

System Controller Software 1.6 Update Guide

System Controller Software 1.6 provides a system control platform for field service and system maintenance applications. It includes the following features:

- Advanced diagnostic support
- Maintenance of the SGI® Altix™ and SGI® Origin® 3000 system serial number
- Maintenance of the SGI Altix and SGI Origin 3000 router port enable
- Console for the L1 and L2 system controllers

You can download the System Controller Software 1.6 package from <http://support.sgi.com/apps/> or order it on CD-ROM (P/N 812-1138-007). Contact your SGI account representative if you need assistance obtaining the software package.

This guide contains the following sections:

- Components of Release Packages (page 2)
- Related Information (page 4)
- Installing from a Downloaded Package (page 5)
- Installing from the CD-ROM (page 8)

- Reinstalling on a Silicon Graphics® 230 Visual Workstation (page 11)
- Installing on a Silicon Graphics 230 Visual Workstation Preinstalled with Red Hat Linux (page 13)
- New Features and Changes (page 14)

Components of Release Packages

This section lists the components of each of the following release packages:

- System Controller Software 1.6 (for an L3 controller)
- System Controller Software 1.6 (for the IRIX operating system)
- System Controller Software 1.6 (for SGIconsole™)
- System Controller Software 1.6 (for the SGI ProPack™ for Linux operating system)

System Controller Software 1.6 (for an L3 controller) has the following components:

- Kernel software for the Red Hat 6.2 kernel
- L1 USB module for the Red Hat 7.1 kernel
- L1 USB module for the Red Hat 7.2 kernel
- L1 USB module for the Red Hat 7.3 kernel
- L1 USB module for the Red Hat 8.0 kernel

- L1 USB module for the Red Hat 9.0 kernel
- L1 USB module for the SGI ProPack 1.5 for the Linux kernel
- L1 USB module for the SGI XFS 1.0 kernel
- L1 USB module for the SGI XFS 1.1 kernel (supports Red Hat 7.1 and 7.2 [2.4.9-31] kernel versions)
- L1 USB module for the SGI XFS 1.1 kernel (supports Red Hat 2.4.18 vanilla kernel versions)
- L1 USB module for the SGI XFS 1.0.1 kernel
- L1 USB module for the SGI XFS 1.0.2 kernel
- L3 driver
- L1/L2 firmware utilities
- Installation tool
- Silicon Graphics 230 Red Hat 6.2 reinstallation script
- L1 USB build script
- L1 USB source files (supports Linux 2.4.x kernels)

System Controller Software 1.6 (for the IRIX operating system) has the following component:

- L1/L2 firmware utilities

System Controller Software 1.6 (for SGIconsole) has the following components:

- L3 driver
- L1/L2 firmware utilities
- Installation tool

System Controller Software 1.6 (for the SGI ProPack for Linux operating system) has the following components:

- L1/L2 firmware utilities
- Installation tool

Related Information

For more information about the SGI L1, L2, and L3 controllers, see the following guides:

- *SGI Origin 3000 L3 Controller Installation Guide* (007-4363-00x)
- *SGI Origin 3000 Series Owner's Guide* (007-4240-00x)
- *SGI L1 and L2 Controller Software User's Guide* (007-3938-00x)

Installing from a Downloaded Package

This section explains how to install, from a downloaded package, System Controller Software 1.6 for an L3 controller, for the IRIX operating system, for SGIconsole, and for the SGI ProPack for Linux operating system.

To install the System Controller Software 1.6 components for an L3 controller, follow these steps:

1. Log on to the L3 controller as root.
2. Enter the following commands:
cd /dir
 where *dir* is the directory in which you downloaded the software
chmod 755 install
chmod 755 sgi230_l3_reinstall
./install
3. To reboot the system, enter the following command:
reboot
4. After the system reboots, remove the files that you downloaded.

To install the System Controller Software 1.6 components for the IRIX operating system, follow these steps:

1. Log on to the IRIX system as root.
2. Enter the following commands:
cd /dir
 where *dir* is the directory in which you downloaded the software
tar -xf 6.5.12-24_field_diags_sysco.tar
inst -f field_diags_sysco
3. After the installation is complete, remove the files that you downloaded.

To install the System Controller Software 1.6 components for an SGIconsole system, follow these steps:

1. Log on to the SGIconsole system as root.
2. Enter the following commands:
cd /dir
 where *dir* is the directory in which you downloaded the software
chmod 755 install
./install
3. After the installation is complete, remove the files that you downloaded.

