SGI® Foundation Software 1 Service Pack 5 Start Here

007–5488–006

Record of Revision

Version	Description
001	July 2008 Original publication. Supports the SGI Foundation Software 1 release.
002	October 2008 Supports the SGI Foundation Software 1 Service Pack 1 release.
003	January 2009 Supports the SGI Foundation Software 1 Service Pack 2 release.
004	April 2009 Supports the SGI Foundation Software 1 Service Pack 3 release.
005	July 2009 Supports the SGI Foundation Software 1 Service Pack 4 release.

006   October 2009
             Supports the SGI Foundation Software 1 Service Pack
             5 release.

Contents

SGI Foundation Software

This manual describes the contents of the SGI Foundation Software 1
Service Pack 5 (SP5) release and how to install and configure it.

About This Guide

This guide documents the installation, configuration, and administration of
SGI Foundation Software 1 SP5 release.

This guide contains the following sections:

- "Getting the Latest Firmware/Software for Your SGI Altix XE or SGI Altix ICE 8200 System," page 10

- "License Manager Updates," page 10

- "Embedded Support Partner," page 11

- "Installing SGI Foundation Software," page 12

- "Upgrade from Earlier Releases," page 23

- "Obtaining and Installing the Latest SGI Altix System Firmware ," page 23

- "Reinstalling Your Software," page 26

Obtaining Publications

To obtain SGI documentation, go to the SGI Technical Publications Library at *http://docs.sgi.com*.

Reader Comments

If you have comments about the technical accuracy, content, or organization of this document, please tell us. Be sure to include the title and document number of the manual with your comments. (Online, the

document number is located in the front matter of the manual. In printed manuals, the document number can be found on the back cover.)

You can contact us in any of the following ways:

• Send e-mail to the following address:

  `techpubs@sgi.com`

- Use the Feedback option on the Technical Publications Library World Wide Web page:

  http://docs.sgi.com

- Contact your customer service representative and ask that an incident be filed in the SGI incident tracking system.

- Send mail to the following address:

  Technical Publications
  SGI
  46600 Landing Parkway
  Fremont, CA 94538

SGI values your comments and will respond to them promptly.

Audience

This guide is written for system administrators who are responsible for installing, configuring, and administering SGI Foundation Software running on SGI Altix systems.

Helpful Online Resources

This section describes the electronic support services available for your SGI system running SGI Foundation software, as follows:

- Supportfolio

  Supportfolio, the SGI support web site, including the SGI
  Knowledgebase, SGI YaST Update Online (YOU) server, SUSE YaST
  Online Server, links for software supports and updates, as described in
  this listing.

  https://support.sgi.com/login

- Supportfolio SGI Knowledgebase

  The SGI Knowledgebase available from Supportfolio has answers to
  common questions, problem resolutions, how-to documents, and many
  other useful articles for system administrators.

  https://support.sgi.com/kb/publisher.asp

- SGI YaST Online Update Server

  The SGI YaST Update Online (YOU) server is available for your
  convenience. Get updates to SGI Foundation Software 1 Service Pack 2
  for Linux, SGI ProPack 6 Service Pack 2 for Linux, and SUSE Linux
  Enterprise Server 10 (SLES10) using the YaST install tool right from your
  system. The **YaST Online Update** - **Patch Media Instructions** describes
  how to update your system using patch media. Use your Supportfolio
  account name and password, and point YaST to this location:

  https://update.sgi.com/

- Supportfolio Software Updates

  Check for new updates to your purchased SGI software, and download or order CDs all in one convenient place. Supportfolio Software Updates provides one-stop shopping to check for and get new updates for your SGI software.

  https://support.sgi.com/software?cmd=order

- SGI Customer Support Center

  You can open calls to the SGI Customer Support Center on-line, keep track of all your cases, and receive automatic update information when your case is updated via the Supportfolio Problem Resolution Tools at:

  https://support.sgi.com/caselist

- SGI Software Licensing

  If you need to get your license for SGI software, you can order your software licenses conveniently via e-mail or on-line.

  You can send a blank email to license@sgi.com, and you will receive a simple template to fill out. You will quickly receive your new license back with complete instructions for installing it back via E-Mail.

  Or, you can go on-line to the SGI Key-O-Matic at:

  http://www.sgi.com/support/licensing/

Software Introduction

The SGI Foundation software product includes software to support the SGI differentiated hardware solutions. This product adds to or enhances features in the base SUSE Linux Enterprise Server 10 (SLES10) Service Pack 2 (SP2) Linux distribution, SLES11 or Red Hat Enterprise Linux 5.4 (RHEL5.4) distribution. SGI Foundation software is designed to run on any SGI Altix, SGI Altix XE, or SGI Altix ICE 8200 system.

