



Netra™ CP3020 Board Product Notes

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Netra CP3020 Board Product Notes

The *Netra CP3020 Board Product Notes* contain important and late-breaking information about the Netra™ CP3020 board. This document includes instructions for upgrading to ATCA R3U2.

This document contains the following topics:

- [“Known Issues” on page 2](#)
- [“Overview” on page 2](#)
- [“Additional Copyright Information” on page 2](#)
- [“Enhancement” on page 3](#)
- [“Upgrading Firmware and Software” on page 3](#)
- [“Installing Patches” on page 8](#)
- [“Cabling Requirements” on page 10](#)
- [“Serial Attached SCSI Disk” on page 11](#)
- [“Netinstall Boot Devices” on page 12](#)
- [“Management Software for Port A on the Front Panel \(Solaris OS Only\)” on page 13](#)
- [“Blue Hot-Swap LED” on page 13](#)

Known Issues

The following known issues (priorities 1-3) exist in this release of the Netra CP3020 board hardware and software.

TABLE 1 Known Issues

Bug ID	Problem	Comments or Workaround
6497591	On some boards, an unterminated J6514 H8 debug port can cause interrupts that make the board appear to stop operating. Also, this happens if the H8 software debug port is set to <i>verbose</i> , regardless of having the jumper in place.	Make sure a jumper is in place on pins 2 and 3 of J6514 on serial number boards with a dash revision earlier than 03: <ul style="list-style-type: none">• 375331403 for single CPU• 375331503 for dual CPU In normal operation, the H8 serial port debug level is set to the lowest level.
6553433	NetConsole gets stuck on Netra CP3020 if booted Solaris in standalone mode.	Applies only to Solaris™ 10 1/06 OS. Issue is fixed in subsequent releases of the OS.

Overview

The Netra CP3020 board is a high-performance, single-board computer designed for high availability in a switched network computing environment. Install the Netra CP3020 board in a Netra CT 900 shelf (chassis) in any available slot, except 7 and 8. The DTI switch card(s) should be installed in slots 7 and 8. If your configuration has only one DTI card, install it in slot 7 to be compatible with the shelf manager's NetConsole feature.

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Enhancement

For the Netra CP3020 boards, the BIOS is upgraded to 0ABIA025.

Solaris Operating System Versions

The Netra CP3020 supports the Solaris™ 10 1/06 OS and subsequent compatible versions, with supported Netra patches. The Solaris OS software can be downloaded from the Sun download center at:

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

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

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

Upgrading 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.

Note – R3U2 includes changes from previous releases.

For detailed information, upgrade instructions, and patches for each board, refer to these Product Notes and to the README files for the board and firmware.

Before You Upgrade

Depending upon your system configuration, you might need to install drivers or other software to prepare your system for the upgrade. See “[Installing Software on the Serial Attached SCSI Disk](#)” on page 11, “[Netinstall Boot Devices](#)” on page 12, or “[Management Software for Port A on the Front Panel \(Solaris OS Only\)](#)” on page 13 for information about these tasks.

Obtaining Upgrade Information

The required firmware, drivers, and patches are released on a gzipped tar file (`Netra_CT_900_Rx_Ux.tar.gz`), which is available from the Sun Download Center (<http://www.sun.com/download>) or your account representative. Once you obtain the `tar.gz` file, you can use `gunzip` and then `untar` the information.

Solaris patches are also available from the SunSolveSM patch download web site (<http://sunsolve.sun.com>).

Also contained within this structure are utilities required to perform the NetConsole upgrades as well as the latest BIOS firmware upgrade. There are specific sub-directories for Solaris and other supported operating systems.

