

SGI® Origin® 3000 Series L3 Controller 1.6 Update Guide

Overview

The L3 software consists of 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 SGI ProPack 1.5 for Linux kernel
- L1 USB module for the SGI XFS 1.0 kernel
- L1 USB module for the SGI XFS 1.0.1 kernel
- L3 driver
- L1/L2 firmware utilities
- L3 install tool
- SGI 230 Red Hat 6.2 re-install script

This product provides a system control platform for field service and system maintenance applications. Its features include:

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

This guide covers the following topics:

- Related Information
- Installing the Diagnostic Software from Downloaded Packages
- Reinstalling Red Hat Linux on SGI 230
- Installing Software on Systems with Pre-installed Red Hat Linux
- New Features and Changes

Related Information

The SGI Origin 3000 Series L3 Controller 1.6 is available for download from the following location:

<http://www.sgi.com/products/evaluation/>

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

- *SGI Origin 3000 L3 Controller Installation Guide*
- *SGI Origin 3000 Series Owner's Guide*

Installing the Diagnostic Software from Downloaded Packages

To install the diagnostic software, follow these steps:

1. Log on to the L3 platform as root.
2. Enter the following commands to install the diagnostic software:

```
# cd /dir
```

where *dir* is the place you downloaded the software

```
# chmod 755 l3_install
```

```
# l3_install
```
3. To reboot the system, enter the following:

```
# reboot
```
4. After you have completed the product install, you should remove the files that you downloaded.

Reinstalling Red Hat Linux on a Silicon Graphics 230

If you install the L3 controller software on a Silicon Graphics 230 visual workstation, you must perform some additional steps to restore the Red Hat Linux 6.2 operating system to the state in which it was installed at the factory. The basic installation instructions are in the *SGI Origin 3000 L3 Controller Installation Guide*. After performing the steps in the section "Installing the Auxiliary Linux Software" (p. 18), perform the following set of instructions to install the L3 controller software from downloaded packages.

Note: The `sgi230_l3_reinstall` script described in step 1 was made available starting with the SGI Origin 3000 Series L3 Controller 1.5 release.

1. Prior to executing the `l3_install` script in section 4 of the "Installation Instructions" on the <http://www.sgi.com/products/evaluation> website, enter the following command to copy the script to the proper script name:

```
# cp sgi230_l3_reinstall-1.0 sgi230_l3_reinstall
```
2. Type the following command to make the `sgi230_l3_reinstall` script executable:

```
# chmod 755 sgi230_l3_reinstall
```

3. Type the following command to run the script:

```
# ./sgi230_13_reinstall
```

The `sgi230_13_reinstall` script automatically installs additional Red Hat Linux components that are normally installed in the factory. This script installs additional required packages that are not part of the default Red Hat Linux installation. The script takes several minutes to run; it lists each package that it installs and displays a progress bar as it installs each package.

4. Continue with the steps in section 4 of the “Installation Instruction” on the website (the execution of the `13_install` script).

Installing Software on Systems with Pre-installed Red Hat Linux

If you install the L3 Controller software on a Silicon Graphics 230 visual workstation that has the Red Hat Linux 6.2 operating system pre-installed during manufacturing, you must perform some additional steps. Instructions for performing these steps are in the *SGI Origin 3000 L3 Controller Installation Guide*.

See the following sections in the *SGI Origin 3000 L3 Controller Installation Guide* for detailed installation instructions:

- Installation Overview (p. 2)

- Software Installation Requirements (pp. 2-4)
- Installing the Auxiliary Linux Software (p. 18)
- Installing the L3 Controller Software (p. 19)
- Installing the Software from the Network (p. 20)

Note: To configure the network (using the Network Configurator GUI) after the workstation has booted to OS, see the “Configuring Network Settings” section (pp. 12-14). To configure user accounts (using the User Configurator GUI), see the “Configuring the Account” section (p. 15). To connect the Silicon Graphics 230 visual workstation to an SGI Origin 3000 series server, see the sections in the back of the *SGI Origin 3000 L3 Controller Installation Guide* that are appropriate for your system configuration (pp. 21-27).

New Features and Changes

This section lists the new features and changes included in this release for the L1 firmware, L2 firmware, and the L3 software.

Note: BEFORE INSTALLING THIS FIRMWARE, FOLLOW THE INSTRUCTIONS AS OUTLINED IN SERVICE BULLETIN GIB 200215. If you are currently running L1 firmware version 1.4.1 or older, upgrading

to this version of L1 firmware enables router port security and system serial number security features. If your system is not configured properly, these features can cause your R-bricks not to power on or boot.

L1 Firmware

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

Added Commands

<code>env messages</code>	Shows the state of the environmental warning message disabling.
<code>env messages faultsonly</code>	Disables the environmental warning messages.
<code>env messages all</code>	Re-enables the environmental warning messages.
<code>lldbg pppdump on off</code>	Enables/disables the dump of PPP buffer data when any Bedrock PPP error occurs. (This is used for PPP error debugging.)
<code>pbay serial</code>	Returns the power bay ICMB card serial number.

