Sun Fire™ Entry-Level Midrange Systems Firmware 5.17.0 Release Notes

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Sun Fire Entry-Level Midrange Systems Firmware 5.17.0 Release Notes

This document provides information on new and revised features, as well as late-breaking news, for firmware release 5.17.0 on Sun Fire E2900/V1280/Netra 1280 systems.

This document contains the following topics:

- Features Introduced in the 5.17.0 Release
- General Information
- Known Limitations for Sun Fire Entry-Level Midrange Systems

Features Introduced in the 5.17.0 Release

Starting with the 5.17.0 release, the firmware supports both the Sun Fire midrange systems (E6900/E4900/6800/4810/4800/3800) and the Sun Fire entry-level midrange systems (E2900/V1280/Netra 1280). This section provides a brief description of the new features in 5.17.0 for Sun Fire entry-level midrange systems.

Automatic Diagnosis and Domain Restoration

The following error 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 as AD 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.

- 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 Entry-Level Midrange System Administration Manual*.

Domain Diagnosis Events

Starting with the 5.17.0 release, certain 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 /var/adm/messages file.

  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.

See the *Sun Fire Entry-Level Midrange System Administration Manual* for further information.

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 change a component location status through the `setls` command. This command replaces the `disablecomponent` and `enablecomponent` commands, which were previously used to blacklist and enable components, respectively.

Sun recommends that you use the `setls` command rather than the `disablecomponent` and `enablecomponent` commands, even though those commands are still supported in 5.17.0.

Persistent Logging

In midrange systems configured with SC V2s (enhanced-memory system controllers), system error messages and certain types of message logs are retained in persistent storage. You can determine if your system is configured with SC V2s by running the `showsc` command. For an example of the `showsc` output, refer to the command description in the *Sun Fire Entry-Level Midrange System Controller Command Reference Manual*.

- The persistent system error messages can be viewed by using the `showerrorbuffer [-p [-n` *nnn*`]]` command, where *nnn* indicates the last number of messages in the log to be displayed
- The persistent logs can be viewed by using the `showlogs [-p [-f` *filter*`][-n` *nnn*`]]` command, where *filter* indicates the type of message log and *nnn* indicates the last number of messages in the log to be displayed.

The information displayed can be used by your service provider for troubleshooting purposes. For details on message logs and system error messages, refer to the *Sun Fire Entry-Level Midrange System Administration Manual* and the `showerrorbuffer` and `showlogs` command descriptions in the *Sun Fire Entry-Level Midrange System Controller Command Reference Manual.*

Showerrorbuffer

Sun Fire entry-level midrange systems have the following:

- All entry-level midrange systems have a dynamic showerrorbuffer that provides short-term storage of system error records. Once the system errors are recorded in the message log buffer, system error records are cleared automatically from the dynamic showerrorbuffer whenever more space in the buffer is required.

- Entry-level midrange systems with SC V2s have both dynamic and persistent showerrorbuffers. The persistent showerrorbuffer captures the system errors that occur and stores the system error records until the showerrorbuffer is full. Once the persistent showerrorbuffer is full, any new system error records will overwrite the existing error records in the persistent buffer, starting with the records at the beginning of the buffer.

Supported Board Types

The 5.17.0 release adds support for the following:

- Enhanced-memory system controllers — These boards are identified as SC V2 in the `showboards` and `showsc` command output. For details on replacing system controller boards with SC V2s, refer to the *Sun Fire Entry-Level Midrange System Administration Manual* (817-5232) and the *Sun Fire System Controller Board, Version 2 (Enhanced Memory) Installation Guide (*817-4121).
- UltraSPARC™ IV CPU/Memory boards — For information on upgrading systems with UltraSPARC IV CPU/Memory boards, refer to the *Sun Fire E2900/V1280 and Netra 1280 Systems CPU/Memory Board Upgrade Requirements Guide* (817-5952) and the *Sun Fire Entry-Level Midrange Systems CPU/Memory Board Installation Guide* (816-2675).

Commands Modified for 5.17.0

The following SC commands were changed in 5.17.0:

- `setls` – Added. Replaces the `enablecomponent` and `disablecomponent` commands.
- `enablecomponent` – Deprecated but still supported. Use the `setls` command instead.
- `disablecomponent`– Deprecated but still supported. Use the `setls` command instead.
- `setupnetwork` – Addition of the `Connection type` attribute. By default the remote connection type: `telnet` is disabled.
- `shownetwork` – Addition of the `Connection type` attribute.
- `showerrorbuffer [-p [-n` *nnn*`]]` – New options that enable you to see persistent system errors (provided that you have SC V2s)
- `showlogs [-p [-f` *filter*`][-n` *nnn*`]]` – New options that enable you to see persistent message logs (provided that you have SC V2s)