Upgrading Systems and Boards

To display current version information, preview required upgrades, and to perform an upgrade of the 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] ]
```

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

Upgrading Boards 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.

Upgrade Sequence

Upgrade the firmware and software in the following sequence, using the instructions given for the Solaris or (MontaVista) Linux operating system.

For each step, you can obtain specific instructions from the particular README.

Solaris Operating System

1. Install the necessary patch(es).

For more information on applying patches for this update, see [“NetConsole-Specific Upgrades” on page 7](#), [“BIOS-Specific Upgrades” on page 7](#), and [“Installing Patches” on page 8](#).

2. Update the Broadcom BCM5704 NIC firmware as described in:

`Netra_CT_900_x_x_RR/CP3020/BCM/SOLARIS/Solaris-README.instructions`.

When you run the update utility, you will need to type the name of the update image (`bcmupdate`) at the command line.

3. Update the Solaris BIOS as described in:

`Netra_CT_900_x_x_RR/CP3020/BIOS/SOLARIS/install.info.lbu`
`blocks` and `Netra_CT_900_x_x_RR/CP3020/BIOS/SOLARIS/README.sbu`.

The update image for the BIOS is a self-extracting archive in the `sbu0ABIA020` utility, which runs when you execute the utility.

4. Update the `bge` driver by applying patch number 124218-01.

For more information on applying the patches for this update, see [“NetConsole-Specific Upgrades” on page 7](#).

5. Locate the image in the following location:

`Netra_CT_900_x_x_RR/CP3020/BCM/CP3020-BCM-P5704-247.IMG`

6. Update the IPMC H8 firmware as described in:

`Netra_CT_900_x_x_RR/H8_UTILS/README`

You must use the patch 124730-01 (available from the Sun Download Center <http://www.sun.com/download>), which incorporates the `h8update` utility.

7. On the switch card in slot 7 (as well as the card in slot 8, if present) upgrade the DTI switch firmware and the switch configuration image to version 1.8.1.0.
For instructions, see: `Netra_CT_900_x_x_RR/SWITCH/README.CP3140`
8. Upgrade the IPMC firmware in the switch as described in:
`Netra_CT_900_x_x_RR/SWITCH/IPMC/README`
9. On the active shelf manager, execute the `FRU_UPDATE` utility to update the “chassis” FRU EEPROM with the correct image to support this release feature set.
For instructions, see:
`Netra_CT_900_x_x_RR/FRU_UPDATE/README.FRU_UPDATE`
10. Upgrade the ShMM firmware on the active shelf manager, as described in:
`Netra_CT_900_x_x_RR/ShMM/README.ShMM.`

Linux Operating System

1. Install the necessary patch(es).
For more information on applying patches for this update, see [“NetConsole-Specific Upgrades” on page 7](#), [“BIOS-Specific Upgrades” on page 7](#), and [“Installing Patches” on page 8](#).
2. Update the BIOS to 0ABIA020 as described in:
`Netra_CT_900_x_x_RR/CP3020/BIOS/LINUX/README.lbu`
The update image for the BIOS is a self-extracting archive in the `1bu0ABIA020` utility, which runs when you execute the utility.
3. Update the Broadcom BCM5704 NIC firmware as described in:
`Netra_CT_900_x_x_RR/CP3020/BCM/LINUX/LINUX-README.instructions.`
When you run the update utility, you will need to type the name of the update image (`1bcmupdate`) at the command line.
4. Update the IPMC H8 firmware as described in:
`Netra_CT_900_x_x_RR/H8_UTILS/README`

Note – Utility location is `Netra_CT_900_x_x_RR/H8_UTILS/MontaVista_X64` and is available via the package upgrade.

5. On the switch card in slot 7 (and slot 8, if it contains a switch card) upgrade the DTI switch firmware and the switch configuration image to version 1.8.1.0.
For instructions, see: `Netra_CT_900_x_x_RR/SWITCH/README.CP3140`
6. Upgrade the IPMC firmware in the switch, as described in:
`Netra_CT_900_x_x_RR/SWITCH/IPMC/README.3020_ipmc_5.0.1.txt`

7. On the active shelf manager, execute the `FRU_UPDATE` utility to update the “chassis” FRU EEPROM with the correct image to support this release feature set.
For instructions, see: `Netra_CT_900_x_x_RR/FRU_UPDATE/README`
8. Upgrade the ShMM firmware on the active shelf manager, as described in:
`Netra_CT_900_x_x_RR/ShMM/ShMM.README.FRU_UPDATE`.

NetConsole-Specific Upgrades

You must perform the following upgrades to make the CP3020 compatible with the NetConsole feature.

- Apply the following patches (in this specific order):
 - 118844-30
 - 122028-xx, which adds support for the BCM5705F device in `bge` driver
 - 124218-xx, which enables the NetConsole feature
- Upgrade the Broadcom NIC firmware using the `lbcupdate` utility.
- Update the IPMC (H8) firmware version to 5.0.1 or newer using the `h8update` utility.

BIOS-Specific Upgrades

When it is necessary to upgrade the CP3020 BIOS firmware, a Solaris patch will be made available on SunSolve (<http://sunsolve.sun.com>). Patches for other supported operating systems will be available on the `tar.gz` file.

Patch number 123493-01 can be installed in any directory. The patch contains the CP3020 Solaris 10 x86 BIOS patch utility (`sbu0ABIA020`) and BIOS image. A shell script (`biosupdate.sh`) is provided for other operating systems. For instructions on how to accomplish this upgrade it is essential to read, understand, and follow the directions in the supplied README files. The current version, 0ABIA020, contains support for the failsafe BIOS feature. In the factory-shipped 0ABIA019 version (shipped prior to sept 2006), the BIOS image can be corrupted if a BIOS update is interrupted—leaving the system with no way to boot.

Note – If you do not require the fail-safe BIOS, or will never upgrade it, you do not have to apply this patch.

Note that your system is vulnerable until you successfully update to the 0ABIA020 or a newer version.

Installing Patches

1. Copy the patches to a directory in the root file system (for example, /patch).
2. To put the system into single-user mode, type:

