Sun Fire™ V480 Server Product Notes

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054 U.S.A.
650-960-1300

Part No. 816-0905-15
July 2003, Revision A

Submit comments about this document at: `http://www.sun.com/hwdocs/feedback`

Copyright 2003 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A. All rights reserved.

Sun Microsystems, Inc. has intellectual property rights relating to technology embodied in the product that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed at http://www.sun.com/patents and one or more additional patents or pending patent applications in the U.S. and in other countries.

This document and the product to which it pertains are distributed under licenses restricting their use, copying, distribution, and decompilation. No part of the product or of this document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any.

Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and in other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, Sun Fire, Solaris, SunSolve Online, SunVTS, OpenBoot, Sun StorEdge and the Solaris logo are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and in other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

Federal Acquisitions: Commercial Software —Government Users Subject to Standard License Terms and Conditions.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2003 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, Etats-Unis. Tous droits réservés.

Sun Microsystems, Inc. a les droits de propriété intellectuels relatants à la technologie incorporée dans le produit qui est décrit dans ce document. En particulier, et sans la limitation, ces droits de propriété intellectuels peuvent inclure un ou plus des brevets américains énumérés à http://www.sun.com/patents et un ou les brevets plus supplémentaires ou les applications de brevet en attente dans les Etats-Unis et dans les autres pays.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, parquelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y ena.

Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, Sun Fire, Solaris, SunSolve Online, SunVTS, OpenBoot, Sun StorEdge, et le logo Solaris sont des marques de fabrique ou des marques déposées de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays.

Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits protant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développment du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une license non exclusive do Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciées de Sun qui mettent en place l'interface d 'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

LA DOCUMENTATION EST FOURNIE "EN L'ÉTAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.

LA DOCUMENTATION EST FOURNIE "EN L'ÉTAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.

Please
Recycle

Adobe PostScript

Contents

Accessing the Latest Documentation 1

CPU / Memory Board Hardware Requirements 2

System Software and Firmware Requirements 3

- System Firmware 3

Required and Recommended Software Patches 4

- Required Patches for the Solaris 8 Operating Environment 5
- Recommended Patches for the Solaris 8 Operating Environment 6
- Required Patches for the Solaris 9 Operating Environment 7
- Recommended Patches for the Solaris 9 Operating Environment 8
- Latest Sun Fire V480 Server OpenBoot Firmware Patch 9

Update the ce Ethernet Driver on an Installation Server 10

Issue for JumpStart Installations 10

RSC Documentation Location 11

Sun GigaSwift Ethernet Adapter Documentation 11

Caution on the Use of PCI Cards Not Specifically Qualified by Sun on the Sun Fire V480 Platform 12

Fan Trays Are Not Hot-Pluggable: Do Not Attempt to Remove When System Is Running 12

Instructions for Installing a Server Into a Cabinet Requiring M6 Screws 13

New Electrical Specifications 13

Software Notes 13

Do Not Operate the On-board Ethernet Ports in Gigabit Half-Duplex Mode 14

picld Error Running SunVTS env5test 14

Incorrect Output When Using rsc bootmode -u When diag-switch? Is true 14

Nomenclature Notes 15

ce0 and ce1 Nomenclature 15

hba and io-bridge Are Used Interchangeably 15

Documentation Errata 15

Correction to the Part Number for a 73-Gbyte FC-AL Disk Drive 15

Sun Fire V480 Server Product Notes

These Product Notes apply to the Sun Fire™ V480 server. Included in these notes is important information about installation, features, and known system limitations that arrived too late for publication in other documents. Numbers in brackets are Sun internal bug identification numbers.

Accessing the Latest Documentation

You can view and print a broad selection of Sun documentation, including localized versions, at:

`http://www.sun.com/documentation`

You can also view and print Sun Fire V480 server documentation at:

`http://www.sun.com/products-n-solutions/hardware/docs/Servers/`

Check this site periodically for the latest revisions of Sun Fire V480 server product documentation, including the latest version of these Product Notes.

