System Controller Software 1.4 Update Guide

System Controller Software 1.4 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 Origin 3000 system serial number
- Maintenance of the SGI Altix and Origin 3000 router port enable
- Console for the L1 and L2 system controllers

You can download the System Controller Software 1.4 package from http://support.sgi.com/apps/ or order it on CD-ROM (P/N 812-1138-005). Contact your SGI account representative if you need assistance obtaining the software package.

This guide contains the following sections:

Components of Release Packages

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

- System Controller Software 1.4 (for an L3 controller)
- System Controller Software 1.4 (for the IRIX operating system)
- System Controller Software 1.4 (for SGIconsole)
- System Controller Software 1.4 (for the SGI ProPack for Linux operating system)

System Controller Software 1.4 (for an 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 Red Hat 8.0 kernel
- L1 USB module for the Red Hat 9.0 kernel
- L1 USB module for the Red Hat 9.0 patch 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 1.4 (for the IRIX operating system) has the following component:

- L1/L2 firmware utilities

System Controller Software 1.4 (for SGIconsole) has the following components:

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

System Controller Software 1.4 (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* (007-4363-00*x*)
- *SGI Origin 3000 Series Owner's Guide* (007-4240-00*x*)
- *SGI L1 and L2 Controller Software User's Guide* (007-3938-00*x*)

Installing from a Downloaded Package

This section explains how to install, from a downloaded package, System Controller Software 1.4 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 1.4 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 1.4 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 6.5.12-22_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 1.4 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 1.4 components for the SGI ProPack forLinux 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 1.4 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 1.4 components for an L3 controller, follow these steps:

1. Log on to the L3 controller as root.
2. Insert the System Controller Software 1.4 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 1.4 components for the IRIX operating system, follow these steps:

1. Log on to the IRIX system as root.
2. Insert the System Controller Software 1.4 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 1.4 components for an SGIconsole system, follow these steps:

1. Log on to the SGIconsole system as root.
2. Insert the System Controller Software 1.4 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 1.4 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 1.4 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 1.4 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_l3_reinstall` script, enter the following command:

   ```
   # ./sgi230_l3_reinstall
   ```

   The `sgi230_l3_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 System Controller Software 1.4 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 1.4 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 1.4 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 1.4 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 1.4 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 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:

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 changes in the L1 firmware.

Added Features

- Improved partitioning support for Altix systems: system reset and power-up changes were incorporated to allow a partition to be powered up or down, or reset, without crashing other running partitions.
- Improved support for reading IPMI EEPROM information from Delta DPS500 power supplies (used in the Origin 350 product).

Other Changes

- The power-up supply order was changed for the Origin 350 server and Tezro Workstation to fixed the QLogic QLA2342 EEPROM corruption problem.
- Temperature monitoring while environmental monitoring is disabled was fixed. Previous versions disabled ALL temperature monitoring when the `env off` command was issued; in this version the shutdown temperature is correctly monitored even when environmental monitoring is disabled.

- Communications between IRIX and the L1/L2 Controllers was fixed to allow the FPGA EEPROM update utility `flashsvf` to operate properly under IRIX on systems without an L2 Controller.

Bugs Addressed

884685 Chimera workstation front panel fault & service LEDs always on

886501 error deselecting NODE DIMM I2C multiplexor on L1 boot

890921 Altix L2 reset command panics other partition

891012 Chimera desktop workstation - 1 133 MHz PCI card OK on 3-slot PCI bus

892982 L1 'pci' cmd on Chimera workstation -- bus order incorrect

893525 Snowball detected error when SCSI card at bus 2 slot 3

893528 Seeing nvram checksum error on 2342's on chimera systems

893529 'pci' command not supported on the PX2U brick.

897209 Serial command doesn't interpret data correctly on Micron dimms in Altix.

898016 Altix power-up causes NUMAlink ports to go down

898998 L1 firmware doesn not reconize snowball with SPD prom

899592	IRouter:read failed - read error on PE-Brick to R-Brick connection

L2 Firmware

This section lists the changes in the L2 firmware.

Added Features

- Improved large system stability:
  - Overall L2 Controller memory usage was reduced, which should result in increased stability.
  - A large memory leak was fixed, which should result in better L2 Controller performance over time (e.g. less performance degradation over extended uptime).

Other Changes

- Telnet port 5000 is now password-protected.
- The system console selection algorithm was changed. The L2 Controller now selects the C-brick that has produced system console output as the receiver of system console input; the algorithm no longer favors C-bricks with an attached I/O brick.
- Fixed interference that could occur between L2 Controller and a SAN configuration web interface running on a machine on the same subnet as the L2 Controllers (caused the L2's to attempt repeated connections to the machine running the SAN configuration web interface).

Bugs Addressed

895092	l2 allows unauthenticated access to shell via port 5000 even if l2 password set

L3 Software

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

Changes from Previous Release

- The `flashsvf` tool was enhanced to support updating the FPGA configuration EEPROM on the ImageSync (IS1) card.
- The `flashsvf` tool can now be run from IRIX when the system is running.
- The `flashsvf` tool now supports flashing when multiple flashable cards are installed in a brick.
- The ImageSync (IS1) PROM image (version 1.10) was added to the release.