Sun Fire™ 6800/4810/4800/3800 Systems Firmware 5.15.3 Release Notes

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

Part No. 817-3766-10
October 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, docs.sun.com, Java, OpenBoot, Sun Fire, SunStorEdge, and Solaris, are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and in 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.

U.S. Government Rights—Commercial use. Government users are subject to the Sun Microsystems, Inc. standard license agreement and applicable provisions of the FAR and its supplements.

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, par quelque 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, docs.sun.com, Java, OpenBoot, Sun Fire, SunStorEdge, et 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 développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une license non exclusive de 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.

Please
Recycle

Adobe PostScript

Contents

General Information – Patch 5.15.3 1

Required Solaris Updates and Patches 1

Domain Diagnosis Events 2

Capacity on Demand (COD) – Instant Access CPUs as Hotspares 3

Features Introduced in 5.15.0 4

Automatic Diagnosis and Domain Restoration 4

Automatic Recovery of Hung Domains 4

Component Location Status 5

Domain HostID/MAC Address Swap 5

Commands New for 5.15.0 6

Commands Modified for 5.15.0 6

General Information – 5.15.0 6

Sensor Status Messages 6

Firmware Compatibility 7

Firmware Upgrade and Downgrade 7

Power Supply Failures 8

Known Sun Fire 6800/4810/4800/3800 Systems Limitations 8

SC Hangs After Automatic `setkeyswitch off` (RFE 4454599) 8

No LED Fault Indicator on System Board After the Board Fails POST (RFE 4454623) 9

`setls enable` Does Not Work Immediately After Installing the Solaris Operating Environment (BugID 4902782) 9

Sun Fire™ 6800/4810/4800/3800 Systems Firmware 5.15.3 Release Notes

This document provides information on new and revised features, as well as late-breaking news, for firmware release 5.15.0 and the 5.15.3 patch release on Sun Fire 6800/4810/4800/3800 systems. These Release Notes contain the same information as the 5.15.0 Release Notes, plus information about the 5.15.3 release added and clearly marked.

This document contains the following information:

- General Information – Patch 5.15.3
- Features Introduced in 5.15.0
- General Information – 5.15.0
- Known Sun Fire 6800/4810/4800/3800 Systems Limitations

General Information – Patch 5.15.3

Be sure to review the README file that accompanies the 5.15.3 patch. These release notes supplement the information provided in the 5.15.3 README file.

Required Solaris Updates and Patches

The 5.15.3 release requires that the following Solaris kernel updates and patches be installed on your system domains:

- For domains running the Solaris 8 operating environment, apply both S8 KU24 (patch 108528-24) and Solaris patch 110373-05.
- For domains running Solaris 9 operating environment or a Solaris 9 update earlier than Solaris 9 12/03, apply S9 KU9 (patch 112233-09) and Solaris patch 116009-01.

  For domains that will run the Solaris 9 12/03 update once it is available, note that no additional patches are currently required.

Domain Diagnosis Events

Starting with the 5.15.3 release, certain non-fatal domain hardware errors are identified by the Solaris operating environment and reported to the system controller. The system controller does the following:

- Records and maintains this information for the affected domain resources as part of the component health status.
- Reports this information through domain diagnosis [DOM] event messages displayed on the domain console or domain loghost, provided that domain loghosts have been configured.

The next time that POST is run, POST reviews the health status of affected resources and if possible, deconfigures the appropriate resources from the system.

CODE EXAMPLE 1 shows a domain diagnosis event message for a non-fatal domain error. When you see such event messages, contact your service provider so that the appropriate service action can be initiated.

CODE EXAMPLE 1 Domain Diagnosis Event Message – Non-Fatal Domain Hardware Error

```
[DOM] Event: SF6800.L2SRAM.SERD.2.f.1b.10040000000091.f4470000
      CSN: 044M347B DomainID: A ADInfo: 1.SF-SOLARIS-DE.build:05/29/03
      Time: Mon Jun 02 23:34:59 PDT 2003
      FRU-List-Count: 1; FRU-PN: 3704125; FRU-SN: 090K01; FRU-LOC: /N0/SB3/P3/E0
      Recommended-Action: Service action required
```

The diagnosis event message includes the following information:

- `[DOM]`– Beginning of the domain diagnosis message. `[DOM]` indicates that the Solaris operating environment on the affected domain generated the automatic diagnosis event message.
- `Event` – The event code, a dash-separated alphanumeric text string that uniquely identifies an event type. This code is used by your service provider to obtain further information about the event and the platform involved.