SGI hardware platforms and operating system configuration settings supported by SGI in this release are documented at the following URL: *http://www.sgi.com/servers/altix/*

SGI Foundation Software CD Contents

This section describes the contents of the SGI Foundation Software 1 Service Pack 5 CD, as follows:

- Direct Access Programming Library (DAPL) for high performance communication between processes

- SGI Itanium 2 PROM (System controller software)

- SGI x86_64 Baseboard Management Controller (BMC), chassis management control (CMC), and Basic Input/Output System (BIOS) software

- OFED OpenSM software package and InfiniBand libraries, management tools and diagnostic tools

- Device driver libraries

- LSI Logic LSIUtil (`lsiutil`) configuration utility

- Memory logging utility

- `kdump` utility

- Open source Performance Co-Pilot (`pcp-open` package)

- Embedded Support Partner (ESP)

- SGI support tools

- SGI LK software licensing mechanism

Getting Updates

This section describes how to get software updates for SGI Foundation Software 1 SP5 release.

Detailed instructions for downloading and installing SGI Foundation Software 1 SP5 updates are available from the SGI Foundation Software product pages on Supportfolio: *https://support.sgi.com/content_request/229992/index.html*.

> **Note:** You must have a Supportfolio account to access this page and the SGI update server.

Customers that received SGI Foundation Software 1 SP5 pre-installed on their new SGI Altix system may run the following command to add the proper update source for SGI Foundation Software 1 SP5:

```
$ /usr/sbin/sgi-foundation-update-source
```

This script will prompt you for your Supportfolio login and then add the proper SGI update source for the given architecture.

System Controller Software 1.24 CD

The System Controller software provides a system control platform for field service and system maintenance applications.

> **Note:** The System Controller Software 1.24 CD is not shipped by default. You can download the System Controller Software 1.24 package from *http://support.sgi.com/* or order it on CD-ROM (P/N 812-1138-024). Contact your SGI account representative if you need assistance obtaining the software package.

For installation instructions, see *System Controller Software 1.2x Update Guide* available on *http://docs.sgi.com*.

Getting the Latest Firmware/Software for Your SGI Altix XE or SGI Altix ICE 8200 System

For information on the basic input/output system (BIOS), Baseboard Management Controller (BMC) firmware, Intelligent Platform Management Interface (IPMI) control utility, Field Replaceable Unit/Sensor Data Record (FRUSDR) software, Hierarchical Storage Controller (HSC) software, LSI RAID firmware, Platform Manager cluster management software, Infiniband drivers, INTEL MPI Runtime Environment Kit for Linux, and Java Runtime Environment (JRE), see the SGI Altix XE Firmware/Software page on SGI Supportfolio at:
https://support.sgi.com/content_request/229992/index.html

For information on SGI Altix ICE system firmware, see the "System Firmware" section in Chapter 5, "System Maintenance, Monitoring, and Debugging" in the *SGI Tempo System Administrator's Guide* available on *http://docs.sgi.com.*

License Manager Updates

Warning: Please backup your license key files prior to installing SLES10 SP2, SLES11, RHEL 5.4 and/or SGI ProPack 6 SP5. A license key file is not included in these RPMs.

Your original license key files will need to be restored after you complete your installation.

In terms of software licensing support, the Redhat and SUSE distributors do not ship any code. ISVs are responsible for obtaining and including software licensing components into their products.

SGI Foundation Software contains a licensing mechanism called LK. LK was developed by SGI for SGI products only. New for this release, LK floating licenses facilities are available. For more information, see the "SGI LK License Facility" chapter in the *Linux Configuration and Operations Guide* on the SGI Technical Publications Library at *http://docs.sgi.com.*

For more information, see the specific product release notes or the FAQ, as follows:

http://www.sgi.com/support/licensing/faq.html

If you encounter any license related problems, please contact your local support center at this location:

http://www.sgi.com/support/supportcenters.html

Embedded Support Partner

Embedded Support Partner (ESP) is a support infrastructure which is integrated into the operating system. ESP components capture and store

system level events, system configuration information, system availability information, provide an electronic logbook of activities performed on the system, log calls to the ESP database at SGI and other support related activities. For more information, see *Embedded Support Partner User Guide* available on *http://docs.sgi.com*.

