: Scroll Help Pane Down
Number of Connections	2	ESC: Exit
Associated Virtual Drive	[Virtual Drive 0: RAID0, 557GB, Optimal]	
FDE Capable	[No]	
Temperature (C)	25	

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Select Drive Operations



View Global Hot Spare Drives



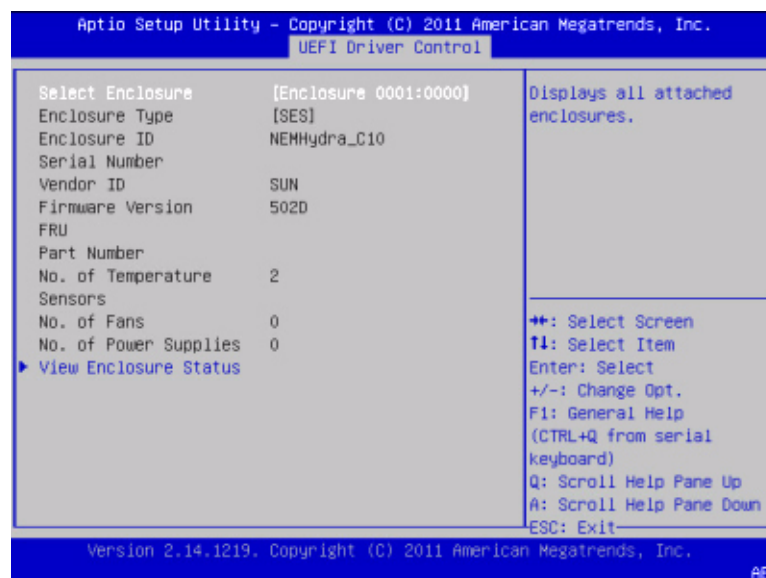
BIOS LSI MegaRAID Configuration Utility Enclosure Management Menu Selections

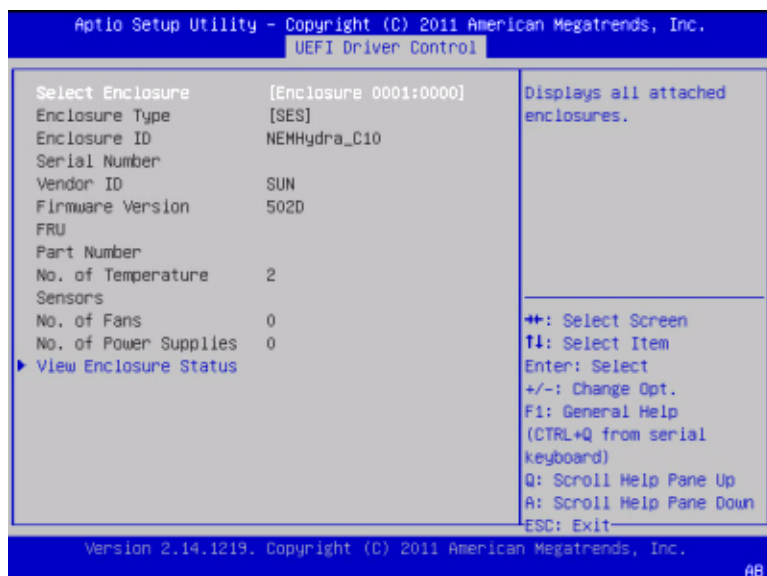
This section includes representations of the BIOS LSI MegaRAID Configuration Utility Enclosure Management menu selections.

To access the BIOS LSI MegaRAID Configuration Utility, Enclosure Management: UEFI Driver Control > LSI MegaRAID Configuration Utility > Enclosure Management, then select View enclosure status.

- [“Enclosure Management” on page 233](#)

Enclosure Management





Identifying Hardware Components and SNMP Messages

The section includes information about component names and SNMP messages for the Netra Blade X3-2B.

The following topics are covered.

Description	Link
Review information about system components and nomenclature.	“Identifying System Hardware Components” on page 235
Review descriptions of major items listed in the table.	“Table Legend” on page 236
See sensor information.	“System Board Components (Sensors)” on page 236
See FRU information.	“Field Replaceable Units (FRUs)” on page 240
Review SNMP traps generated by the server.	“SNMP and PET Traps” on page 241

Related Information

- Oracle ILOM Documentation Library
<http://www.oracle.com/pls/topic/lookup?ctx=ilom31>

Identifying System Hardware Components

The tables in this section describe the Nomenclature Architecture Council (NAC) convention naming applied to the components of the Netra Blade X3-2B. Each section corresponds to the following IPMI entity IDs and lists sensors, indicators, and FRUs.