Changed Commands

<code>brick part</code>	This command is now operational on Origin 300 bricks.
<code>date tz</code>	Cleaned up the timezone display. If the U.S. timezone is specified (for example, "CST6CDT"), that string will be displayed, rather than the fully expanded timezone specification displayed in previous versions.
<code>date tz <string></code>	Added validity checking. This command now requires a timezone string and offset (for example, "CST6").
<code>log insert <text></code>	Modified the syntax for the log command. It was previously defined as <code>log <text></code> .
<code>partdb enable disable</code>	This command is now operational on Origin 300 bricks.
<code>serial set <string></code>	Added range checking for system serial number. It must now be set to [LMN]0000000 through [LMN]3999999.

Added Features

Added support for recognizing new L1 brick types: Silicon Graphics Fuel Visual Workstation and PE-brick

Added support for the 600MHz R14KA PIMM in the Origin 3000 and Origin 300 systems.

Added power bay environmental alerts for DPS insertion and removal.

Other Changes

Fixed real-time clock functionality. The RTC now correctly displays time in both standard and daylight savings, and correctly transitions between them without having to manually reset the clock. Also, when a U.S. timezone is set, the daylight savings time start and end dates are calculated automatically. This means the timezone no longer needs to be reset each year.

If different system serial numbers are detected in two C-bricks of an 8-processor Origin 3200 or Origin 300 system, an error message will be reported and the bricks will not power up. (Previous versions would arbitrarily pick one of the two system serial numbers, which could lead to software licensing issues if the choice is incorrect.)

Increased the timeout for the C<->C (`ctc` command) and the C<->I/O (`cti` command) commands so that long commands such as `mgn` will not timeout when issued with `ctc`.

The OS<->L1 communications now remain functional after a reboot of the L1. (Previously these communications would fail after an L1 reboot, and OS would not receive environmental warning and fault messages.)

Bugs Addressed

- 786185 Add timestamp to L1 logs
- 822647 L1 command "pbay env" causes **read error** with pbay env on
- 832326 New events taken for ESP but not checked into ESP profiles
- 835243 Bedrock: PPP error when pwr u the system.
- 836062 L1 should generate an alert for power bay DPS removal
- 838589 brick part command not on O300 L1
- 838645 L1 firmware does wrong power sequencing for X2 brick
- 839871 Brick type on L1 display should be "p" not "%"
- 838878 L1 firmware gets a ATTN: PIMM0 CPU level stabilized @ 1.664V.
- 839126 pbay fru propigating into pbay communication failures
- 839378 O3K 600MHZ CPUs missing at PROM Bootup after a powercycle
- 842617 L1 controller needs be able to talk to SYSLOG after reboot
- 842890 flashsc output doesn't display the right type of brick

L2 Firmware

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

Added Commands

<code>date tz</code>	Commands to set and display the L2's system clock date and timezone. These commands have the identical syntax and function as on the L1 Controller.
<code>date tz <string></code>	
<code>date</code>	
<code>date <hhmmMMDDYYYY></code>	
<code>log clear</code>	Alias for the <code>log reset</code> command.
<code>pbay <command></code>	L1 power bay commands can now be issued from the L2. The L2 queries each L1 to determine which L1s are connected to each power bay and the requested <code>pbay</code> command is sent to a single L1 connected to each power bay. Thus, the command output is only displayed once for each power bay.
<code>pbay cfg</code>	Displays each power bay serial number and the list of bricks connected to each.
<code>reset</code>	Issues a <code>reset</code> command to all targeted L1's and silently executes the <code>ver check</code> command to warn the user of any L1 and/or L2 firmware version differences.

Changed Commands

<code>l2dsp enable disable</code>	Fixed the enable and disable of the L2 display.
<code>pwr u up</code>	The power sequencing is unchanged, but the <code>ver check</code> command is now executed silently to warn the user of any L1 and/or L2 firmware version differences.
<code>ver s summary</code>	Checks firmware versions of all L1 and L2 controllers in the system and displays a summary of L1 and L2 firmware versions found.
<code>ver check</code>	Checks firmware versions of all L1 and L2 controllers in the system and reports any version differences.

Added Features

Added support for recognizing new L1 brick types: Silicon Graphics Fuel Visual Workstation and PE-brick.

The real-time clock on the L2 is now functional and can be set and displayed with the `date` command.

Other Changes

Fixed the L1/L2 command routing. When a destination (for example, `r 1 s 1`) explicitly calls out a slot, the command is automatically treated as an L1 command.

Eliminated occasional extraneous "...Resource temporarily unavailable..." error messages.

The L2 partitioning daemon (`l2part`) is now enabled by default.

Bugs Addressed

- 802716 `r 1 s 10` no longer works in 1.1.11 L2
- 808540 Do check and report different L1/L2 firmware levels
- 808542 Check for consistent prom and firmware versions.
- 838427 L2 ver 1.8.0 real time clock stuck
- 841213 `smdk>ERROR: discover_response: recvfrom: Resource temporarily...`

L3 Software

This section lists the changed applications and bugs addressed for the L3 software.

Changed Applications

- 12 All changes listed for the L2 firmware in the "L2 Firmware" section on p. 12 also apply to the L2 emulator. Also changed the "ERROR" messages to display "INFO" for the `ip` and `reboot_12` commands. These are supported on the hardware L2 but not on the L2 emulator.
- 12gui All L2 GUI changes listed for the L2 firmware in the "L2 Firmware" section on p. 12 also apply to the L2 GUI display on the L3.

Bugs Addressed

- 842890 flashsc output doesn't display the right type of brick
- 841069 ERROR: `ip` command only supported on the Hardware L2

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