CPU/Memory Board Hardware Requirements

The following table lists the CPU/Memory board part numbers for the Sun Fire V480 server.

CPU/Memory board	Part number
900 MHz	501-6334 501-6676
1050 MHz	501-6677 501-6706 501-6163 501-6707

CPU/Memory Board Speeds

A Sun Fire V480 server must use CPU/Memory boards of the same speed within a system. For example, you can not run 900 MHz CPU/Memory boards and 1050 MHz CPU/Memory boards installed in the same Sun Fire V480 server.

DIMMs

It is required that you populate each DIMM slot on a 1050 MHz CPU/Memory board in a Sun Fire V480 server. For 900 MHz CPU/Memory boards, it is recommended that you populate each DIMM slot. For more information about DIMMs, including information about memory interleaving, see the *Sun Fire V480 Server Administration Guide*.

System Software and Firmware Requirements

The Sun Fire V480 server requires the Solaris™ 8 2/02 operating environment or a later Solaris release that supports the server. To verify that the proper version of the operating environment is installed on your Sun Fire V480 server, examine the file `/etc/release`. This file should contain the text “Solaris 8 2/02” or identify a subsequent compatible Solaris release.

System Firmware

The following table lists the minimum Solaris operating environment and OpenBoot™ PROM firmware requirements for Sun Fire V480 systems, according to the speed of the CPU/Memory boards installed on a Sun Fire V480 server.

CPU/Memory board speed	Minimum required Solaris operating environment	Minimum required OpenBoot firmware level
900 MHz	Solaris 8 02/02*	OpenBoot Firmware 4.10.7
1050 MHz	Solaris 8 02/02*	OpenBoot Firmware 4.7.5

Note – If you are upgrading a Sun Fire V480 server using 900 MHz CPU/Memory boards to 1050 MHz CPU/Memory boards, you must update the system OpenBoot firmware with patch 113034-07 or later before you install the new CPU/Memory boards. For more information about the patch, including installation instructions, read the patch description. For information about obtaining the patch, see “Latest Sun Fire V480 Server OpenBoot Firmware Patch” on page 9.

Required and Recommended Software Patches

This section lists required and recommended software patches for the Sun Fire V480 server. You can obtain these patches from your Sun authorized sales representative or service provider or by downloading them from the SunSolve Online℠ web site at the following URL:

`http://sunsolve.sun.com`

For patch installation instructions, see the README file that accompanies each patch.

To verify the basic installation and configuration of your system, Sun has created the Sun℠ Install Check tool. This one-time-use tool is currently being offered at no charge over the Web. After you complete the basic installation and configuration of your system, you can use the tool to check the following aspects of your Sun server:

- Patches for the Solaris™ operating environment
- System firmware levels
- Unsupported hardware configurations

The tool identifies potential problems in these areas and provides recommendations that you can use to resolve the problems.

The Sun Install Check tool is available at:

`http://sunsolve.sun.com`

Required Patches for the Solaris 8 Operating Environment

Sun Fire V480 Required Patches for Solaris 8 2/02 Operating Environment

Patch ID	Description
*112396-02 or later	SunOS 5.8: `/usr/bin/fgrep` command patch
*108987-09 or later	SunOS 5.8: `patchadd` and `patchrm` command patch
109888-24 or later	SunOS 5.8: platform drivers patch
111883-17 or later	Solaris Ethernet driver patch
109962-10 or later	FC-AL disk drive firmware patch
108528-22 or later	SunOS 5.8: kernel update patch
113034-07 or later	OpenBoot firmware patch

*You must install Patch 112396 and Patch 108987 before you install any other patch.

Recommended Patches for the Solaris 8 Operating Environment

Note – Certain patches are available to contract customers only. If you are unable to access a patch from the SunSolve Online web site, you can obtain the patch from your local Solution Center. North American customers can call 1-800-USA-4SUN.

