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This document provides general information and system limitations for firmware release 5.20.0 on Sun Fire E6900/E4900/6800/4810/4800/3800 systems.

This document contains the following topics:

- **Firmware Documentation for Sun Fire Midrange and Entry-Level Midrange Systems**
- **Features Introduced in 5.20.0**
- **General Information**
- **Known Limitations for Sun Fire Midrange Systems**

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**Firmware Documentation for Sun Fire Midrange and Entry-Level Midrange Systems**

The following documentation sets are included with the 5.20.0 firmware:

- Sun Fire midrange (E6900/E4900/6800/4810/4800/3800) systems
  - Sun Fire Midrange Systems Platform Administration Manual
    (part number 819-5088-10)
    (part number 819-5089-10)
  - Sun Fire Entry-Level Midrange Systems Firmware 5.20.0 Release Notes
    (part number 819-5087-10)
  - Install.info – A text file included with the firmware that describes the firmware upgrade and downgrade procedures for Sun Fire midrange systems.
For firmware upgrade and downgrade information on entry-level midrange (E2900/V1280/Netra 1280) systems, refer to the Sun Fire Entry-Level Midrange System Administration Guide.

- Sun Fire entry-level midrange (E2900/V1280/Netra 1280) systems
  - Sun Fire Entry-Level Midrange System Administration Guide (part number 819-5086-10)
  - Sun Fire Entry-Level Midrange System Controller Command Reference Manual (part number 819-5085-10)
  - Sun Fire Entry-Level Midrange System Firmware 5.20.0 Release Notes (part number 819-5084-10)

Features Introduced in 5.20.0

This section provides a brief description of the new features in 5.20.0 for Sun Fire midrange systems.

Supported Board Types

The 5.20.0 release supports UltraSPARC IV+ CPU/Memory boards – For information on upgrading systems with UltraSPARC IV+ CPU/Memory boards, refer to the Sun Fire Midrange Systems UltraSPARC IV+ CPU/Memory Board Upgrade Requirements (819-1841-10) and the Sun Fire High-End and Midrange Systems CPU/Memory Board Installation Guide (806-2946).

Availability Features Receive Further Enhancements in 5.20.0

The 5.20.0 firmware release, when used on systems with domains running the Solaris 10 Operating System, provides information on Solaris-detected hardware fault events. This information is captured by Solaris software and then communicated to the system controller. The system controller reports this information through automatic diagnosis (AD) and domain (DOM) event messages.

Commands Added or Modified for 5.20.0

The following SC command was added in 5.20.0:
General Information

Requirements for Certain Midrange Systems

E6900/E4900 systems and midrange systems with UltraSPARC IV+ CPU/Memory boards require 5.20.0 firmware and compatible releases of the Solaris 10 or Solaris 9 operating system (when available) as the minimum Solaris releases.

Firmware Compatibility

System boards running firmware versions 5.12.x through 5.19.x firmware are compatible with each other, but system boards running 5.11.x are not compatible with system boards running firmware versions 5.12.x through 5.19.x. You can check the firmware compatibility of your boards by running the `showboards -p version -v` command. The information displayed indicates whether the firmware for each board is compatible with the ScApp version running on the SC.

Update all your system boards to the same firmware version and activate the new firmware version on your domains as soon as possible. Activate the domain firmware by running the `setkeyswhitc off` and `setkeyswhitc on` commands. For details on updating your system firmware and verifying firmware compatibility, refer to the `Install.info` file included with this firmware release.

Certain hardware components require minimum firmware revisions, as follows:

- UltraSPARC IV CPU/Memory boards require 5.16.0 firmware or greater. The UltraSPARC IV CPU/Memory boards will not run on firmware releases earlier than 5.16.0.
- UltraSPARC IV+ CPU/Memory boards require 5.19.0 firmware or greater. The UltraSPARC IV+ CPU/Memory boards will not run on firmware releases earlier than 5.19.0.
COD boards must be running a firmware version that supports COD, which was introduced in firmware release 5.14.0.

Using UltraSPARC IV+ System Boards in Domains

You can mix system boards in your Sun Fire E6900 or 6800 system configurations. The combinations of system boards affect the domain configurations that you can create. However, if a partition includes any UltraSPARC IV+ system boards, only one domain can be active within that partition.

Domain configuration options are illustrated in Table 1:

**Table 1** Sun Fire E6900 or 6800 System Domain System Board Combinations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Domain A</th>
<th>Domain B</th>
<th>Domain C</th>
<th>Domain D</th>
<th>setupplatform</th>
<th>usiv+ Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>US IV+ in two domains</td>
<td>US III+</td>
<td>Not Supported</td>
<td>US III+</td>
<td>Not Supported</td>
<td>a = true</td>
<td>c = true</td>
</tr>
<tr>
<td></td>
<td>US IV</td>
<td></td>
<td>US IV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>US IV+</td>
<td></td>
<td>US IV+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US IV+ in one domain</td>
<td>US III+</td>
<td>Not Supported</td>
<td>US III+</td>
<td>US III+</td>
<td>a = true</td>
<td>c = false</td>
</tr>
<tr>
<td></td>
<td>US IV</td>
<td></td>
<td>US IV</td>
<td>US IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>US IV+</td>
<td></td>
<td>US IV+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US IV+ in one domain</td>
<td>US III+</td>
<td>US III+</td>
<td>US III+</td>
<td>Not Supported</td>
<td>a = false</td>
<td>c = true</td>
</tr>
<tr>
<td></td>
<td>US IV</td>
<td>US IV</td>
<td>US IV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>US IV+</td>
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<td>US IV+</td>
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<td>US IV</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>US IV+</td>
<td></td>
<td>US IV+</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note that only domains A and B are available in systems configured in a single partition.
Similar considerations apply when configuring domains in Sun Fire E4900 or 4800 systems. See TABLE 2:

**TABLE 2** Sun Fire E4900 or 4800 System Dual Partition Domain System Board Combinations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Domain A</th>
<th>Domain C</th>
<th>\texttt{setupplatform usiv+ Variable}</th>
</tr>
</thead>
<tbody>
<tr>
<td>US IV+ in two domains</td>
<td>US III+</td>
<td>US III+</td>
<td>a = true</td>
</tr>
<tr>
<td></td>
<td>US IV</td>
<td>US IV</td>
<td>c = true</td>
</tr>
<tr>
<td></td>
<td>US IV+</td>
<td>US IV+</td>
<td></td>
</tr>
<tr>
<td>US IV+ in one domain</td>
<td>US III+</td>
<td>US III+</td>
<td>a = true</td>
</tr>
<tr>
<td></td>
<td>US IV</td>
<td>US IV</td>
<td>c = false</td>
</tr>
<tr>
<td></td>
<td>US IV+</td>
<td>US IV+</td>
<td></td>
</tr>
<tr>
<td>US IV+ in one domain</td>
<td>US III+</td>
<td>US III+</td>
<td>a = false</td>
</tr>
<tr>
<td></td>
<td>US IV</td>
<td>US IV</td>
<td>c = true</td>
</tr>
<tr>
<td></td>
<td>US IV+</td>
<td>US IV+</td>
<td></td>
</tr>
<tr>
<td>US IV+ in no domains</td>
<td>US III+</td>
<td>US III+</td>
<td>a = false</td>
</tr>
<tr>
<td></td>
<td>US IV</td>
<td>US IV</td>
<td>c = false</td>
</tr>
</tbody>
</table>

The single-partition case allows for only one active domain containing UltraSPARC IV+ system boards, domain A. See TABLE 3:

**TABLE 3** Sun Fire E4900 or 4800 System Single Partition Domain System Board Combinations

<table>
<thead>
<tr>
<th>Domain A</th>
<th>Domain B</th>
<th>\texttt{setupplatform usiv+ Variable}</th>
</tr>
</thead>
<tbody>
<tr>
<td>US III+</td>
<td>Not Supported</td>
<td>a = true</td>
</tr>
<tr>
<td>US IV</td>
<td>Supported</td>
<td>c = true or false</td>
</tr>
<tr>
<td>US IV+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US III+</td>
<td>US III+</td>
<td>a = false</td>
</tr>
<tr>
<td>US IV</td>
<td>US IV</td>
<td>c = true or false</td>
</tr>
</tbody>
</table>

▼ To Enable UltraSPARC IV+ Domain Support

- Use the \texttt{setupplatform} command to change \texttt{usiv+} support for Domains A or C
For example,

```
setupplatform -p usiv+
```

UltraSPARC IV+ Configuration
-----------------------------
Is UltraSPARC IV+ going to be deployed in domain A? [false]: true
Is UltraSPARC IV+ going to be deployed in domain C? [false]:

For further information about the setupplatform command, see the Sun Fire Midrange System Controller Command Reference Manual.

**Note** – The usiv+ option can be changed only while all domains in the affected partitions are off. For information about using the setkeysitck command to power domains on and off, see the Sun Fire Midrange System Controller Command Reference Manual.

▼ To Display the Status of UltraSPARC IV+ Domain Support

- **Use the** `showplatform -p usiv+` **command**

For example,

```
showplatform -p usiv+
```

UltraSPARC IV+ is supported in domain A
UltraSPARC IV+ is not supported in domain C

UltraSPARC IV+ I/O Board DR Restriction

If your Sun Fire E6900 or E4900 server is configured as:

- A single domain within a single partition, including one or more UltraSPARC IV+ system boards

or

- A two domain (A & C) configuration in dual partition mode, each domain including one or more UltraSPARC IV+ system boards
Then you cannot add an I/O board to the domain using the DR connect and configure commands. However, you can use the DR unconfigure and disconnect commands on an I/O board in the described system.

This restriction arises because DR requires a second domain in which the I/O board can be tested. Please refer to the platform administration manual for further information on removing and replacing boards.

Sun Fire Link Interconnect Supported On Solaris 8 and Solaris 9 Operating Systems Only

In order to use the Sun Fire Link interconnect with 5.20.0 firmware, you must use either Solaris 8 or Solaris 9 operating systems.