- “Table Legend” on page 236
- “System Board Components (Sensors)” on page 236
- “Sensors” on page 238
- “Field Replaceable Units (FRUs)” on page 240
- “SNMP and PET Traps” on page 241

Table Legend

The following list describes the fields listed in the tables that are located in subsequent sections:

- **Component name:** The user-visible NAC name used in management interfaces to see a specific sensor, indicator, or FRU. The IPMI name is a shortened form of the NAC name, and is indicated by the **bold** portion of the NAC name.
- **IPMI type:** Indicates the type of sensor, indicator, or FRU represented.
- **Description:** Textual description of this particular NAC reference.
- **Values:** Defines the states of the sensor, indicator, or FRU entity, and any specific units or values that are expected when you are reading the device, if applicable.

Note – Some NAC names (and IPMI names) are hidden from Oracle ILOM user interfaces. These names are marked as hidden in the tables.

System Board Components (Sensors)

The following table shows system board component name, IPMI name, type, description, and events.

Note – Component Names may appear with a /SYS/ prefix. The /SYS/ is omitted for readability.

Component Name	IPMI Name	Type	Description	Events
/ACPI	ACPI	ACPI	Host power state	Working, off
/HOT	HOT	Assert/Deassert	Asserts when the blade is calling for fan blast	None
/PWRBS	PWRBS	Assert/Deassert	Power budget status	None
/SLOTID	SLOTID	OEM	This blade's slot, 0-9	None
/VPS	VPS	Power	Blade power consumption	None
/MB/P[0-1]/PRSNT	P[0-1]/PRSNT	Remove/Insert	Processor presence	None
/MB/P[0-1]/D[0-11]/PRSNT	P[0-1]/Dy/PRSNT	Remove/Insert	DIMM presence	None
/MB/T_AMB	MB/T_AMB	Temperature	Inlet air temperature	unr, ucr, lcr, lnr
/MB/T_AMB_FEM	MB/T_AMB_FEM	Temperature	Inlet air temperature under FEM	unr, ucr, lcr, lnr
/MB/T_AMB_REAR	MB/T_AMB_REAR	Temperature	Outlet air temperature	unr, ucr, lcr, lnr
/BLx/ERR	BLx/ERR	Predictive Failure	Blade error (x=0-9 in C10,	Yes
/BLx/PRSNT	BLx/PRSNT	Remove/Insert	Blade presence (x=0-9)	Yes
/BLx/STATE	BLx/STATE	Availability State	Blade state (x=0-9)	Yes
/CMM/ERR	CMM/ERR	Predictive Failure	CMM error	Yes
/CMM/PRSNT	CMM/PRSNT	Remove/Insert	CMM presence	Yes
/FMx/ERR	FMx/ERR	Predictive Failure	Fan Module error (x=0-5)	Yes
/FMx/F[0-1]/TACH	FMx/F[0-1]/TACH	RPM	Fan Module Fan speed (x=0-5)	None
/NEM[0-1]/ERR	NEM[0-1]/ERR	Predictive Failure	NEM error	Yes
/NEM[0-1]/PRSNT	NEM[0-1]/PRSNT	Remove/Insert	NEM presence	Yes
/NEM[0-1]/STATE	NEM[0-1]/STATE	Availability State	NEM state	Yes
/PEM[0-1]/PRSNT	PEM[0-1]/PRSNT	Remove/Insert	PEM presence (0-1)	Yes

Component Name	IPMI Name	Type	Description	Events
/PS[0-1]/PRSNT	PS[0-1]/PRSNT	Remove/Insert	Power Supply x presence	Yes
/PS[0-1]/Sx/V_IN_ER R	PS[0-1]/Sx/V_IN_ER R	Predictive Failure	Power Supply Side x loss of input voltage (x=0-1)	Yes
/PS[0-1]/Sx/V_OUT_O K	PS[0-1]/Sx/V_OUT_ OK	Assert/Deassert	Power Supply Side x output is enabled (x=0-1)	Yes

Sensors

Sensors report physical information about the server, including voltages, temperatures, fan speeds, and installation and removal of components.

