

System Controller Software 1.0 Update Guide

The System Controller Software 1.0 provides a system control platform for field service and system maintenance applications. It includes the following features:

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

You can download the System Controller Software 1.0 package from <http://www.sgi.com/products/evaluation/> or order it on CD-ROM (SGI part number 812-1138-001). 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 7)

- Reinstalling on a Silicon Graphics 230 Visual Workstation (page 9)
- Installing on a Silicon Graphics 230 Visual Workstation Preinstalled with Red Hat Linux (page 11)
- New Features and Changes (page 12)

Components of Release Packages

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

- System Controller 1.0 (for L3 Controller)
- System Controller 1.0 (for the IRIX operating system)
- System Controller 1.0 (for SGIconsole)

The System Controller 1.0 software (for L3 Controller) has the following components:

- Kernel software
- 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 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)

The System Controller 1.0 software (for the IRIX operating system) has the following component:

- L1/L2 firmware utilities

The System Controller 1.0 software (for SGIconsole) has the following components:

- L3 driver
- 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, the System Controller Software 1.0 for an L3 controller, for the IRIX operating system, and for the SGIconsole.

To install the System Controller 1.0 software 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 1.0 software 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 6.5.18_field_diags_sysco.tardist
```

```
# inst -f field_diags_sysco
```
3. After the installation is complete, remove the files that you downloaded.

To install the System Controller 1.0 software 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.

Installing from the CD-ROM

This section explains how to install, from the CD-ROM, the System Controller Software 1.0 for an L3 controller, for the IRIX operating system, and for the SGIconsole.

To install the System Controller 1.0 software components for an L3 controller, follow these steps:

1. Log on to the L3 controller as root.
2. Insert the System Controller Software 1.0 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 1.0 software components for the IRIX operating system, follow these steps:

1. Log on to the IRIX system as root.
2. Insert the System Controller Software 1.0 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 1.0 software components for an SGIconsole system, follow these steps:

1. Log on to the SGIconsole system as root.
2. Insert the System Controller Software 1.0 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.

Reinstalling on a Silicon Graphics 230 Visual Workstation

If you install the System Controller 1.0 software 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 that it installs and displays a progress bar as it installs each package.

3. Perform one of the following actions:
- To install the System Controller 1.0 software 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 the System Controller 1.0 software 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 7.

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

To install the System Controller 1.0 software 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. 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*. (This section ends on page 18 of that document.)
2. Perform one of the following actions:
 - To install the System Controller 1.0 software 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 the System Controller 1.0 software 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 7.

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 configure user accounts (using the User Configurator GUI), see the “Configuring the Account” section on page 15. To connect the Silicon Graphics 230 visual workstation to an 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 14)
- L2 Firmware (page 15)
- L3 Software (page 16)

Caution: Before you install the L1 or L2 firmware, follow the instructions in service bulletin GIB 200215. If you currently have L1 firmware version 1.4.1 or older installed, upgrading to the L1 firmware in this release

enables router port security and system serial number security features. If your system is not configured properly, these features can prevent your R-bricks from powering on or booting.

L1 Firmware

This section lists the changed commands, added features, and bugs addressed for the L1 firmware.

Changed Commands

dsp	Updated to respond command not supported instead of Error: Display:DISPLAY_UNINITIALIZED for Silicon Graphics Fuel visual workstations.
leds	Updated to correctly report the status for CPUs C and D on Origin 300 systems.

Added Features

- Added PCIBUSE_M66EN I/O expander bit workaround for intermittent reset problems with the QL12160 card on Origin 300 systems.
- Added support for revision 008 I-brick (030-1557-008).
- Stopped displaying JunkBus PPP errors on the console. (These errors are still logged in the L1 NVRAM.)

Bugs Addressed

- 865897 Debug seeting to "3" doesn't work on 030-1557-008 I-brick
- 863079 ioprt hangs pe-brick controller firmware
- 862920 L1 1.14.1 does not work with speedo2 2CPU
- 862287 001a01 ERROR: Display:DISPLAY_UNINITIALIZED
- 861854 leds doesn't report status for CPU C/D

L2 Firmware

This section lists the changes made and bugs addressed for the L2 firmware.

Changes Made

Removed the following unimplemented buttons from the L2 graphical user interface (GUI):

- System Info...
- Warnings/Faults...
- L1/L2 Logs...
- Performance Graphs...

These buttons were removed from the GUI in L2 version 1.12.x, but the buttons reappeared in L2 version 1.14.x.

Bugs Addressed

841821 Remove inactive L2 display button

L3 Software

This section lists the changed applications for the L3 software and the changes from the previous release of the L3 software.

Changed Applications

`install` System controller software installer (formerly `l3_install`):
Added the ability to handle RPM package names that contain either the `sn1` prefix or `snx` prefix (required to support the new System Controller Software 1.0 release).
Added the `-remove` option to uninstall the system controller software. Because of the change in RPM names (from an `sn1` prefix to an `snx` prefix), you must use this option to uninstall any package containing the `snx` prefix in the RPM name before you can install an older package containing the `sn1` prefix in the RPM name.

- `flashsc` System controller firmware update utility:
Added support for the composite `l1.bin` image file, which contains 1-MB and 2-MB images. `flashsc` determines which image to flash on each brick (based on brick type) and flashes any combination of 1-MB and 2-MB image bricks simultaneously.
- 12 L2 emulator utility:
All L2 firmware changes listed in “L2 Firmware” on page 15 also apply to the L2 emulator.
- 12gui L2 GUI display utility:
All L2 GUI changes listed in “L2 Firmware” on page 15 also apply to the L2 GUI display utility on the L3 system controller.

Changes from Previous Release

- Added modules for use with the Red Hat 7.3 Linux kernel and the generic 2.4.18 SGI XFS 1.1 Linux kernel.
- Fixed dependency checking and generation for the `sgill.o` driver module. In previous versions, undefined symbols might be reported if the `sgill.o` module loaded before the `usbcore.o` module was loaded. This occurred because the `sgill.o` module was not built correctly and the `depmod -a` command could not properly determine the dependencies that `sgill.o` had on other kernel modules. This release fixes the problem.

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