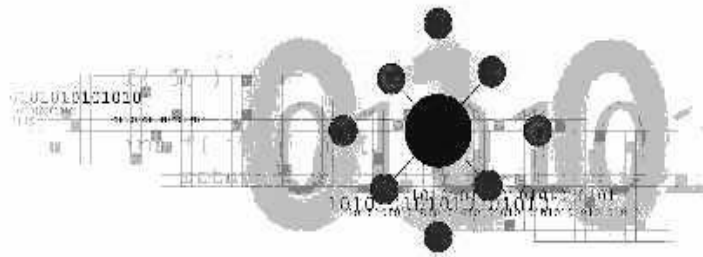


IRIX® 6.5.6 Update Guide





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Dear Valued Customer,

SGI is pleased to present the new IRIX 6.5.6 maintenance and feature release. Starting with IRIX 6.5, SGI created a new software upgrade release strategy, which delivers both the maintenance (6.5.6m) and feature (6.5.6f) streams. This upgrade is part of a family of releases that enhance IRIX 6.5.

There are several benefits to this strategy: it provides periodic fixes to IRIX, it assists in managing upgrades, and it supports all platforms. Additional information on this strategy and how it affects you is included in the **updated** *Installation Instructions* manual contained in this package.

If you need assistance, please visit the Supportfolio Online Web site at: <http://support.sgi.com> or contact your local support provider.

We thank you for your continued commitment to SGI.

Sincerely,

A handwritten signature in black ink, reading "Jorge Helmer". The signature is written in a cursive style with a large initial "J" and "H".

Jorge Helmer
Vice President & General Manager
Customer Support Division
SGI

Welcome to your SGI IRIX 6.5.6 update. This booklet contains:

- A list of key features in IRIX 6.5.6
- A list of CDs contained in the IRIX 6.5.6 update kit
- A guide to SGI Web sites

IRIX 6.5.6 Key New Features

The following features are in the core IRIX 6.5.6 overlays.

Hardware Supported

- R12000S CPU on SGI 2200, SGI 2400, and SGI 2800 systems

Introduced in 6.5.5:

- QLA2200 (copper and optical) is supported for FC-AL, FC-AL via the Emulex hub, or fabric attach via the Brocade Silkworm 2000 switches

Introduced in 6.5.4:

- 270-MHz processor for Silicon Graphics O2 and Silicon Graphics Octane visual workstations
- HDTV XIO Board for Silicon Graphics Onyx2 and SGI Origin 2000 systems (this now includes the former Cray Origin 2000 system)

Introduced in 6.5.3:

- Systems using the MIPS R12000 processor
- Digital Video Multiplexer option board (DPLEX) for Silicon Graphics Onyx systems
- Redundant Power Supply (RPS)
- 21" Monitor Support for O2 and Octane systems

Introduced in 6.5.2:

- Flat Panel Monitor for O2 systems
- 16-pipe InfiniteReality2E systems
- GSN network adapter

Introduced in 6.5.1:

- Gigabit Ethernet for Octane and SGI Origin systems
- 128p Metarouter for Origin 2000 systems (formerly known as Cray Origin 2000 systems)
- Dual Channel Display option for O2 systems
- XR hardware for InfiniteReality2E
- 225QC for SGI Origin 200 systems

Software

Feature Stream Only

- Support for the Scheduled Transfers (ST) protocol. The ST protocol is an ANSI standard level two through four protocol suite designed to support extremely high performance data movement. ST provides a socket-based interface to applications, which lets you directly port the existing networking applications to ST. ST also supports the OS Bypass mode of operation, which allows smaller messages to be sent and received with extremely low latencies. In this initial release of ST, only the Gigabyte System Network (GSN) network adapter is supported.
- Support for the CXFS 1.1 Early Access release, which provides a cluster filesystem that allows file sharing between machines. CXFS includes the following features:
 - High resiliency and availability
 - Reduced storage costs
 - Scalable high performance

Each CXFS host has a direct Fibre Channel path to the shared disks, which provides near-local file performance, even though the data on the disks is shared among multiple IRIX hosts. CXFS removes the server and network bottlenecks for the shared data paths.