For details on these commands, refer to their descriptions in the *Sun Fire Entry-Level Midrange System Controller Command Reference Manual.*

Documentation for Sun Fire Entry-Level Midrange (E2900/V1280/Netra 1280) Systems

- *Sun Fire Entry-Level Midrange System Administration Guide* (part number 817-5233-10)
- *Sun Fire Entry-Level Midrange System Controller Command Reference Manual* (part number 817-5232-10)
- *Sun Fire Entry-Level Midrange System Firmware 5.17.0 Release Notes* (part number 817-5234-10)

General Information

Requirements for Entry-Level Midrange Systems

The Sun Fire E2900 systems require 5.17.0 firmware or greater and the Solaris 8 2/04 or Solaris 9 4/04 operating environments as the minimum Solaris releases.

TABLE 1 Minimum Firmware and Software Versions Supported on Entry-Level Midrange Systems

Sun Fire E2900 Systems	Sun Fire V1280/Netra 1280 Systems	Solaris 8 OS	Solaris 9 OS
5.17.0 firmware	5.17.0 firmware	Solaris 8 2/04	Solaris 9 4/04
	5.13.001x firmware	Solaris 8 2/02	Solaris 9 4/03

Note – The Sun Fire E2900 systems and systems that contain UltraSPARC IV boards, must run firmware version 5.17.0 or greater. Earlier firmware versions do not support the UltraSPARC IV CPU/Memory boards. Entry-Level midrange systems with SC V2s (but without UltraSPARC IV CPU/Memory boards) can be downgraded from 5.17.0 to 5.13.001x firmware releases, but note that those earlier releases will not support features introduced in 5.17.0.

Firmware Compatibility

To ensure compatibility, flash all system boards and the system controller with the same version of the firmware. To upgrade a system running a 5.13.x version of the firmware to the 5.17.x firmware,

1. **Update the firmware on the SC:**

   `flashupdate -y -f` *<url>* **`scapp rtos`**

2. **Update the system boards:**

   `flashupdate -y -f` *<url>* **`systemboards`**

   After the update, shutdown the Solaris environment if it is active and use the `poweroff` command to power off all the boards, then use the `poweron` command to bring the Solaris environment up again.

   Similarly, to downgrade a system running a 5.17.x version of the firmware to a 5.13.x version, use the same 2-step procedure described above, then shutdown the Solaris environment and issue the `poweroff` command then the `poweron` command again, in that order.

   Sun Fire E2900 systems (and other systems that contain UltraSPARC IV boards) must run firmware version 5.17.0 or greater. Earlier firmware versions do not support the UltraSPARC IV CPU/Memory boards.

   Detailed instructions for upgrading firmware are provided in the *Sun Fire Entry-Level Midrange System Administration Manual*. That manual also contains instructions for downgrading to an earlier version of the firmware.

Known Limitations for Sun Fire Entry-Level Midrange Systems

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

Domain Hard Hang After Multiple `reset-all` Commands at OK Prompt (BugID 4951098)

Performing multiple reset-all commands at the OBP level can cause domain hard hangs.

Workaround: Avoid running multiple `reset-all` commands.

Console Input Does Not Resume on a Failed Cycle Keyswitch(BugID 4992950)

If an error occurs while the domain is up and the result of the error is that all CPUs in the domain fail, a user connected to the SC console will get the message:

```
lom: No usable Cpu board in the domain.
```

The SC console will stop responding to user input.

Workaround: Power cycle the system for the SC to start responding again to user input.

Error Events Are Being Reported After an Automatic Restoration Has Initiated (BugID 4985737)

After an automatic diagnosis [AD] message occurs, subsequent error events concerning the domain continue to be displayed even after the message indicating that automatic domain restoration has occurred.

Workaround: After the first AD message and the message indicating that automatic domain restoration occurs, ignore the subsequent event error messages displayed for the domain.

Repetitive Message "`The error buffer is full`" Can Overwrite Persistent Logs (BugID 4987854)

When the dynamic showerrorbuffer is full (contains 100 error records), the message "`The error buffer is full`" can appear repeatedly in the persistent showerrorbuffer of systems with SC V2s and overwrite the system errors stored in the persistent buffer.

Workaround: None.

"`The error buffer is full`" Message is Misleading (BugID 5011243)

As each error in the dynamic showerrorbuffer is interpreted and reported to the message log buffer, those errors no longer need to be retained in the dynamic showerrorbuffer. These errors are removed from the buffer whenever space for new errors is required. As a result, this message is not necessary.

Workaround: This message does not affect domain or platform operation. Ignore this message. However this message can potentially fill the persistent showerrorbuffer. See also BugID 4987854.