



# Sun Netra™ CP3220 Blade Server Product Notes

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# Sun Netra CP3220 Blade Server Product Notes

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The *Sun Netra CP3220 Blade Server Product Notes* contain important and late-breaking information about the Sun Netra™ CP3220 blade server. This document includes information about upgrading to ATCA R3U2.

This document contains the following topics:

- “Known Issues” on page 2
- “Additional Copyright Information” on page 2
- “Enhancements” on page 2
- “Overview” on page 5
- “Related Documentation” on page 6
- “System Components” on page 6
- “Installing the Blade Server and Software” on page 9
- “Upgrading Your Firmware and Software” on page 9



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**Caution** – You must use shielded cables for all ports to satisfy EMI compliance standards.

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## Known Issues

The following known issues exist in this release of the Sun Netra CP3220 blade server hardware and software.

- The NetConsole feature is functional with H8 firmware version 1.17. NetConsole will not work on earlier releases.
- The default speed on the extended fabric ports of the Multithreaded Networking ASCI is 1GbE. To enable 10GbE mode, refer to the *Sun Netra CP3220 blade server Blade Server User's Guide* (820-1982).

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## Enhancements

The R3U3 release provides the following enhancements:

- Retaining custom IPMC configurations during upgrades
- Configuring alternate LED1 behavior
- Upgrading Linux (RedHat 5.3) firmware for BIOS

# Retaining Custom IPMC Configurations Across Upgrades

IPMC configuration variables are now retained across firmware upgrades and downgrades, as long as the version being downgraded to supports this feature.

IPMC has a group of parameters that are stored in SEEPROM (NV Storage). All variables are part of one data structure. Each of these variables performs a function and can be set or read via commands. These variables are stored across IPMC resets. However, previously, these variables were reset to default values when new or upgraded firmware was installed.

This enhancement retains any custom values you configured for the following variables.

**TABLE 0-1** IPMC Variables for Which You Can Retain Configurations

Variable	Description
log_level	Controls the log level of the debug messages.
Payload timeout	Controls the timeout for payload response. IPMC, after sending payload alert, expects OS to respond within this time. Used in graceful reboot and graceful shutdown features.
Payload shutdown timeout	Controls the payload shutdown timeout as described in the graceful reboot/shutdown specification. This is the time that an OS would take to shutdown its applications before IPMC shuts it down or resets the payload.
Verbosity	Controls the debug mode verbosity of the messages. Selectively, messages from/to a particular interface can be enabled/disabled. Used for debugging only.
AMC power up timeout	Controls the time it would take for the AMCs/ARTM to come up before the payload is brought to M4 state.
IPMC Control	Reflects IPMC's control bits. Currently two bits, Bit 0 and Bit 1 control LED2 and LED1 on the boards.

If you want to reset these variables to their default, use the new `Reset IPMC configuration variables` command.

For detailed command information, refer to the *Netra CT 900 Server Administration and Reference Manual* (819-1177).

# Configuring Alternate OOS LED Behavior

An enhancement allows users to change the default behavior of the out-of-service (OOS) LED through the IPMC by using an LED1 control bit. This bit is available only on the Sun Netra CP3220 blade server.

Now you can use the set and get IPMC control byte IPMI commands, which are the same commands used to control the Green OK LED, to change the default OOS LED behavior to the following:

- IPMC will not light up OOS LED on POST or any other failure.
- Upon blade insertion, OOS LED will turn on promptly after the Blue LED turns off, then remain on.
- The IPMC will only change the state of OOS LED when commanded via ATCA/IPMI commands to change LED state.

The alternate behavior remains enabled after firmware upgrades and IPMC cold, warm, and hard resets. Also, it remains enabled after firmware downgrades, as long as the version being downgraded to supports this feature.

When blade servers are shipped from manufacturing, they are set to the default LED behavior. The default OOS LED behavior is as follows:

- IPMC lights up OOS LED if it detects POST failure.
- IPMC lights up OOS LED if it fails to power up the blade server.
- Most of the time, OOS LED remains OFF.

For more information and instructions on setting the LED1 behavior, refer to the *Sun Netra CP3220 Blade Server User's Guide* (820-1982).