Note: The CXFS 1.1 Early Access release is available for a limited number of licenses. If you are interested in obtaining a license, contact your SGI service provider. A dedicated Early Access Web link will provide the following:

- The latest CXFS and XVM images that include the latest fixes
- Updated documentation in PostScript format

Introduced in 6.5.2:

- Motif 2.1/IRIS ViewKit 2.1
- IRIX Oplock support
- Support for non EUC encoding and locales (sjis/big5/gbk/utf8)

Maintenance and Feature Streams

- Support for a multi-threaded version of the automatic filesystem mount daemon *autofs*. This enhanced functionality allows for simultaneous multiple automounts. If a particular server for an automounted filesystem is not running or is slow to respond, one *autofs* thread can wait for that server while other *autofs* threads mount filesystems from other servers. This capability improves the automount performance and simultaneously provides longer wait times for downed servers, which should lead to a decrease in automount failures.

Introduced in 6.5.5:

- Embedded Support Partner, which is an integral part of the IRIX operating system, provides system administrators with a way to monitor various events (such as system events, changes in system hardware and software configuration, and system performance) on their systems. Embedded Support Partner is a set of daemons that perform the monitoring activities. These include an event monitoring daemon (*eventmond*), an event management daemon (*espemd*), and a database daemon (*espdbd*). Embedded Support Partner provides single-system monitoring capabilities as a standard part of IRIX. Optionally, Embedded Support Partner can be configured to receive event and system configuration data from all systems contained within a system group. Embedded Support Partner is controlled

through a Web browser that is connected to the Configurable Web Server, which is included in the Embedded Support Partner package. For more information, see the *Embedded Support Partner Overview*, the *Embedded Support Partner User Guide*, and the Embedded Support Partner man pages.

- Support for the version 2 XFS directory format; this format lets you choose a filesystem block size to match the distribution of data file sizes without adversely affecting directory operation performance. The directory format is specified with the `-n` parameter of the `mkfs` command. For more information, see *IRIX Admin: Disks and Filesystems* and the `mkfs_xfs(1M)` man page.
- Support for the math and scientific library SCSL 1.2. SCSL 1.2 will replace *Challengecomplib* on all supported system platforms at the time of the next major IRIX Release.

SCSL provides support for the math and scientific libraries and is widely used in scientific and technical compute-intensive applications. SCSL 1.2 incorporates all the current *Challengecomplib* 3.1 features and will be distributed as a separately packaged product until the next major IRIX release.

SCSL 1.2 can be downloaded from the SGI "Download Cool Software" Web page at <http://www.sgi.com/Products/Evaluation>. If you do not have Web access and are a current support customer,

you can request CD media free of charge through your local support center. Non-contract customers can contact their sales representatives to order SCSL 1.2.

New features introduced in addition to the *Challengecomplib* functionality since the release of SCSL 1.1 are:

- Added convolution/correlation and filter routines to the signal-processing functionality (formerly available only in *Challengecomplib*)
- Improved ordering techniques for the sparse linear solvers
- Performance enhancements for the MIPS R12000 processor
- Bug fixes from SCSL 1.1

Challengecomplib entered maintenance mode with the release of IRIX 6.5.5. No new features or enhancements will be incorporated.

For more information on SCSL, see
<http://www.sgi.com/software/scsl.html>

- Support for Automated Performance Monitoring. Together with Embedded Support Partner, the base performance monitoring services in the *pcp_eoe* product have been extended to include an inference engine for evaluating rules about system-level performance and raising alarms. Also provided is a parameterized set of standard rules that can be selectively enabled and tuned to meet local requirements and to choose alternative alarm notification mechanisms. These features are of most value to operations staff

running production IRIX systems. For more information, see the `pmie(1)` and `pmieconf(1)` man pages, and the *Performance Co-Pilot IRIX Base Software Administrator's Guide*.

- Two new options were added to the `miser_create_cpuset` command. These options allow additional restrictions on memory assignment for processes running on a CPU set. These options are documented in the `miser_cpuset(4)` man pages.