Note – Sensor names may appear with a /SYS/ prefix. The /SYS/ is omitted for readability.

- [TABLE: Temperature Sensors on page 238](#)
- [TABLE: Fan Sensors on page 239](#)
- [TABLE: Power Supply Unit Current, Voltage, and Power Sensors on page 239](#)
- [TABLE: Presence Sensors on page 239](#)
- [TABLE: System Indicators on page 240](#)

TABLE: Temperature Sensors

Sensor Name	Sensor Type	Description
/MB/T_AMB	Temperature	Motherboard ambient temperature sensor
/MB/T_AMB_FEM	Temperature	Motherboard ambient temperature sensor under the FEM

TABLE: Fan Sensors

Sensor Name	Sensor Type	Description
/FM[0-5]/F[0-1]/TACH Speed Fan speed sensor	Speed	Fan speed sensor
/FM[0-5]/ERR	Fault	Fan module error

TABLE: Power Supply Unit Current, Voltage, and Power Sensors

Sensor Name	Sensor Type	Description
/PS[0-1]/PRSNT	Presence	Power supply presence sensor
/PS[0-1]/S[0-1]/V_IN_ERR	Fault	Power supply input voltage sensor
/PS[0-1]/S[0-1]/V_OUT_OK	Fault	Power supply output voltage fault sensor
/VPS	Fault	Voltage and current monitor

TABLE: Presence Sensors

Sensor Name	Sensor Type	Description
/HDD[0-3]/PRSNT	Entity presence	Storage device presence sensor
/PS[0-1]/PRSNT	Entity presence	Power supply presence sensor
/PEM[0-1]/PRSNT	Entity presence	PCI ExpressModule presence sensor
/NEM[0-1]/PRSNT	Entity presence	Network Express Module (NEM) presence sensor
/CMM/PRSNT	Entity presence	Chassis Monitoring Module (CMM) presence sensor
/BL[0-9]/PRSNT	Entity presence	Blade presence sensor
/SLOTID	Entity presence	Blade's slot ID
/MB/P[0-1]/PRSNT	Entity presence	CPU presence sensor

TABLE: Presence Sensors *(Continued)*

Sensor Name	Sensor Type	Description
/MB/P[0-1]/D[0-8]/PRSNT	Entity presence	DIMM presence sensor
/MB/FEM[0-1]/PRSNT	Entity presence	Fabric Expansion Module (FEM) presence sensor
/MB/REM/PRSNT	Entity presence	RAID Expansion Module (REM) presence sensor

TABLE: System Indicators

Indicator NAC Name	IPMI Name	Color	Location	Description
/OK	OK	Green	Front Panel	Off: Power is off. Fast Blink: SP is booting. Slow Blink: Host is booting/in BIOS. On: Host has started booting OS.
/LOCATE	LOCATE	White	Front Panel	Off: Normal. Fast Blink: Locate function activated. Self extinguishes after 30 minutes.
/SERVICE	SERVICE	Amber	Front Panel	Off: Blade is OK. On: Blade requires service.
/OK2RM	OK2RM	Blue	Front Panel	Off: Blade is not OK to remove. On: Blade is OK to remove.
/HDD[0-3]/OK2RM	HDD[0-3]/OK2RM			Storage drive OK to Remove blue LED.
/HDD[0-3]/SERVICE	HDD[0-3]/SERVICE			Storage drive Service amber LED.
/MB/P[0-1]/Dx/SERVICE	P[0-1]/Dx/SERVICE	Amber	MB (x=0-11)	Off: Normal. On: DIMM was diagnosed faulty.
/MB/P[0-1]/SERVICE	P[0-1]/SERVICE	Amber	MB	Off: Normal. On: Processor was diagnosed faulty.

Field Replaceable Units (FRUs)

The following table identifies the Field Replaceable Units (FRUs).

