# System Controller Software 1.1 Update Guide

System Controller Software 1.1 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 1.1 package from http://support.sgi.com/apps/ or order it on CD-ROM (P/N 812-1138-002). 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)

## Components of Release Packages

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

- System Controller Software 1.1 (for an L3 controller)

- System Controller Software 1.1 (for the IRIX operating system)

- System Controller Software 1.1 (for SGIconsole)

System Controller Software 1.1 (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 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 1.1 (for the IRIX operating system) has the following component:

- L1/L2 firmware utilities

System Controller Software 1.1 (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, System Controller Software 1.1 for an L3 controller, for the IRIX operating system, and for SGIconsole.

To install the System Controller Software 1.1 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 1.1 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 Software 1.1 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, System Controller Software 1.1 for an L3 controller, for the IRIX operating system, and for SGIconsole.

To install the System Controller Software 1.1 components for an L3 controller, follow these steps:

1. Log on to the L3 controller as root.

2. Insert the System Controller Software 1.1 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 1.1 components for the IRIX operating system, follow these steps:

1. Log on to the IRIX system as root.

2. Insert the System Controller Software 1.1 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 1.1 components for an SGIconsole system, follow these steps:

1. Log on to the SGIconsole system as root.

2. Insert the System Controller Software 1.1 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 System Controller Software 1.1 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 1.1 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 1.1 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 System Controller Software 1.1 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 1.1 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 1.1 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 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:

- L1 Firmware (page 13)
- L2 Firmware (page 15)
- L3 Software (page 18)

**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 added commands, changed commands, added features, other changes, and bugs addressed for the L1 firmware.

### Added Commands

| | |
|---|---|
| cpu <node> <cpu> e\|d | Command added that allows you to either enable or disable CPUs on a specified IP53 node. |
| node <varous args> | Command added that allows you to either enable or disable specified IP53 nodes. |
| prom sel a\|b | Command added that allows you to select which of the two available PROM images you want to use. |
| reset <node> | Command added that allows you to reset a specified IP53 node. |

### Changed Commands

| | |
|---|---|
| dsp 1\|2 <string> | Command fixed so that selected string is displayed correctly. |
| leds | Command fixed so that only one CPU is displayed on a Silicon Graphics Fuel visual workstation. |

## Added Features

- Added support for IP53 bricks.

- Improved support for PX- and IX-bricks.

- General enhancements for handling multi-node bricks such as IP53 bricks.

## Other Changes

- The `"Power Margin Malfunction"` error was fixed. It occurred during margining of I- and P-bricks on a Silicon Graphics Fuel visual workstation.

- Origin 300 system temperature monitoring thresholds were changed to allow systems to run at 50 ˚C.

- The router statistic query mechanism was enhanced to allow multiple copies of the `numastatd` daemon to run correctly on partitioned systems.

- A temperature monitoring bug was fixed. It occurred when a brick was powered on with the `pwr up` command.

- The `"system console changed:"` messages displayed by the L1 early in system power-on were removed. You can enable or disable the messages for debug by using the `l1dbg console on|off` command.

## Bugs Addressed

857280    1.12.6 L1 shows 4 processors for Fuel

867261    Display command in l1 firmware 1.14.4 does not work.

870478    Fuel fails with "Power Margin Malfunction" with L1 1.16.0

871545    Temp and fan monitoring not active on O300/Fuel bricks with
          L1 1.16.x

## L2 Firmware

This section lists the added commands, changed commands, added
features, other changes, and bugs addressed for the L2 firmware.

### Added Commands

password          Command added that allows you to show the current
                  password state (enabled or disabled).

password          Command added that allows you to set a new password.
set <pw>

| password clear | Command added that allows you to clear a password, when issued from the console or modem ports. |
| password clear <pw> | Command added that allows you to clear the L2 password from anywhere that <pw> is the current L2 password. |

## Changed Commands

| cfg s | The display of the summary and count of brick types in the system was fixed. It now accounts properly for dual-ported bricks. |

## Added Features

- Password protection was added for L2 connections. The password commands are described in the "Added Commands" section. The password features are as follows:

  - The password feature is disabled by default.

  - All telnet and l2term text-based connections are password-protected.

  - All other tools that make "binary" connections to the L2 controller (for example, flashsc, l1cmd, and l2cmd) must also provide a password. The tools support a --pw

&lt;password&gt; option to set the password via the command line. You will also be prompted for a password if one was not specified but is required.

- The L2 console and modem serial ports are not password-protected. This allows you to clear or reset the password if forgotten.

- Any system controller activity originating from IRIX (for example, using the `flashsc` or `l2cmd` command) is not password-protected.

- The front panel L2 GUI display is not password-protected. You can disable access to the display by using the `l2dsp disable` command.

- You can now select the baud rate of the L2 modem serial port by using the `smp modem baud` command. Available baud rates are 9600, 19200, and 38400, with the default being 38400.

- The variable baud rate feature should allow a WYSE terminal to be attached to the L2 modem port without data loss at 9600 or 19200 baud.

- Support was added for console selection and tracking for multi-node bricks such as the IP53 brick.

### Other Changes

- The "`system console changed:`" messages displayed by the L2 early in system power-on were removed. You can enable or disable messages for debug by using the `l2dbg console 0|1` command.

- A maximum of five telnet connections into the L2 are allowed. In previous versions, six or more simultaneous telnet connections into an L2 would often cause the L2 to reboot.

### Bugs Addressed

824847  L2 does not communicate well with dumb (WYSE) terminals

833555  password capability on L2 case 2223147

835843  Serial port speed on the L2 brick is fixed at 38400

867165  Multiple telnets to L2 cause it to reboot

## 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

flashpbay    Power bay firmware utility:

The command now supports flashing through an L2 controller that is password-protected. You can provide the password by using the --pw option on the command line or by typing the password when prompted with the "Password:" prompt.

flashsc    System controller firmware update utility:

Version 1.0.3 supports flashing through an L2 controller that is password-protected. You may provide the password by using the --pw option on the command line or by typing the password when prompted with the "Password:" prompt.

Support was added for the composite l1.bin image file, which contains a 1-MB and a 2-MB image. The utility handles all details involved in determining which image to flash on each brick, based on brick type. The utility can flash any combination of 1-MB and 2-MB image bricks simultaneously.

l2          L2 emulator utility:

            All L2 firmware changes listed in "L2 Firmware" on page 15
            also apply to the L2 emulator.

l2gui       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

- Support was added for the --pw option as a generic L3 utility
  command-line option. This allows you to specify a password on the
  command line when connecting to a password-protected L2
  controller.