Introduced in 6.5.4:

- Support for the Miser queue repack policy. When a job finishes execution before the end of its schedule, the system resources it was using are released. This policy attempts to reschedule the jobs using earlier start and end times to take advantage of these released system resources. The order of the scheduled jobs will be maintained. This feature can be used by all Miser users running IRIX 6.5.4m or f and later releases. For more information, see the `miser(4)` and `miser(5)` man pages, and *IRIX Admin: System Configuration and Operation*, Chapter 7 “Managing User Processes.”
- Distributed Computing Environment (DCE) Client for accessing shared resources in distributed computing DCE/DFS serving environments
 - Kernel libraries only
 - Requires installation of DCE/DFS 1.2.2a software for full functionality

Introduced in 6.5.3:

- (Octane systems only) The worst-case interrupt response time is guaranteed to be less than one millisecond on properly configured Octane systems
- Support for the X security and appgroup extensions (combined with a new Netscape plug-in, these allow the embedding of X applications in Web pages)
- Support for European fonts, including the Euro currency symbol
- New Software Manager and Inst commands to simplify selections for upgrades
- New Software Manager and Inst configuration variable to more easily handle cases where configuration files are upgraded. See the *smart_config_handling* preference in *inst* or *swmgr* for more information
- Support for LDAP 3.0

Introduced in 6.5.2:

- AutoFS extended to use UNS for map information
- Support for DCShare application sharing extension
- Fibre channel support to Dmnet
- Three new HP printer drivers: HP4000, HP5000 and HP4500 (Color LaserJet 4500DN)

Applications CD with IRIX 6.5.6

The CD includes:

- Upgrade to Netscape Communicator 4.7; for details, see <http://home.netscape.com/communicator/v4.5/>.
New features include: Enterprise Calendaring, Winamp MP3 player, and Netscape AIM 3.0.

Note: Netscape Radio is implemented only for systems with the G2 player installed. The destination site tied to the new “Shopping” button is not yet active.

- SGImeeting Collaboration Environment, 1.3, Net-based data-conferencing, application-sharing software (SGImeeting Collaboration Environment, 1.0, was added in 6.5.2)
- SGImeeting Extensions, 1.3, with additional whiteboard tools as “plug-ins” that appear on the whiteboard tool palette. These tools are ideal for group discussions in CAD and image-intensive industries. A 90-day evaluation license is included.

The following extensions are available:

- A screen capture tool for dynamic or still whiteboard input
- A video capture tool for dynamic or still whiteboard input
- Customizable arrows and dimension markers for easy discussion pointing

- Symbol palette for drag-and-drop images
- SmartClear for clearing annotations when captured images update
- WebViewer Library Execution only Environment 3.0

Note: Applications take two forms: full images and overlays. The base versions of each can be found on the Applications CD. When full images are updated, new versions are placed on the Applications CD. Upgrades of overlay products, however, are located on the Overlays CD.

IRIX 6.5.6 Update Kit Contents

- CDs

CD Name	Server	Workstation
IRIX 6.5.6 (1 of 2) Installation Tools & Overlays CD November '99	✓	✓
IRIX 6.5.6 (2 of 2) Overlays CD November '99	✓	✓
IRIX Applications for 6.5 CD November '99	✓	✓

- The IRIX CD booklet *Installation Instructions: Installing an Intermediate (Overlay) Release, Installing Applications, Installing Software Licenses*

Silicon Graphics Web Sites

IRIX 6.5-Related Web Sites

- SGI product information
<http://www.sgi.com/products>
- IRIX 6.5 datasheet
<http://www.sgi.com/software/irix6.5/datasheet.pdf>
- Start Here: Installing IRIX 6.5.6
<http://support.sgi.com/6.5>
- To view all qualified applications compatible with IRIX 6.5 releases,
see <http://support.sgi.com/6.5/spk>

Services

- Customer Education Services
<http://www.sgi.com/support/custeducation.html>
- Professional Services
<http://www.sgi.com/service>

Online Tools

- Customer Registration
<http://www.sgi.com/support/custreg.html>
- Software Licensing/Key-O-Matic
<http://www.sgi.com/Support/Licensing>
- Supportfolio Online
<http://support.sgi.com>
- Online documentation — Technical Publications Library
<http://techpubs.sgi.com>

Year 2000 Compliance

- Information about the Silicon Graphics Year 2000 Program
<http://www.sgi.com/tech/year2000>

Other Sites

- Download Cool Software
<http://www.sgi.com/Products/Evaluation>
- Free Software
<http://freeware.sgi.com>

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