FRU NAC Name	IPMI Name	Description
/SYS	/SYS	Product information only
/UUID (hidden)	UUID	The UUID of the server, based on host MAC address.
/CMM	CMM	CMM FRUID data
/MIDPLANE	MIDPLANE	Midplane FRUID data, chassis product information
/MB	MB	Motherboard FRUID
/MB/BIOS	MB/BIOS	BIOS version
/MB/CPLD	MB/CPLD	CPLD firmware version
/MB/NET[0-3]	MB/NET[0-3]	MAC address of host NIC (0-3)
/MB/P[0-1]	MB/P[0-1]	Processor FRUID data
/MB/P[0-1]/Dx	MB/P[0-1]/Dx	DIMM FRUID data (x=0-11)
/NEM[0-1]	NEM[0-1]	NEM FRUID data
/PS[0-1]	PS[0-1]	Power supply FRUID data
/SP	SP	SP MAC address
/SP/NET[0-1]	SP/NET[0-1]	SP MAC address

SNMP and PET Traps

This section describes Simple Network Management Protocol (SNMP) and Platform Event Trap (PET) messages that are generated by devices being monitored by Oracle ILOM.

SNMP traps are generated by SNMP agents that are enabled on the SNMP devices being managed by Oracle ILOM. Oracle ILOM receives the SNMP traps and converts them into SNMP event messages that appear in the event log.

- [TABLE: Memory SNMP Events on page 242](#)
- [TABLE: Environmental SNMP Events on page 243](#)
- [TABLE: Device SNMP Events on page 245](#)
- [TABLE: Power Supply SNMP Events on page 245](#)
- [TABLE: System Power Events on page 246](#)
- [TABLE: Entity Present Events on page 247](#)

- [TABLE: Environmental Events on page 249](#)
- [TABLE: Component, Device, and Firmware Events on page 250](#)
- [TABLE: Power Supply Events on page 251](#)
- [TABLE: Fan Events on page 251](#)

TABLE: Memory SNMP Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
sunHwTrapMemoryFault	fault.memory.channel.misconfigured	Major -- A memory component is suspected of causing a fault.	/MB/P/D
sunHwTrapMemoryFault Cleared	fault.memory.channel.misconfigured	Informational -- A memory component fault has been cleared.	/MB/P/D
sunHwTrapComponentFault	fault.memory.intel.dimm.none	Major -- A memory component is suspected of causing a fault.	/MB
	fault.memory.controller.inputinvalid		
	fault.memory.controller.initfailed		
	fault.memory.intel.dimm.population-invalid		
sunHwTrapComponentFault Cleared	fault.memory.intel.dimm.none	Informational -- A memory component fault has been cleared.	/MB
	fault.memory.controller.inputinvalid		
	fault.memory.controller.initfailed		
	fault.memory.intel.dimm.population-invalid		
sunHwTrapMemoryFault	fault.memory.intel.dimm.incompatible	Major -- A memory component is suspected of causing a fault.	/MB/P/D
	fault.memory.intel.dimm.incompatible-maxranks		
	fault.memory.intel.dimm.incompatible-quadrant		

TABLE: Memory SNMP Events (*Continued*)

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
sunHwTrapMemoryFault Cleared	fault.memory.intel.dimm.incom patible fault.memory.intel.dimm.incom patible-maxranks fault.memory.intel.dimm.incom patible-quadrank	Informational -- A memory component fault has been cleared.	/MB/P/D

TABLE: Environmental SNMP Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
sunHwTrapPower SupplyFault	fault.chassis.env.power.loss	Major -- A power supply component is suspected of causing a fault	/PS
sunHwTrapPower SupplyFault Cleared	Cleared fault.chassis.env.power.loss	Informational -- A power supply component fault has been cleared	/PS
sunHwTrap ComponentFault	fault.chassis.env.temp.over-f ail	Major -- A component is suspected of causing a fault	/SYS/
sunHwTrap ComponentFault Cleared	fault.chassis.env.temp.over-f ail	Informational -- A component fault has been cleared	/SYS/
sunHwTrapTempCrit Threshold Exceeded	Lower critical threshold exceeded	Major -- A temperature sensor has reported that its value has gone above an upper critical threshold setting or below a lower critical threshold setting	/DBP/T_A MB
sunHwTrapTempCrit Threshold Deasserted	Lower critical threshold no longer exceeded	Informational -- A temperature sensor has reported that its value is in the normal operating range	/DBP/T_A MB
sunHwTrapTempNonCrit ThresholdExceeded	Upper noncritical threshold exceeded	Minor -- A temperature sensor has reported that its value has gone above an upper critical threshold setting or below a lower critical threshold setting	/DBP/T_A MB
sunHwTrapTempOk	Upper noncritical threshold no longer exceeded	Informational -- A temperature sensor has reported that its value is in the normal operating range	/DBP/T_A MB