- `CSN` – Chassis serial number, which identifies your Sun Fire midrange system.
- `DomainID` – The domain affected by the hardware error.
- `ADInfo` – The version of the auto-diagnosis message, the name of the diagnosis engine involved (in this case the Solaris operating environment, SF-SOLARIS-DE) and the version of the diagnosis engine (the version of the Solaris operating environment in use).
- `Time` – The day of the week, month, date, time (hours, minutes, and seconds), time zone, and year of the auto-diagnosis.
- `FRU-List-Count` – The number of components (FRUs) involved with the error and the following FRU data:
  - If a single component is implicated, the FRU part number, serial number, and location are displayed, as CODE EXAMPLE 1 shows.
  - If multiple components are implicated, the FRU part number, serial number, and location for each component involved are reported.

    In some cases, be aware that not all the FRUs listed are necessarily faulty. The fault may reside in a subset of the components identified.
- `Recommended-Action: Service action required` – Instructs the platform or domain administrator to contact their service provider for further service action. Also indicates the end of the auto-diagnosis event message.

Capacity on Demand (COD) – Instant Access CPUs as Hotspares

You can now temporarily enable an available, instant-access CPU (also referred to as headroom) to replace a failed non-COD CPU. In this case, the instant access CPU is considered as a *hotspare*, which is a spare CPU that can be used immediately to replace a failed non-COD CPU. However, once you replace the failed non-COD CPU, you must deactivate the instant access CPU as explained in the "Capacity on Demand" chapter of the *Sun Fire 6800/4810/4800/3800 Systems Platform Administration Manual* (part number 817-0999-10). Contact your Sun sales representative or reseller to purchase a COD RTU license for the instant access CPU in use if you want to continue using it.

Features Introduced in 5.15.0

This section provides a brief description of new features in 5.15.0. For detailed information on 5.15.0 features, refer to the *Sun Fire 6800/4810/4800/3800 Systems Platform Administration Manual* (part number 817-0999-10) and the *Sun Fire 6800/4810/4800/3800 System Controller Command Reference Manual* (part number 817-1000-10).

Automatic Diagnosis and Domain Restoration

The following automatic diagnosis and domain restoration capabilities are enabled by default:

- *Auto-diagnosis* (AD) engine

  The AD engine detects and diagnoses hardware errors that affect the availability of a platform and its domains. The AD engine analyzes a hardware error and if possible, identifies the field-replaceable units (FRUs) associated with the hardware error. The AD engine records the diagnosis information for the affected components and maintains this information as part of the *component health status* (CHS).

  Auto-diagnosis information is reported through platform and domain event messages. When you see auto-diagnosis event messages, contact your service provider so that the appropriate service action can be initiated.

- *Auto-restoration* of paused domains

  After auto-diagnosis, a domain that was paused due to a hardware error will be automatically rebooted. If possible, any components associated with the hardware error are also disabled (deconfigured) from the system.

For further information, see the "Diagnosis and Domain Restoration" chapter in the *Sun Fire 6800/4810/4800/3800 Systems Platform Administration Manual*.

Automatic Recovery of Hung Domains

The system controller automatically monitors domains for hangs in which a domain does not respond to interrupts or a domain heartbeat stops within a designated timeout period. When the `hang policy` parameter of the `setupdomain` command is set to `reset`, the system controller automatically performs an externally initiated

reset (XIR) and reboots the hung domain. For additional information, see the "Diagnosis and Domain Restoration" chapter in the *Sun Fire 6800/4810/4800/3800 Systems Platform Administration Manual*.

Component Location Status

The physical location of a component, such as slots for CPU/Memory boards or slots for I/O assemblies, can be used to manage hardware resources that are configured into or out of the system. A component location has either a disabled or enabled state, which is referred to as the *component location status*. You can enable or disable components based on their physical location in the system. You change a component location status through the `setls` command.

The `setls` command replaces the `disablecomponent` and `enablecomponent` commands, which were previously used to disable and enable components, respectively.

Note – Sun recommends that you use the `setls` command rather than the `disablecomponent` and `enablecomponent` commands, even though those commands are still supported in 5.15.0.

For additional information, see the "Introduction" chapter in the *Sun Fire 6800/4810/4800/3800 Systems Platform Administration Manual*.

Domain HostID/MAC Address Swap

A new `setupplatform` parameter called `HostID/MAC Address Swap`, enables you to swap the HostID/MAC address of one domain with another. This feature is useful when host-licensed software is tied to a particular domain HostID and MAC address, but you need to run that host-licensed software on another domain. You can swap the domain HostID/MAC address with that of an available domain and then run the host-licensed software on the available domain, without encountering license restrictions tied to the original HostID/MAC address.

Note – If you swap the HostID/MAC addresses between a pair of domains, but you need to downgrade to an earlier firmware release, you must restore the original domain HostID/MAC addresses before performing the downgrade. For details, refer to the "General Administration" chapter in the *Sun Fire 6800/4810/4800/3800 Systems Platform Administration Manual* and the `Install.info` file included with the firmware.