Firmware Upgrade and Downgrade

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

E6900/E4900 systems and systems that contain UltraSPARC IV CPU/Memory boards must run firmware version 5.16.0 or greater. Earlier firmware versions do not support the UltraSPARC IV CPU/Memory boards.

E6900/E4900 systems and systems that contain UltraSPARC IV+ CPU/Memory boards must run firmware version 5.19.0 or greater. Earlier firmware versions do not support the UltraSPARC IV+ CPU/Memory boards.

Midrange systems that contain SC V2s can be downgraded from 5.19.0 or 5.20.0 to earlier firmware releases, but note that those earlier releases will not support features and bug fixes made in 5.19.0 or 5.20.0.

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 5.14.x or greater can cause a power supply fault on Sun Fire 6800/4810/4800/3800 systems.

Note – The faults described here do not apply to the A184 and A185 power supplies.

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 Limitations for Sun Fire Midrange Systems

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

New Daylight Saving Time (DST) rules come into effect (depending upon timezone) on Sunday March 11, 2007. For example, In 2006 Pacific Standard Daylight Saving Time (PDT) starts on Sunday April 2, and ends on Sunday October 29. In 2007 PDT starts on Sunday March 11, and ends on Sunday November 4.

The DST rules have changed due to the U.S. Energy Policy Act of 2005 with changes beginning in 2007. A subset of these changes were instituted in 2006 in conjunction with the Australian Commonwealth Games.

As a reminder, the system controller (SC) will issue reboot warning messages on SC consoles, printing once a day starting on January 1, 2007. For example,

```plaintext
WARNING: SC was booted in year 2006, and SC current year is 2007. Please reboot the SC to get the current Daylight Saving Time rules.
```

To load the new DST rules, reboot the SC between January 1, 2007 and Sunday March 11, 2007.

SNMP: FrameManager Does Not Have an Entry in the MIB and Frame State Traps (RFE 4987286)

SNMP is a private interface for the midrange system controllers. This means that Sun Management Center will not receive FrameManager information through SNMP. If you have a loghost, note that FrameManager and RTU statuses can be monitored from the loghost.

**Workaround:** None.

sgcn_output_line(): OBP console blocked; message data lost (BugID 4939206)

A message indicating that there are dropped console messages is displayed when data is being provided by the Solaris Operating System or OpenBoot PROM faster than the system controller can write it to the console.

**Workaround:** None.
Upgrade of Firmware Changes Connection Type  
*(BugID 5060748, 6255332)*

If you change the connection type after downgrading firmware on midrange systems from 5.17.x, 5.18.x, 5.19.x, or 5.20.x to a lower firmware version, the new connection type selected in the lower firmware version is not guaranteed once you update the firmware back to 5.17.x, 5.18.x, 5.19.x, or 5.20.x. If you subsequently update the firmware to 5.17.x, 5.18.x, 5.19.x, or 5.20.x from the lower firmware version, the original connection type that you had in 5.17.x, 5.18.x, 5.19.x, or 5.20.x before the change to a lower firmware version will be restored.

**Workaround:** To ensure system security, use the `setupplatform` command to set the connection type explicitly.

Power Failure May Corrupt SEEPROM Contents  
*(BugID 5093450)*

If a power failure and Sc reboot occur during an add segment operation, one or more SEEPROM segments may become corrupted upon a reboot. The following example log sequence shows illegal tag statements:

```
Aug 04 14:18:42 schostname-SC0 schostname-sc0 Platform.SC: [ID 470632 local0.error]
/N0/SB2: SepromSegment(constructor): ID at 0x0042: Illegal Tag 0x00 at 0x002b
Aug 04 14:18:42 schostname-SC0 schostname-sc0 Platform.SC: [ID 576073 local0.error]
/N0/SB2: SepromSegment(constructor): PE at 0x00bf: Illegal Tag 0x00 at 0x0102
Aug 04 14:18:42 schostname-SC0 schostname-sc0 Platform.SC: [ID 982808 local0.error]
/N0/SB2: SepromSegment(constructor): PS at 0x01c6: Illegal Tag 0x00 at 0x0000
Aug 04 14:18:42 schostname-SC0 schostname-sc0 Platform.SC: [ID 586548 local0.error]
/N0/SB2: SepromSegment(constructor): FD at 0x01dd: Illegal Tag 0x00 at 0x0002
Aug 04 14:18:46 schostname-sc0 Platform.SC: [ID 139087 local0.notice] Clear
/N0/SB2 invalid segment
```

Even though these error messages are displayed, the availability of the domains is not affected.

**Workaround:** None.
panic: recursive mutex enter, then panic: panic sync timeout after cfgadm unconfigure N0.SB0::mem (BugID 6379866)

In some systems using UltraSPARC IV+ cpu/memory boards, the use of this command,

```
# cfgadm -c unconfigure N0.SB0::memory
```

can lead to system panics.

**Workaround:** Apply the appropriate patches to your Solaris OS.