TABLE: Environmental SNMP Events *(Continued)*

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
sunHwTrapTempFatal ThresholdExceeded	Lower fatal threshold exceeded	Critical -- A temperature sensor has reported that its value has gone above an upper fatal threshold setting or below a lower fatal threshold setting	/DBP/T_A MB
sunHwTrapTempFatal ThresholdDeasserted	Lower fatal threshold no longer exceeded	Informational -- A temperature sensor has reported that its value has gone below an upper fatal threshold setting or above a lower fatal threshold setting	/DBP/T_A MB
sunHwTrapTempFatal ThresholdExceeded	Upper fatal threshold exceeded	Critical -- A temperature sensor has reported that its value has gone above an upper fatal threshold setting or below a lower fatal threshold setting	/T_AMB
sunHwTrapTempCrit Threshold Exceeded	Upper critical threshold exceeded	Major -- A temperature sensor has reported that its value has gone above an upper critical threshold setting or below a lower critical threshold setting	/T_AMB
sunHwTrapTempCrit Threshold Deasserted	Upper critical threshold no longer exceeded	Informational -- A temperature sensor has reported that its value is in the normal operating range	/T_AMB
sunHwTrapTempFatal ThresholdDeasserted	Upper fatal threshold no longer exceeded	Informational -- A temperature sensor has reported that its value has gone below an upper fatal threshold setting or above a lower fatal threshold setting	/T_AMB
sunHwTrap ComponentError	Assert	Major -- A power supply sensor has detected an error	/HOT /PSn/Sn/V _OUT_OK
sunHwTrap ComponentOk	Deassert	Informational -- A power supply sensor has returned to its normal state	/PSn/Sn/V _OUT_OK /PSn/Sn/V _OUT_OK /PSn/Sn/V _OUT_OK /PSn/Sn/V _OUT_OK /PSn/Sn/V _OUT_OK /PSn/Sn/V _OUT_OK

TABLE: Device SNMP Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
sunHwTrapComponentFault	fault.chassis.device.missing	Major; A component is suspected of causing a fault	/SYS/
sunHwTrapComponentFault Cleared	fault.chassis.device.missing	Informational; A component fault has been cleared	/SYS/
sunHwTrapComponentFault	fault.chassis.device.fail	Major; A component is suspected of causing a fault	/CMM
sunHwTrapComponentFault Cleared	fault.chassis.device.fail	Informational; A component fault has been cleared	/CMM
sunHwTrapIOFault	fault.chassis.device.fail	Major; A component in the IO subsystem is suspected of causing a fault	/NEM
sunHwTrapIOFaultCleared	fault.chassis.device.fail	Informational; An IO subsystem component fault has been cleared	/NEM

TABLE: Power Supply SNMP Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
sunHwTrapPowerSupplyError	Assert	Major; A power supply sensor has detected an error	/PWRBS

TABLE: Power Supply SNMP Events (*Continued*)

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
sunHwTrapPowerSupplyOk Deassert Informational; A power supply sensor has returned to its normal state /PWRBS			
sunHwTrapPowerSupplyFault	fault.chassis.env.power .loss	Major; A power supply component is suspected of causing a fault	/PS
sunHwTrapPowerSupplyFault Cleared	fault.chassis.env.power .loss	Informational; A power supply component fault has been cleared	/PS

Platform Event Trap (PET) events are generated by systems with Alert Standard Format (ASF) or an IPMI baseboard management controller. The PET events provide advance warning of possible system failures.

TABLE: System Power Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapPowerUnitState DeassertedAssert	PowerSupply sensor ASSERT	Critical; A run-time power fault has occurred	/PWRBS
petTrapPowerSupplyStateAssertedAssert	PowerSupply sensor DEASSERT	Informational; Power supply is connected to AC Power	/PWRBS