Installing SGI Foundation Software

The following set of instructions is based on an install using the physical product media. For other installation methods, see the product release notes. This section covers these topics:

- "Installing on SUSE Linux Enterprise Server 10 SP2 (SLES 10 SP2)", page 12

- "Installing on SUSE Linux Enterprise Server 11", page 15

- "Installing on Red Hat Enterprise Linux 5.4", page 22

Installing on SUSE Linux Enterprise Server 10 SP2 (SLES 10 SP2)

To install SGI Foundation 1 SP5 software on SLES10 SP2 or SLES11, perform the following steps:

1. Remove any previous SGI ProPack 5 install sources if present. Skip this step if you are not installing on a system that is already running SGI ProPack 5.

    a. Start the graphical (`yast2`) or text version of YaST (`yast`).

    b. Select **Software** - **Installation Source**

    c. Find and remove any SGI ProPack 5 related install sources.

    d. Select **Finish** to exit the tool.

2. Add SGI Foundation Software as an add-on product, as follows:

    a. Start the graphical (`yast2`) or text version of YaST (`yast`).

    b. Select **Software** -> **Add-on Product**

    c. Select **CD...** and click **Next**.

    You will be prompted to insert the media.

    d. YaST will add the product as a new installation source.

Note: YaST will display an error message that states: **"An error occurred while connecting to the server. Details: Unknown source type for https://update.sgi.com/SGI-Foundation/1/ia64. Try again?"** YaST attempts to add both the media and the online update repositories as install sources, but fails to add the online update repositories.

   e. Click **Yes** in order to enter your authentication information required to access the online update repositories. Click **No** if you would rather not add the online update repositories at this time.

   f. Unselect the **Anonymous** box and then enter your Supportfolio login name and password in the **User** name and **Password** fields.

   YaST will add the online update repositories as an install source.

3. YaST transitions to the software manager after adding the install sources. Perform the following steps:

   a. Select **Patterns** from the available **Filter** options.

   b. In graphical mode, perform the following:

      i. Verify that the **SGI Foundation Libraries**, **Software and Drivers** pattern is selected. Installation of the product requires this pattern.

    ii. Select any other patterns that you may require, such as, the **SGI Foundation InfiniBand Libraries**, **Utilities**, and **Drivers** if you have Infiniband devices.

    iii. Verify that packages in the patterns are marked for installation and/or upgrade.

  c. In text mode, perform the following:

    i. Highlight the **SGI Foundation Libraries**, **Software**, and **Drivers** pattern and select OK. Installation of the product requires this pattern.

    ii. Select any other patterns that you may require, such as, the **SGI Foundation InfiniBand Libraries**, **Utilities**, and **Drivers** if you have InfiniBand devices

    iii. Verify that packages in the patterns are marked for installation (+) and/or upgrade (>).

4. Select **Accept** to install.

Installing on SUSE Linux Enterprise Server 11

For an overview of SLES11 installation, see the *SUSE Linux Enterprise Server 11 Installation Quick Start* (installquick.pdf). This document provides a quick overview of how to run through the default installation

of SLES walking you through a number of installation screens. For detailed installation instructions, see the *SUSE Linux Enterprise Server 11 Deployment Guide* (`deployment.pdf`)

> **Note:** Documentation for SUSE Linux Enterprise Server 11 is located on your system in the `/docu/en` directory.

To install SUSE Linux Enterprise Server 11 (SLES11) from the DVD media and SGI Foundation 1 Service Pack 5 as an add-on product, perform the following steps:

1. Insert the SLES 11 Installation DVD in the DVD drive and reboot your system.

2. Follow the steps in the *USE Linux Enterprise Server 11 Installation Quick Start*.

3. When you get to the **Installation Mode** screen, as shown in Figure 1, page 17, click the button next to **Include Add-On Products from Separate Media** and then click **Next** to continue.
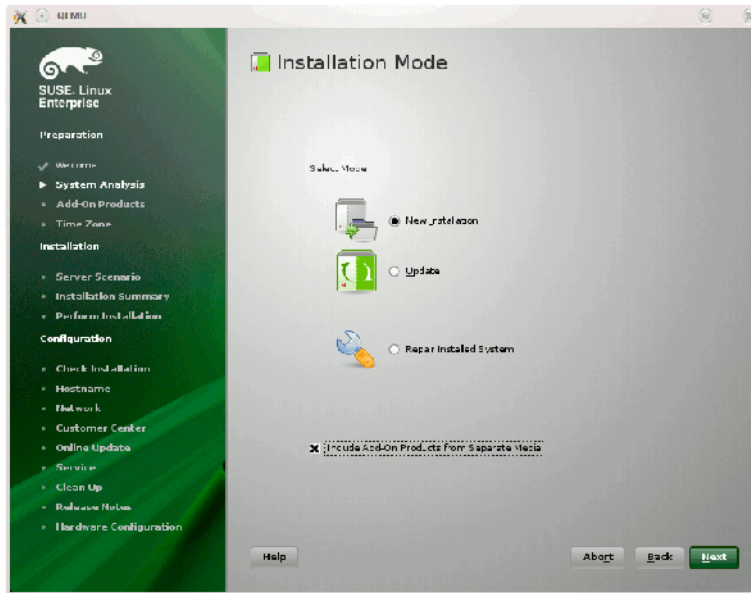
Figure 1 SLES11 **Installation Mode** Screen