```
# init s
```

3. In single-user mode, type:

```
# cd /patch  
  
# patchadd patch-number  
  
# reboot
```

Required Patches

You must apply the following patches to the base Solaris 10 U1 image.

- Patch number 118844-30 is the Solaris 10 x86 kernel patch and is required to fix bug number 6333683: x86/sunvts pmentest failed on 64G G4. Patch number 118344-06 depends on patch numbers 118844-30 and 122028-01.
- 124730-01 SunOS 5.10_x86: h8update point patch
- 124218-01 SunOS 5.10_x86: bge point patch

Optional Patches

Patch number 119851-13 fixes bug number 6340185: "mpt0: unknown event 16" messages during Solaris boot and bug number 6228874: "Raidctl should enable RAID0".

Installing patch 119851-13 is optional. Proper operation of the system does not depend on this patch. Patch number 119851-13 depends on patch number 118844-30.

Firmware Versions

After you upgrade, the Netra CP3020 board firmware should be at the versions listed in the README file.

The following examples show how to locate this information.

1. You can see the H8 (IPMC) firmware revision when the startup screen displays. In the following example, the IPMC revision information is highlighted in bold-face type:

```
AMIBIOS(C)2003 American Megatrends, Inc.
BIOS Date: 04/28/06 16:05:59 Ver: 08.00.10
CPU : AMD Opteron(tm) Processor 148 HE, Speed : 2.2 GHz
CPU Revision, CPU0 : E4, Microcode Revision, CPU0 : 0
DRAM Clocking = 333 MHz

CP3020, 1 AMD North Bridge, Rev E4
1 AMD 8111 I/O Hub, Rev C2
1 AMD 8132 PCI-X 2.0 Controller, Rev B2
Checking NVRAM..
IPMC Firmware Revision : 5.0.19
CPLD Revision : 9.0
Initializing USB Controllers .. Done.
Press F2 to run Setup
Press F12 to boot from the network (CTRL+N on Remote Keyboard)
Press F8 for BBS POPUP (CTRL+P on Remote Keyboard)
3840MB OK
```

2. To see the AMIBIOS version, press the F2 key while the startup screen displays. The computer enters the Setup menu and displays the system information. In the following example, the AMIBIOS firmware version (0ABIA020) is shown in bold-face type.