TABLE: Entity Present Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapProcessorPresence DetectedDeassert	EntityPresence Insert	Critical; A processor is absent or has been removed.	/HOSTPOWER /CMM/PRSNT /MB/REM/PRSNT /MB/FEM0/PRSNT /MB/FEM1/PRSNT /PEM0/PRSNT /PEM1/PRSNT /MB/P0/PRSNT /MB/P1/PRSNT /MB/P0/D0/PRSNT /MB/P0/D1/PRSNT /MB/P0/D2/PRSNT /MB/P0/D3/PRSNT /MB/P0/D4/PRSNT /MB/P0/D5/PRSNT /MB/P0/D6/PRSNT /MB/P0/D7/PRSNT /MB/P0/D8/PRSNT /MB/P1/D0/PRSNT /MB/P1/D1/PRSNT /MB/P1/D2/PRSNT /MB/P1/D3/PRSNT /MB/P1/D4/PRSNT /MB/P1/D5/PRSNT /MB/P1/D6/PRSNT /MB/P1/D7/PRSNT /MB/P1/D8/PRSNT /HDD0/PRSNT /HDD1/PRSNT /HDD2/PRSNT /HDD3/PRSNT/NEM0/PRS NT /NEM1/PRSNT /BL0/PRSNT /BL1/PRSNT /BL2/PRSNT /BL3/PRSNT /PS0/PRSNT /PS1/PRSNT /PS2/PRSNT /PS3/PRSNT

TABLE: Entity Present Events *(Continued)*

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapEntityPresenceDeviceInsertedAssert	EntityPresenceRemove	Informational; A device is present or has been inserted	/HOSTPOWER
			/CMM/PRSNT
			/MB/REM/PRSNT
			/MB/FEM0/PRSNT
			/MB/FEM1/PRSNT
			/PEM0/PRSNT
			/PEM1/PRSNT
			/MB/P0/PRSNT
			/MB/P1/PRSNT
			/MB/P0/D0/PRSNT
			/MB/P0/D1/PRSNT
			/MB/P0/D2/PRSNT
			/MB/P0/D3/PRSNT
			/MB/P0/D4/PRSNT
			/MB/P0/D5/PRSNT
			/MB/P0/D6/PRSNT
			/MB/P0/D7/PRSNT
			/MB/P0/D8/PRSNT
			/MB/P1/D0/PRSNT
			/MB/P1/D1/PRSNT
			/MB/P1/D2/PRSNT
			/MB/P1/D3/PRSNT
			/MB/P1/D4/PRSNT
			/MB/P1/D5/PRSNT
			/BL0/PRSNT
			/MB/P1/D6/PRSNT
			/MB/P1/D7/PRSNT
			/MB/P1/D8/PRSNT
			/HDD0/PRSNT
			/HDD1/PRSNT
			/HDD2/PRSNT
			/HDD3/PRSNT
			/NEM0/PRSNT
			/NEM1/PRSNT /BL1/PRSNT
			/BL2/PRSNT /BL3/PRSNT
			/PS0/PRSNT /PS1/PRSNT
			/PS2/PRSNT /PS3/PRSNT

TABLE: Environmental Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapTemperatureStateDeassertedDeassert	Temperature sensor ASSERT	Informational; Temperature event occurred	/HOT
petTrapTemperatureStateDeassertedDeassert	Temperature sensor DEASSERT	Critical; Temperature event occurred	/HOT
petTrapTemperatureUpperNonRecoverableGoingLowDeassert	Temperature Upper non-critical threshold has been exceeded	Major; Temperature has decreased below upper non-recoverable threshold	/MB/T_A MB
petTrapTemperatureStateAssertedAssert	Temperature Upper non-critical threshold no longer exceeded	Critical; Temperature event occurred. Possible cause: CPU is too hot.	/MB/T_A MB
petTrapTemperatureUpperCriticalGoingHigh	Temperature Lower fatal threshold has been exceeded	Major; Temperature has increased above upper critical threshold	/MB/T_A MB
petTrapTemperatureUpperCriticalGoingLowDeassert	Temperature Lower fatal threshold no longer exceeded	Warning; Temperature has decreased below upper critical threshold	/MB/T_A MB
petTrapTemperatureLowerNonCriticalGoingLow	petTrapTemperatureLowerNonCriticalGoingLow	Warning; Temperature has decreased below lower non-critical threshold	/MB/T_A MB
Warning; Temperature has decreased below lower non-critical threshold	Temperature Lower critical threshold no longer exceeded	Informational; Temperature has returned to normal	/MB/T_A MB
petTrapTemperatureUpperNonCriticalGoingHigh	Temperature Upper critical threshold has been exceeded	Warning; Temperature has increased above upper non-critical threshold	/MB/T_A MB
petTrapTemperatureUpperNonCriticalGoingLowDeassert	Temperature Upper critical threshold no longer exceeded	Informational; Temperature has returned to normal	/MB/T_A MB
petTrapTemperatureLowerCriticalGoingLow	Temperature Lower fatal threshold has been exceeded	Major; Temperature has decreased below lower critical threshold	/MB/T_A MB