# Upgrading Linux (RedHat 5.3) Firmware for BIOS

Support was added for the Linux BIOS Update Utility. This utility is a stand-alone application for Linux that incorporates the BIOS payload and application required to perform a BIOS update. The utility uses the `/dev/mem` interface to access the BIOS.

For this application to work on a Linux system:

- The LPC interface driver must be configured within the kernel to allow writes to the BIOS
- The BIOS must be mapped into `/dev/mem`
- CP32x0 BIOS version 1.03 or newer must be installed to perform a BIOS update



The CP32x0 BIOS consists of three regions:

1. Boot BIOS Region, which contains the lowest level system initialization.
2. NVRAM Region, which stores system specific configuration data.
3. Main BIOS Region, which includes system configuration code.

The utility can be used to update any or all of these regions. Typically, only the main BIOS region needs to be updated, but in some cases it might be necessary to update the Boot BIOS region

For detailed instructions, including how to identify and backup current BIOS version, refer to the README file.

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## Overview

The Sun Netra CP3220 blade server is a high-performance, single-board computer based on an AMD Opteron X64 processor. The blade server is designed for high availability in a switched network computing environment. This blade server is compliant with Advanced Telecommunications Computing Architecture (ATCA) specifications (PICMG 3.0 and PICMG 3.1). It can achieve greater performance levels than previously supported CompactPCI® (cPCI) standards-based products targeted for Telco markets.

The ATCA standard comprises the PICMG 3.0, 3.1, 3.2, and 3.3 versions of the standard. The Sun Netra CP3220 blade server complies with the following specifications:

- PICMG 3.0, the base specification that defines the mechanical, power distribution, system management, data transport, and regulatory guidelines
- PICMG 3.1, which builds on the PICMG 3.0 base specification and on IEEE 802.3-2003

The Sun Netra CP3220 blade server can be used either in the Sun Netra CT 900 shelf (chassis) or in a compatible third-party ATCA chassis.

Because the Sun Netra CP3220 blade server is available as a standalone option, it has its own set of blade-specific documentation.

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## Related Documentation

The following documents ship with the Sun Netra CP3220 blade server:

- *Important Safety Information for Sun Hardware Systems*
- *Sun Netra CP3220 blade server Blade Server Getting Started Guide*

Refer to the *Sun Netra CP3220 blade server Getting Started Guide* for information on obtaining the rest of the Sun Netra CP3220 blade server documentation. The documentation is available at the following sites:

<http://docs.sun.com/app/docs/prod/cp3220.brd#hic>

<http://docs.sun.com/app/docs/prod/n900.srvr#hic>

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## System Components

This section describes the system-level software and hardware components, required and optional, for the Sun Netra CP3220 blade server.

### Software Components

An OS is required to operate the blade server. The Sun Netra CP3220 blade server has been tested for compatibility with the following OS software:

- Solaris™ 10 (05/08) Operating System (Solaris OS)
- WindRiver Linux 3.1
- RedHat Linux 5.2
- Windows 2003

For information on versions of the Solaris OS, including installation, see the appropriate Solaris Documentation Collection at the Sun Documentation web site at:

<http://docs.sun.com>

For information on the WindRiver Linux, RedHat Linux, and Windows operating systems, see the documentation that came with the operating system.

Refer to the appropriate vendor documentation for more information on your operating system. Web site URLs are provided as follows.

**TABLE 0-2** Third-Party OS Web Sites for Downloading Software

Operating System	Web Site URL
RedHat Linux	<a href="https://hardware.redhat.com/hwcert">https://hardware.redhat.com/hwcert</a>
Windows	<a href="http://www.windowservercatalog.com/">http://www.windowservercatalog.com/</a>
Windriver Linux	<a href="http://www.windriver.com/products/linux/">http://www.windriver.com/products/linux/</a>

**Note** – At the third-party OS web site, search for “Sun Netra CP3220” to find the download package(s).

## Required Hardware Components

The Sun Netra CP3220 blade server cannot be used as a stand-alone system. It is designed to be used in an ATCA chassis for 8U boards. The minimum hardware requirements needed to use the Sun Netra CP3220 blade server are as follows:

- ATCA system enclosure for 8U boards (includes shelf, backplane, hub/switch board, shelf manager and power supply)
- Console output device or serial terminal
- Boot device (such as hard drive, network, or Compact Flash card)
- Peripheral device for network access
- IPMC (built in)
- Cables for terminal and network connections
- Sun Netra CT 900 server fan tray upgrade kit (PN 594-4953-01). If you are installing the Sun Netra CP3220 blade server in a Sun Netra CT 900 server that has lower-speed fan trays, you must upgrade the Sun Netra CT 900 server fan trays to support the additional cooling needs of the Sun Netra CP3220 blade server. For more information on the Sun Netra CT 900 server fan tray upgrade kit (PN 594-4953-01), see the *Sun Netra CT 900 Server Upgrade Guide* (820-3255).



**Caution** – You can damage the Sun Netra CP3220 blade server components if you install the blade server in a chassis that does not provide sufficient cooling. For more information, see the *Sun Netra CP3220 Blade Server User's Guide*.



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**Note** – Use only serial cables that are less than 10 meters in length.

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## Optional Hardware Components

Sun Microsystems provides the following items for customer order:

- Compact Flash card
- AMC cards
- Netra CP32x0 10GbE Advanced Rear Transition Module (ARTM-10G)
- Netra CP32x0 SAS Storage Advanced Rear Transition Module (ARTM-HD)
  - This ARTM is available in a single HD and a dual HD:
    - Single HD: XCP32X0-RTM-HD1-Z
    - Dual HD: XCP32X0-RTM-HD2-Z

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**Note** – The Netra CP32x0 is optional and must be ordered separately from the Sun Netra CP3220 blade server.

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The optional ARTM enables rear system I/O access to the following:

- Network
- Boot device
- Hot-swappable SAS hard disk drives (optional)
- Console terminal
- Sun Netra CP3240 switch (optional)

The Sun Netra CP3240 switch is capable of operating at 10 GbE, but the Sun Netra CP3220 blade server is set by default to operate at 1GbE. To use the switch at 10 GbE, perform a one-time configuration procedure, available in the *Sun Netra CP3x40 Switch Product Notes* (820-3260).

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# Installing the Blade Server and Software

For complete instructions on installing and configuring the blade server, refer to the *Sun Netra CP3220 blade server User's Guide* (820-1982).

The Sun Netra CP3220 blade server does not ship with an onboard disk on which to install an operating system (OS). Install the OS on the serial attached SCSI (SAS) disk drive located on a Netra CP32x0 Advanced Rear Transition Module (ARTM), or on another compatible device such as an Advanced Mezzanine Card, Bootable CompactFlash, or Bootable USB device.

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# Upgrading Your Firmware and Software

This release contains the most up-to-date features, enhancements, and bug fixes. Using an earlier release could limit your use of features and enhancements, and could affect your systems with known issues.

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**Note** – R3U1 includes changes from previous releases.

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For detailed information and upgrade instructions, refer to these Product Notes and to the README files for the blade server and firmware.

Be sure to check for any updates that are available. Software updates, firmware updates, and support information for the Sun Netra CP3220 blade server, Advanced Rear Transition Modules (ARTMs), and the Sun Netra CT 900 system can be found at the Sun Download Center:

<http://www.sun.com/download>

For information on your specific configuration, contact your local Sun Services representative.

<http://www.sun.com/service/contacting/solution.html>

## Upgrading Systems and Blade Servers

To display current version information, preview required upgrades, and to perform an upgrade of the Sun Netra CT 900 system and installed boards, invoke the `autofwupgrade` command from the ShMM. The command syntax is as follows.

```
autofwupgrade [-h] [ [-vp] -f <FTP-server-IP-address>:<release-  
archive-root-dir>[:<user-name>:<password>] [-s <board-slot-  
number>] [-t board-type] ]
```

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**Tip** – We recommend that you use the `-p` option to preview the required updates before performing the upgrade.

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## Upgrading Blade Servers Only

For users who do not have access to the ShMM or who want manual control of the FW upgrade process, use upgrade tools such as `upgradefw` and others instead of the ShMM `autofwupgrade`. Refer to the README for instructions.