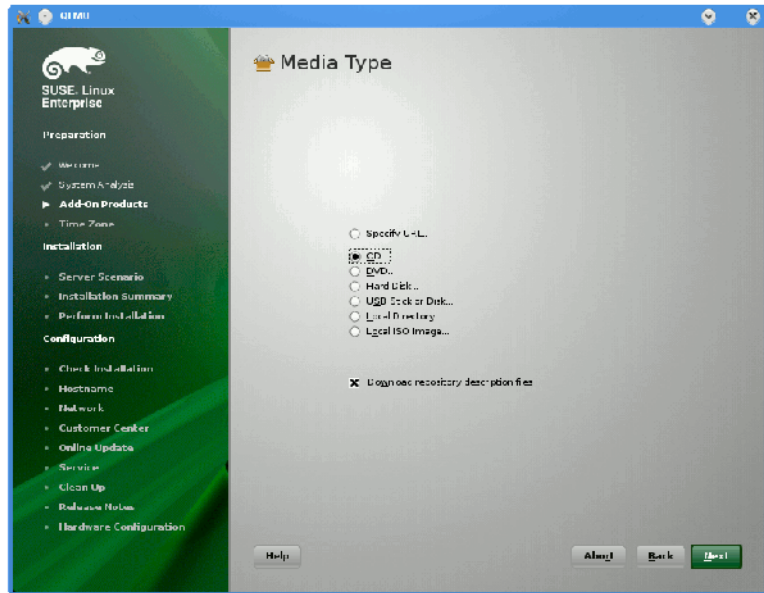4. From the **Media Type** screen, shown in Figure 2, page 19, click the button to the left of **CD**.

Figure 2 SLES11 **Media Type** Screen

5. The **Insert the add-on product CD** dialog box appears. Insert the SGI
   -Foundation-x86_64 CD into the drive and click the **Continue** button
   and then **Next** to proceed.

6. From the **Add-On Product Installation** screen, as shown in Figure 3,
   page 21, click on **SGI**-**Foundation**-**x86_64 1**-**5 cd:///.Directory** and click
   the **Add** button and then **Next** to proceed

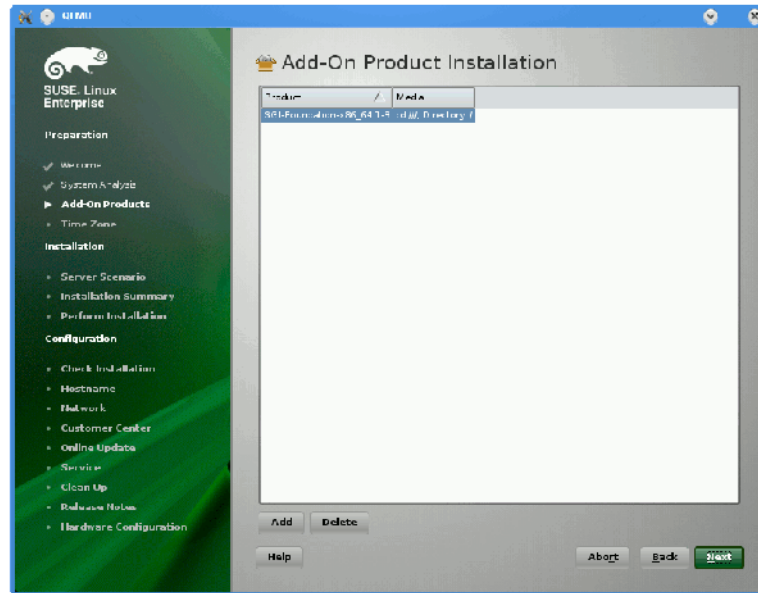7. Follow the SLES11 instructions to complete the installation.