Sun Fire V480 Recommended Patches for Solaris 8 2/02 Operating Environment

Patch ID	Description
111500-09 or later	Sun™ Remote System Control patch
112336-06 or later	SunVTS™ 4.6 patch
113614-12 or later	SunVTS 5.1 PS2 consolidation patch
111792-09 or later	Solaris environmental monitoring patch
111793-04 or later	Sun Fire V480 `prtdiag` command patch
*111412-11 or later	SunOS 5.8: Sun StorEdge™ Traffic Manager (MPxIO) patch
*111413-10 or later	SunOS 5.8: `luxadm`, `liba5k` and `libg_fc` patch
*111095-13 or later	SunOS 5.8: `fctl/fp/fcp/usoc` driver patch
*111096-06 or later	SunOS 5.8: `fcip` driver patch
*111097-12 or later	SunOS 5.8: `qlc` driver patch
110460-29 or later	SunOS 5.8: fruid/PICL platform plug-ins patch

* Patches 111412, 111413, 111095, 111096, and 111097 require the package SUNWsan (SAN Foundation Kit). The SUNWsan package is available via the Sun Download Center at the following URL:

`http://www.sun.com/storage/san/`

From that site, download the latest SAN release software/firmware upgrade.

Install the SUNWsan package first, followed by Patches 111412, 111413, 111095, 111096, and 111097 in the order listed. *Do not reboot the system until all packages are installed.*

Required Patches for the Solaris 9 Operating Environment

Sun Fire V480 Required Patches for Solaris 9 Operating Environment

Patch ID	Description
112233-05 or later	SunOS 5.9: Kernel Update Patch
112951-05 or later	SunOS 5.9: patchadd and patchrm patch
112902-12 or later	SunOS 5.9: kernel/drv/ip patch
109962-10 or later	FC-AL disk drive firmware patch
113034-07 or later	OpenBoot firmware patch

Recommended Patches for the Solaris 9 Operating Environment

Note – Certain patches are available to contract customers only. If you are unable to access a patch from the SunSolve Online web site, you can obtain the patch from your local Solution Center. North American customers can call 1-800-USA-4SUN.

Sun Fire V480 Recommended Patches for Solaris 9 Operating Environment

Patch ID	Description
113500-01 or later	SunVTS 5.0 patch
113614 12 or later	SunVTS 5.1 PS2 consolidation patch
113044-03 or later	SunOS 5.9: `cfgadm fp` command plug-in library patch
112764-06 or later	SunOS 5.9: Sun Quad Fast Ethernet `qfe` driver patch
112817-06 or later	SunOS 5.9: GigaSwift Ethernet 1.0 driver patch
*113039-03 or later	SunOS 5.9: Sun StorEdge Traffic Manager (MPxIO) patch
*113040-05 or later	SunOS 5.9: `fctl/fp/fcp/usoc` driver patch
*113041-03 or later	SunOS 5.9: `fcip` driver patch
*113042-04 or later	SunOS 5.9: `qlc` driver patch
*113043-04 or later	SunOS 5.9: `luxadm`, `liba5k` and `libg_fc` patch
113388-02 or later	RSC 2.2.1 patch
113573-02 or later	SunOS 5.9: libpsvc Patch
114864-02 or later	Solaris environmentals: PICL plugins for SunFire V480
113218-08 or later	Schizo driver patch
114930-01 or later	Sun Fire V480 libprtdiag patch

* Patches 113039, 113040, 113041, 113042, and 113043 require the package SUNWsan (SAN Foundation Kit). The SUNWsan package is available via the Sun Download Center at the following URL:

`http://www.sun.com/storage/san/`

From that site, download the latest SAN release software/firmware upgrade.

Install the SUNWsan package first, followed by Patches 113039, 113040, 113041, 113042, and 113043 in the order listed. *Do not reboot the system until all packages are installed.*

Latest Sun Fire V480 Server OpenBoot Firmware Patch

Note – Patch 113034-07 is required and must be installed on any system with 900 MHz CPU/Memory boards with an OpenBoot firmware version lower than 4.10.7.