TABLE: Environmental Events (*Continued*)

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapTemperatureLowerCriticalGoingHighDeassert	Temperature Lower fatal threshold no longer exceeded	Warning; Temperature has increased above lower critical threshold	/MB/T_A MB
petTrapTemperatureLowerNonRecoverableGoingHighDeassert	Temperature Lower non-critical threshold has been exceeded	Major; Temperature has increased above lower non-recoverable threshold	/MB/T_A MB
petTrapTemperatureUpperNonRecoverableGoingHighDeassert	Temperature Lower non-critical threshold no longer exceeded	Critical; Temperature has increased above upper non-recoverable threshold	

TABLE: Component, Device, and Firmware Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapOEMStateDeassertedAssert	petTrapOEMStateDeassertedAssert	Informational; A fault has occurred (OEM State Deasserted assert)	/MB/FEMn/FAULT
petTrapOEMPredictiveFailureAsserted	OEMReserved sensor DEASSERT	Major; OEM Predictive Failure Asserted	/MB/FEMn/FAULT
petTrapOEMPredictiveFailureDeasserted	OEMReserved reporting Predictive Failure	Informational; OEM Predictive Failure Deasserted	/CMM/ERR /NEMn/ERR /NEMn/ERR /BLn/ERR /BLn/ERR /BLn/ERR /BLn/ERR
petTrapSystemFirmwareError	OEMReserved Return to normal	Informational; System Firmware Error reported	
petTrapModuleBoardTransitionToRunningAssert	Module Transition to Running assert	Informational	/NEMn/STATE /NEMn/STATE /BLn/STATE /BLn/STATE /BLn/STATE /BLn/STATE
petTrapModuleBoardTransitionToInTestAssert	Module Transition to In Test assert	Informational	
petTrapModuleBoardTransitionToPowerOffAssert	Module Transition to Power Off assert	Informational	
petTrapModuleBoardTransitionToOnLineAssert	Module Transition to On Line assert	Informational	
Undocumented PET 1378820	Module Transition to Off Line assert	Informational	

TABLE: Component, Device, and Firmware Events *(Continued)*

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapModuleBoardTransitionToOffDutyAssert	Module Transition to Off Duty assert	Informational	/NEMn/STATE /NEMn/STATE /BLn/STATE /BLn/STATE /BLn/STATE /BLn/STATE
petTrapModuleBoardTransitionToDegradedAssert	Module Transition to Degraded assert	Informational	
petTrapModuleBoardTransitionToPowerSaveAssert	Module Transition to Power Save assert	Informational	
petTrapModuleBoardInstallErrorAssert	Module Install Error assert	Informational	
Undocumented PET 132097	Voltage reporting Predictive Failure	Informational	/PSn/V_IN_ERR /PSn/V_IN_ERR
Undocumented PET 132096	Voltage Return to normal	Informational	/PSn/V_IN_ERR /PSn/V_IN_ERR

TABLE: Power Supply Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapVoltageStateDeassertedDeassert	Voltage sensor ASSERT	Informational; Voltage event occurred	/PSn/V_OUT_OK /PSn/V_OUT_OK
petTrapVoltageStateAssertedDeassert	Voltage sensor DEASSERT		/PSn/V_OUT_OK /PSn/V_OUT_OK

TABLE: Fan Events

SNMP Trap Message	ILOM Event Message	Severity and Description	Sensor Name
petTrapFanPredictiveFailureDeasserted	Fan reporting Predictive Failure	Informational; Fan Predictive Failure state has been cleared	/FMn/ERR
petTrapFanLowerNonRecoverableGoingLow	Fan Return to normal	Critical; Fan speed has decreased below lower non-recoverable threshold. Fan failed or removed.	

Related Information

- [“Identifying System Hardware Components” on page 235](#)
- [“Table Legend” on page 236](#)

- “System Board Components (Sensors)” on page 236
- “Sensors” on page 238
- “Field Replaceable Units (FRUs)” on page 240
- “SNMP and PET Traps” on page 241

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