Figure 3 SLES11 **Add-On Product Installation** Screen Showing SGI
Foundation

Installing on Red Hat Enterprise Linux 5.4

These instructions assume that you have a VGA display or that you are able to remotely display X11 graphics. If you do not have a VGA display, you should connect from your workstation to the target server with the following command:

```
% ssh -X root@target-server
```

To install SGI Foundation 1 SP5 software on RHEL 5.4, perform the following steps:

1. Make sure you have registered with the Red Hat Network (RHN). If you have not yet registered, run the following command:

   ```
   % /usr/bin/rhn_register
   ```

2. Insert the product media and enter the following command to mount it:

   ```
   % mount /dev/cdrom/mnt
   ```

3. Run the install script, as follows:

   ```
   % /mnt/INSTALL
   ```

4. Click the **Forward** button. Check the box next to **SGI Foundation Software**. Click the **Optional packages** button to de-select any packages you do not want to install. Click the **Forward** button.

5. Review the **Installation Overview** screen and click the **Forward** button. You may see a screen that indicates that dependencies are being added. If so, click the **Continue** button.

6. You should see a screen indicating that the installation was successful. Click the **Close** button to close this screen.

Upgrade from Earlier Releases

For information on upgrading from SLES10 SP1 or SLES10 SP2 to SLES11, see the appropriate Novell, Inc. documentation. In the "Installing on SUSE Linux Enterprise Server 10 SP2 (SLES 10 SP2)", page 12 section, refer to step 3, "Verify that packages in the patterns are marked for installation and/or upgrade".

For information on upgrading from RHEL 5.1, RHEL 5.2, or RHEL 5.3 to RHEL 5.4, see the appropriate Red Hat, Inc. documentation.

For information on upgrading SGI ProPack 6 software, see the *SGI ProPack 6 for Linux Service Pack 5 Start Here*.

Obtaining and Installing the Latest SGI Altix System Firmware

There are three levels of firmware to consider on your SGI Altix system, as follows:

- L2 controller software (only configurations of SGI systems with routers have L2 controllers)

- L1 controllers on routers, IX-bricks, PX-bricks, C-bricks, Individual Rack Units (IRU) and so on.

- The system PROM (each node has a system PROM and each C-brick has two nodes).

> **Note:** This section only applies to SGI Altix 4000 series systems with Intel Itanium processors.

On an SGI Altix 450 or SGI Altix 4700 system, the L1 firmware consists of three parts: the boot image, A image, and B image. For more information, see the "Upgrading L1 Firmware" section in either the *SGI Altix 450 User's Guide* or *SGI Altix 4700 User's Guide*.

L1 and L2 system controller firmware provides support for managing and monitoring the power, cooling, and testing functions for a brick and system compute rack.

On an SGI Altix 450 or SGI Altix 4700 system, the L2 system controller is an application that provides control over multiple L1s and communication to other L2s. For more information, see Chapter 3, "System Control" in the *SGI Altix 450 User's Guide* or Chapter 2, "System Control" in the *SGI Altix 4700 User's Guide*, respectively.

You can always download the latest L1/L2 system controller software and PROM firmware via Supportfolio at *http://support.sgi.com/linux/*.

You can also find system controller software by using the search term "system controller" at: *http://support.sgi.com/search_request/downloads/index*.

PROM is released as patches and the latest firmware can also be found at: *http://support.sgi.com/browse_request/linux_patches_by_os*

> **Note:** SGI Altix 450 or SGI Altix 4700 systems running SGI ProPack 6 for Linux should use PROM located in `shub2snprom.bin`. All other SGI systems should use the PROM located in `shub1snprom.bin`. This note does not apply to SGI Altix XE systems (instead see "Getting the Latest Firmware/Software for Your SGI Altix XE System"). Software support contract customers can download the most recent PROM versions from SGI Supportfolio: *https://support.sgi.com/*

To update or "flash" the system PROM, you first need to download the prom RPM from Supportfolio as described above.

> **Note:** The PROM image on your hard drive is automatically updated when you upgrade your system to the latest SGI ProPack for Linux release. The installation of the `snprom` RPM happens automatically as part of the SGI ProPack installation. Flashing it must be performed.

Once you have the latest PROM RPM, instructions on how to flash the PROM are available in the PROM `Readme` file at `/boot/efi/efi/sgi/snprom/README.snprom`.

For partitioned systems, it is important to upgrade all nodes (including all nodes in all partitions) before resetting any partitions. In other words, do not reset any partitions until all nodes in all partitions have been upgraded.

Reinstalling Your Software

To reinstall all of the software on your system, follow the entire set of installation instructions listed previously, using the latest SGI Foundation Software 1 Service Pack 5 CD.