To install the System Controller Software 1.6 components for the SGI ProPack for Linux operating system, follow these steps:

1. Log on to the SGI ProPack system as root.
2. Enter the following commands:
cd /dir
 where *dir* is the directory in which you downloaded the software
chmod 755 install
./install
3. After the installation is complete, remove the files that you downloaded.

Installing from the CD-ROM

This section explains how to install, from the CD-ROM, System Controller Software 1.6 for an L3 controller, for the IRIX operating system, for SGIconsole, and for the SGI ProPack for Linux operating system.

To install the System Controller Software 1.6 components for an L3 controller, follow these steps:

1. Log on to the L3 controller as root.
2. Insert the System Controller Software 1.6 CD-ROM into the CD-ROM drive.
3. Enter the following commands:
cd /mnt/cdrom/RPMS/i386
./install
4. Remove the CD-ROM from the CD-ROM drive.
5. To reboot the system, enter the following command:
reboot

To install the System Controller Software 1.6 components for the IRIX operating system, follow these steps:

1. Log on to the IRIX system as root.
2. Insert the System Controller Software 1.6 CD-ROM into the CD-ROM drive.
3. Enter the following commands:

```
# cd /mnt/cdrom/dist  
# inst -f field_diags_sysco
```
4. Remove the CD-ROM from the CD-ROM drive.

To install the System Controller Software 1.6 components for an SGIconsole system, follow these steps:

1. Log on to the SGIconsole system as root.
2. Insert the System Controller Software 1.6 CD-ROM into the CD-ROM drive.
3. Enter the following commands:

```
# cd /mnt/cdrom/RPMS/i386  
# ./install
```
4. Remove the CD-ROM from the CD-ROM drive.

To install the System Controller Software 1.6 components for the SGI ProPack for Linux operating system, follow these steps:

1. Log on to the SGI ProPack system as root.
2. Insert the System Controller Software 1.6 CD-ROM into the CD-ROM drive.
3. Enter the following commands:

```
# cd /mnt/cdrom/RPMS/ia64  
# ./install
```
4. Remove the CD-ROM from the CD-ROM drive.

Reinstalling on a Silicon Graphics® 230 Visual Workstation

If you install System Controller Software 1.6 for an L3 controller on a Silicon Graphics 230 visual workstation and later need to restore the workstation to the original factory configuration and reload the system controller software, you must complete the following steps:

1. Complete the steps in the “Installing the Auxiliary Linux Software” section of the *SGI Origin 3000 L3 Controller Installation Guide*. (The section ends on page 18 of that document.)
2. To run the `sgi230_13_reinstall` script, enter the following command:

```
# ./sgi230_13_reinstall
```

The `sgi230_13_reinstall` script automatically installs additional Red Hat Linux components that are normally installed at the factory. The script takes several minutes to run; it lists each package it installs and displays a progress bar as it installs each package.

3. Perform one of the following actions:
 - To install System Controller Software 1.6 from a downloaded package, complete steps 2 through 4 of the procedure for installing the software for an L3 controller in the “Installing from a Downloaded Package” section on page 5.
 - To install System Controller Software 1.6 from the CD-ROM, complete steps 2 through 5 of the procedure for installing the software for an L3 controller in the “Installing from the CD-ROM” section on page 8.

Installing on a Silicon Graphics® 230 Visual Workstation Preinstalled with Red Hat Linux

To install System Controller Software 1.6 for an L3 controller on a Silicon Graphics 230 visual workstation preinstalled with the Red Hat Linux 6.2 operating system, you must load additional software packages before you can load the L3 controller software. Follow these steps:

1. Complete the steps in the “Installing the Auxiliary Linux Software” section of the *SGI Origin 3000 L3 Controller Installation Guide*. (This section ends on page 18 of that document.)
2. Perform one of the following actions:
 - To install System Controller Software 1.6 from a downloaded package, complete steps 2 through 4 of the procedure for installing the software for an L3 controller in the “Installing from a Downloaded Package” section on page 5.
 - To install System Controller Software 1.6 from the CD-ROM, complete steps 2 through 5 of the procedure for installing the software for an L3 controller in the “Installing from the CD-ROM” section on page 8.

Note: To use the Network Configurator GUI to configure the network after the workstation has booted the operating system, see the “Configuring Network Settings” section on page 12 of the *SGI Origin 3000 L3 Controller Installation*

Guide. To use the User Configurator GUI to configure user accounts, see the “Configuring the Account” section on page 15. To connect the Silicon Graphics 230 visual workstation to an SGI Origin 3000 series server, see pages 21-27 of the *SGI Origin 3000 L3 Controller Installation Guide* for the sections that are appropriate for your system configuration.