The OpenBoot™ firmware image on your system was current at the time of manufacture but later versions may now exist. Use one of the following methods to determine the system's current OpenBoot firmware version:

While the Solaris operating environment is running, type the following command:

```
# /usr/sbin/prtconf -V
```

Or,

From the `ok` prompt, type the following command:

```
ok .version
```

Once you have determined the version of the OpenBoot firmware currently installed on the system, compare it to the latest available version of OpenBoot firmware.

The Patch ID for the OpenBoot firmware is 113034-07 or later. To obtain the latest patch for your system, contact your authorized Sun service provider or go to the SunSolve Online web site at the following URL:

`http://sunsolve.sun.com`

For flash update instructions, see the README file that accompanies each patch.

Update the ce Ethernet Driver on an Installation Server

The ce Ethernet driver for the Solaris 8 2/02 operating environment has been updated. If you are performing a network installation, you need to apply Patch 111883-17 or later to the net install image on the installation server before you install the client systems.

1. **Download Patch 111883-17 or later.**

   See "Required and Recommended Software Patches" on page 4 for information about where to obtain the patch.

2. **Patch the boot image on the installation server. Type the following command:**

```
# patchadd -C <Install-Image-Path>/Solaris_8/Tools/Boot/ <patch-path>
```

3. **Type the** `boot net` **command at the** `ok` **prompt on the client system to start the installation.**

4. **After the installation is complete, apply Patch 111883-17 or later on the newly created system.**

Issue for JumpStart Installations

The controller ID for the internal disks on a Sun Fire V480 server is not `c0` by default. Using the disk device names `c0t0d0` or `c0t1d0` in the configuration files may cause a JumpStart™ software installation to fail.

Before you perform a JumpStart installation on a Sun Fire V480 server, make sure that the disk controller ID for the internal disks matches your system configuration, for example, `c1t0d0`.

If necessary, edit the configuration files using the correct controller number in the disk device name before proceeding to a JumpStart installation.

RSC Documentation Location

After you install the Solaris operating environment and the software from the Supplement CD, you have access to the online version of Sun Remote System Control (RSC) documentation. You can find the PDF version of the *Sun Remote System Control 2.2 User's Guide* in the following location within the Solaris operating environment:

```
/opt/rsc/doc/<locale>/pdf/user_guide.pdf
```

After you install RSC software on a Microsoft Windows-based PC, you can find the appropriate User's Guide in the following location within the Microsoft Windows environment:

```
C:\Program Files\Sun Microsystems\
Remote System Control\doc\<locale>\pdf\user_guide.pdf
```

RSC documentation is also included on the Sun Fire V480 Documentation CD that is shipped with the server.

Sun GigaSwift Ethernet Adapter Documentation

The *Sun GigaSwift Ethernet Adapter Installation and User's Guide*, Sun Part No. 816-1702-11, has been updated to correct installation errors and ambiguities present in earlier versions.

Although this guide primarily provides information about installing and using the Sun GigaSwift Ethernet UTP adapter and the Sun GigaSwift Ethernet MMF adapter, it also provides a reference on how to configure the system's Ethernet device driver software.

The *Sun GigaSwift Ethernet Adapter Installation and User's Guide* provides detailed information on how to create a `ce.conf` file in the `/platform/sun4u/kernel/drv` directory. This is the recommended way to configure the onboard network interfaces for the Sun Fire V480 server. Setting the Sun GigaSwift Ethernet adapter driver parameters using the `/etc/system` file is not supported.