```

Main      Advanced  PCI/PnP  Boot      Security  Chipset  Exit
*****
* System Overview
* *****
* AMIBIOS
* Version      :08.00.10
* Build Date:04/28/06
* ID           :0ABIA020
*
* Product Name      : CP3020
*
* Processor
* Type             :AMD Opteron(tm) Processor 148 HE
* Speed            :2.2 GHz
* Count            :1
*
* System Memory
* Size             :3840MB
*
* System Time      [11:33:52]
* Date             [Thu 03/14/2007]
* #
*****
v02.53 (C)Copyright 1985-2002, American Megatrends, Inc.

```

Cabling Requirements

Connecting Ethernet Cables

By default, when a Netra CP3020 rear transition module (RTM) is installed, the Ethernet cables are connected only to the Ethernet ports on the RTM.

Plug the Ethernet cables into the Ethernet ports on the RTM instead of the front panel Ethernet ports on the CP3020.

Serial Cables

Serial cables must be kept to a maximum of 10 meters (approximately 32 feet).

Shielded Cables for Serial Ports

You must use shielded cables when connecting to the serial port on the front panel.

Serial Attached SCSI Disk

SCSI Disk Serial Number Information

In some configurations, the Netra CP3020 board is shipped with a blank Serial Attached SCSI (SAS) disk installed next to the CPU heat sink in the SAS ID 01 position. Installing the drive in this position enables you to easily view the serial number information sticker. The information sticker is normally obscured under the drive when it is installed in the position next to the edge of the circuit board.

Installing Software on the Serial Attached SCSI Disk

To install software on the Serial Attached SCSI (SAS) disk, you must first set up a netinstall and DHCP server. For instructions, see the *Solaris 10 Network Installation Manual*. Install the software onto the Netra CP3020 board through one of the basic fabric interfaces. In the CP3020 AMI BIOS boot setup menu, select the Broadcom device number 208 as the boot device. It is strongly suggested that you disable all other boot devices in the menu, so the system will not sequence through each device if the DHCP offer times out.

Netinstall Boot Devices

TABLE 2 provides a map of the MAC addresses on the Netra CP3020 board, the corresponding Solaris devices, and the interfaces on the Netra CP3020 board. You might need this information to understand which MAC address is associated with the system IP address on the install server.

For example, the extended fabric interface is connected to the DTI switch in slot 8 of the ATCA shelf. To install through this device, select the 309 Ethernet interface from the BIOS Setup menus.

TABLE 2 Netinstall Boot Device Connectivity

MAC Address	Broadcom BIOS Port Number Enumeration	Solaris Device	Hardware Device	Description	Connects to DTI Slot
0:3:ba.xx.xx.	208	bge0	(5704C)	Base fabric 0	slot 7
0:3:ba.xx.xx.xn+1	209	bge1	(5704C)	Base fabric 1	slot 8
0:3:ba.xx.xx.xn+2	308	bge2	(5704S)	Extended fabric 0	slot 7
0:3:ba.xx.xx.xn+3	309	bge3	(5704S)	Extended fabric 1	slot 8
0:3:ba.xx.xx.xn+4	110	bge4	(5705)	mgtB	N/A
0:3:ba.xx.xx.xn+5	N/A	amd8111s0	(8111)	mgtA	N/A

Management Software for Port A on the Front Panel (Solaris OS Only)

The Netra CP3020 board is shipped without an operating system on the preinstalled drive.

1. To install software (either the Solaris Operating System or MontaVista Carrier Grade Linux), set up a netinstall server. Refer to the documentation for your operating system.
2. If you are running the Solaris Operating System on the Netra CP3020 board, you need to download a driver that enables Port A on the front panel of the Netra CP3020 board. Download the driver from the Advanced Micro Devices (AMD) web site:

http://www.amd.com/us-en/Processors/TechnicalResources/0,,30_182_871_9034%5E10338,00.html

Note – No action is necessary if you are running MontaVista Carrier Grade Linux on the Netra CP3020 board.

3. Install the `amd8111s` 64-bit driver so that Ethernet Port A can function.
4. Install the `122028-01` patch from the enclosed patch CD-ROM so that Ethernet Port B can function.

Blue Hot-Swap LED

When removing or installing the Netra CP3020 board, you will notice that the blue OK to Remove LED blinks for a shorter time than it does on the Netra CP3010 board.

Related Documentation

The following documents ship with the Netra CP3020 board:

- *Important Safety Information for Sun Hardware Systems*
- *Netra CP3020 Board Getting Started Guide*

Refer to the *Netra CP3020 Board Getting Started Guide* for information on obtaining the rest of the Netra CP3020 board documentation. The documentation is available at the following sites:

<http://docs.sun.com/app/docs/prod/cp3020.brd#hic>

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