New Features and Changes

This section lists the new features and changes included in this release for firmware and software in the following sections:

- L1 Firmware (page 15)
- L2 Firmware (page 18)
- L3 Software (page 19)

Caution: Before you install the L1 or L2 firmware, follow the instructions in service bulletin GIB 200215. If you currently have L1 firmware version 1.6.1 or older installed, upgrade to the L1 firmware in this release. This release enables router port security and system serial number security features. If the system is not configured properly, these features can prevent R-bricks from powering on or booting.

L1 Firmware

This section lists the changes in the L1 firmware.

Added Commands

- `env power monitor` Command disables brick shutdown on power faults, but still displays all messages.
- `ssi` Command shows the stored single-system image (SSI) size limit.
- `ssi <a> <c> <d>` These commands allow the setting of a new SSI size limit with a valid authentication key.

Changed Commands

- `env` Command displays the automatic fan control zone information on Silicon Graphics® Tezro™ workstations.
- `pimm` Enabled the command to support additional SGI Origin 350 configurations that were not previously supported.
- `serial dimm v|verbose` Command displays the DIMM manufacturer date code.

<code>serial all v verbose</code>	Command displays the DIMM manufacturer date code.
<code>softreset</code>	Command no longer causes an L1 PANIC on SGI Origin 350 bricks.
<code>war *</code>	Disabled unneeded command on SGI Altix 350 systems.

Added Features

- Added support for storing a maximum Single System Image (SSI) size in NVRAM and the ability to change it using authentication keys on SGI Altix systems.
- Added support for commodity Dataram DDR266 and Dataram DDR333 DIMMs in SGI Altix 350 systems.
- Added support for 2GB DIMMs in SGI Altix 3000 C-bricks.

Other Changes

- Minor modifications to the environmental monitoring thresholds for SGI Altix 350 systems that allows a full 8-brick system to operate in a half rack without invalid thermal warnings.
- Reduced the minimum low fan speed threshold on SGI Origin 350 and SGI Altix 350 exhaust fans so that fans operating within the manufacturer's specifications do not cause fan speed warnings.

- Minor field-replaceable unit (FRU) Analyzer changes.
- Fixed the `env faultsonly` command setting so it only prints messages for environmental conditions that cause the brick to power down.
- Removed all SHUB L1 WAR handling for the SGI Altix 350 bricks, as it is not needed and was causing problems.

Bugs Addressed

- 906898 OPus war handling by the L1
- 907777 softreset command causes L1 PANIC on O350
- 907998 Enhance the L1 to store the maximum SSI node count securely
- 908178 ATTN messages with 'env messages faultsonly' on SGI™ Altix™ 350
- 909827 Need DIMM date code data from the L1
- 910442 System interruptions caused by DS1780 chip problems

L2 Firmware

This section lists the changes in the L2 firmware.

Added Features

- Added support for storing a maximum Single System Image (SSI) size in NVRAM and the ability to change it using authentication keys on SGI Altix systems.
- When an L2 console session is in partition mode (i.e. after issuing the `sel p <part>` command), the L2 prompt will show the currently selected partition in the format `N1234567-001-L2:p1>`.

Other Changes

- Minor FRU Analyzer fixes.
- L2 no longer inserts extra carriage returns in the system console output.

Bugs Addressed

- 900761 SGI Altix L2 display only shows individual bricks through slot 31
- 901809 Remove all CR/LF translation on the L1/L2 system console display
- 910556 make L1 and L2 console output behavior consistent
- 911158 Request to make L2 prompt display partition currently selected

L3 Software

This section lists the changes from the previous release, for the L3 software.

Changed Commands

- `install` The System Controller Software release will no longer provide L1 USB kernel driver modules for new kernels. If the installer detects a kernel for which there is no `kernel_sgisl_usb*` RPM available, the installer will invoke the `sgill_make_driver` script to build the `sgill` USB driver during the install.
- Added the `-nokernel` command-line option. This option causes the installer to skip all building and installing of kernels and/or kernel modules.
- `flashsvf` Application now supports updating EEPROMs on Scalable Graphics Capture (SGC) cards, using the `sgc.svf` file.

Changes from Previous Release

- The IO10 IOC4 PROM (version 0.79) image file `io10.svf` has been added to this release.
- Removed the RedHat 9.0 update kernel module named `kernel_sgisnx_usb-2.4.20-13.9*`. It was not built correctly and would not install. L1 USB driver support for this and all future kernels will be provided by building the driver during the package install.

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