This guide is available online at the following URL:

```
http://www.sun.com/products-n-solutions/hardware/docs/
Network_Connectivity
```

Caution on the Use of PCI Cards Not Specifically Qualified by Sun on the Sun Fire V480 Platform

In order to ensure robust system operation, it is extremely important to ensure that any PCI cards and associated drivers installed in a Sun Fire V480 system are qualified by Sun for use on the platform. It is possible for interactions to occur between cards and drivers on a specific bus that can lead to potential system panics or other negative outcomes if the card / driver solution is not qualified by Sun.

For an updated listing of qualified PCI cards and configurations for the Sun Fire V480 system, contact your authorized Sun sales representative or service provider. For additional information, refer to the web site at the following URL:

`http://www.sun.com/io`

Fan Trays Are Not Hot-Pluggable: Do Not Attempt to Remove When System Is Running

The CPU Fan Tray (FT 0) and the PCI Fan Tray (FT 1) are not components that you can “hot-plug”; that is, do not remove either fan tray while the system is running. Serious injury can result if you attempt to remove a fan while the system is turned on.

Instructions for Installing a Server Into a Cabinet Requiring M6 Screws

To install a server into a cabinet requiring M6 screws, follow the instructions in the *Sun Fire V480 Server Setup and Rackmounting Guide*. Where the instructions specify 10-32 screws, use the M6 screws included in the rack kit box. Use a Phillips No. 2 screwdriver with the M6 screws. Replace the 10-32 captive screws (if present) on the front trim panel with M6 screws before you install the server into the cabinet.

New Electrical Specifications

The following table provides the electrical specifications for a Sun Fire V480 server. This table replaces the electrical specifications provided in Appendix C of the *Sun Fire V480 Server Parts Installation and Removal Guide* and in Appendix B of the *Sun Fire V480 Server Administration Guide*.

Parameter	Value
Input	
Nominal Frequency Range	50 or 60 Hz
Nominal Voltage Range	Auto ranging 100-240 VAC
Maximum Current AC RMS	10A @ 100-120 VAC 5A @ 200-240 VAC
Maximum AC Power Consumption	1100W
Maximum Heat Dissipation	3751 BTU/hr

Software Notes

The following software problems have been identified in this release. In most cases, no workaround is necessary; otherwise, workaround information follows the explanation of the problem.

Do Not Operate the On-board Ethernet Ports in Gigabit Half-Duplex Mode

The on-board Ethernet interfaces do not support Gigabit half-duplex (1000HDX) mode. Gigabit full-duplex mode is fully supported.

`picld` Error Running SunVTS `env5test`

You might see the following error when you run the SunVTS `env5test` test:

```
failure to open semaphore /psvc_sema_rdwr
```

[4487110]

Workaround

1. **Type the following commands**:

```
# /etc/init.d/picld stop

# /etc/init.d/picld start
```

2. **Restart SunVTS software.**

Incorrect Output When Using `rsc bootmode -u` When `diag-switch?` Is `true`

When `diag-switch?` is set to `true` and the `rsc bootmode -u` command is used, the output correctly starts out in the RSC console but switches to the serial port when you boot the Solaris operating environment. [4523025]

Nomenclature Notes

`ce0` and `ce1` Nomenclature

The Sun Fire V480 server provides two on-board Ethernet interfaces, which reside on the system centerplane and operate at 10 Mbps, 100 Mbps, and 1000 Mbps. Two back panel ports with RJ-45 connectors provide access to these interfaces.

In certain software output, these Ethernet interfaces are referred to as `ce0` and `ce1`:

- `ce` is the name of the Ethernet device driver.
- `0` and `1` are the two instance numbers.

`hba` and `io-bridge` Are Used Interchangeably

In POST and OpenBoot firmware, the terms `hba` and `io-bridge` are used interchangeably as device identifiers.

Documentation Errata

Correction to the Part Number for a 73-Gbyte FC-AL Disk Drive

The part number for the 73-Gbyte FC-AL disk drive listed in the Front Panel Components section in Appendix F of the *Sun Fire V480 Server Parts Installation and Removal Guide* is incorrect.

The correct part number for the 73-Gbyte FC-AL disk drive is: F540-5408.