Commands New for 5.15.0

The `setls` command replaces the `enablecomponent` and `disablecomponent` commands, which have been deprecated starting with the 5.15.0 release. For details, refer to the `setls` command description in the *Sun Fire 6800/4810/4800/3800 System Controller Command Reference Manual*.

Commands Modified for 5.15.0

The following SC commands were changed in 5.15.0:

- `disablecomponent` – Deprecated but still supported. Use the `setls` command instead.
- `enablecomponent` – Deprecated but still supported. Use the `setls` command instead.
- `setupdomain` – Removed the `error-diagnosis` parameter. The error diagnosis feature is now enabled by default.
- `setupplatform -p hostid` – New `HostID/MAC Address Swap` parameter.
- `showcomponent` – The POST status includes a new value called `chs` (component health status). The `chs` value for a disabled component indicates that further service action is required by your service provider.
- `showdomain` – Removed the `error-diagnosis` parameter.
- `showplatform -p hostid` – New `HostID/MAC address mapping mode` parameter.

General Information – 5.15.0

Sensor Status Messages

In 5.15.0, the following types of status messages are displayed on the platform console when sensors detect an abnormal condition for a component:

- An `over limit` status message indicates that the value is outside the acceptable range for the component. For example:

```
/NO/SB0, sensor status, over limit (7,1,0x201000d00050000)
```

- An `under limit` status message indicates that the value is within the acceptable range for the component. For example:

```
/NO/SB0, sensor status, under limit (7,2,0x201000d00050000)
```

Firmware Compatibility

System boards with 5.12.x firmware are compatible with those running 5.13.0 through 5.15.x firmware; system boards running 5.11.x are not. You can check the firmware compatibility of your boards by running the `showboards -p version -v` command. COD boards must run a firmware version that supports COD, which was introduced in firmware release 5.14.0.

The information displayed indicates whether the firmware for each board is compatible with the ScApp version running on the SC. For details on verifying firmware compatibility, refer to the `Install.info` file included with this firmware release and the `showboards` command description in the *Sun Fire 6800/4810/4800/3800 System Controller Command Reference Manual.*

To simplify system administration, update all your system boards to the same firmware version. Activate the new firmware version on your domains as soon as possible by running the `setkeyswitch off` and `setkeyswitch on` commands. For details on updating your system firmware, see the release-specific `Install.info` file included with each release of the firmware.

Firmware Upgrade and Downgrade

Instructions for upgrading firmware are provided in the `Install.info` file included with this firmware release. The `Install.info` file also contains instructions for downgrading to an earlier version of the firmware.

Caution – If you have a redundant system controller (SC) configuration, you must first upgrade the firmware on the spare SC, then on the main SC, as explained in the `Install.info` file.

Power Supply Failures

In some cases powering off or powering on a power supply after you upgrade to firmware version 5.15.x can cause a power supply fault. The power supply failure might exhibit the following characteristics:

- Only the amber *fault* LED of the power supply is illuminated.
- The `showboards` command output identifies the Status for the power supply as Failed or the Component Type as No Grid Power.

Use the following workarounds to resolve the power supply failure. Start with Workaround 1. If this workaround is unsuccessful, perform Workaround 2. If the second workaround is unsuccessful, perform Workaround 3.

- Workaround 1 – Turn the power supply switch off and then on. However, if you have a Sun Fire 6800 system, perform Workaround 2 instead, as the power supplies do not have a switch.
- Workaround 2 – Remove the failed power supply from the system, wait 20 seconds, then put it back in. If its green *activated* LED is not the only LED illuminated, repeat the procedure until only the green *activated* LED is illuminated. Several attempts may be necessary.
- Workaround 3 – Reboot the SC, then use the `power on` command to turn on the power supply.

Known Sun Fire 6800/4810/4800/3800 Systems Limitations

This section describes only those bugs with potentially significant impact. The README file lists all bugs, including those seen only internally at Sun.

SC Hangs After Automatic `setkeyswitch off` (RFE 4454599)

Manual reset of the SC has no effect.

Workaround: Do the following:

1. Connect to each active domain through a network connection, such as `telnet` or `rlogin`.
2. Shut down each domain, if possible.
3. Power down the Sun Fire system, then power it up again.

No LED Fault Indicator on System Board After the Board Fails POST (RFE 4454623)

Workaround: Run the `showlogs` or `showboards` command (from the platform shell) to show errors and the test status of a faulty system board.

`setls enable` Does Not Work Immediately After Installing the Solaris Operating Environment (BugID 4902782)

If you perform a `setls` operation immediately after installing the Solaris operating environment on a domain, the operation may not take effect at the next domain reboot, board power cycle, or execution of POST.

Workaround: After the `setls` operation, run the `setkeyswitch off` and then `setkeyswitch on` commands.