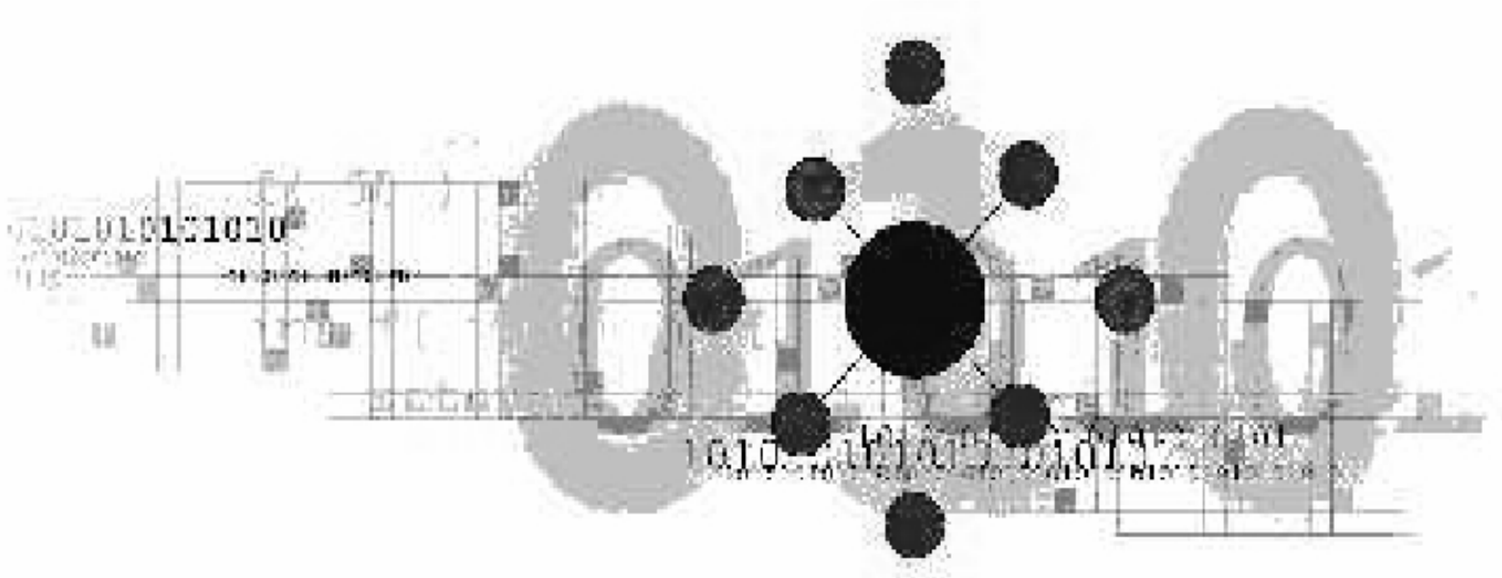
IRIX® 6.5.22 Update Guide



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Dear Valued Customer,

SGI® is pleased to present the new IRIX® 6.5.22 maintenance and feature release. Starting with IRIX® 6.5, SGI created a new software upgrade strategy, which delivers both the maintenance (6.5.22m) and feature (6.5.22f) streams to customers with a service contract that includes an IRIX support component. This upgrade is part of a family of releases that periodically enhances IRIX 6.5.

There are several benefits to this release 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 website at http://support.sgi.com/ or contact your local support provider.

We offer eight modes of service for software supported by SGI: Active, Maintenance, Limited, Legacy, Courtesy, Divested, Retired, and Expired.

Active Mode is our highest level of service. It applies to products that are being actively developed and maintained and are orderable through general distribution. Software fixes for all levels of problems can be expected.

Maintenance Mode software is maintained and is still an important part of our product mix. No new functionality is added to products in this support mode. Functional fixes for severe problems are generally available. Products in this support mode category are still orderable through general distribution. Software usually stays in this category for approximately 18 months before being moved to a mode of lesser support.

Limited Mode is a restricted level of service developed mainly for products developed and maintained by open source organizations and distributed by SGI.

Legacy Mode software generally runs on out-of-production operating system versions or system platforms that are no longer in active development or maintained. These products are usually distributed with limited availability. New support contracts may be offered and renewed. Services provided with Legacy Mode are limited to providing existing fixes and "workarounds" for reported problems. IRIX® 6.2 is an example of a major operating system release that was supported in this category until January 2000. IRIX® 6.3 and IRIX® 6.4 operating system revisions are

examples of major operating system releases that were supported in this category until January 2001.

Courtesy Mode software is not officially part of the software support offerings. Courtesy mode software is not covered by software support contracts, and call center support is not available. An e-mail alias may be provided to facilitate customer communications and to address any technical questions. Response times will vary according to availability of resources. The e-mail alias may be terminated at any time without advance notice. IRIS Showcase™ and Cosmo Worlds™ are examples of products with Courtesy Mode support.

Divested Mode software has been turned over to a third party who assumes all responsibility for support. SGI no longer distributes these products. Calls received at the SGI Call Center for support on divested products will be redirected to the applicable third party. CA Unicenter® TNG and Syntax TAS™ are examples of divested products.

Retired Mode provides restricted support for older software products which are no longer generally distributed by SGI. This level of support has severe limitations on portability to new platforms. Availability of support at this level is limited to existing customers with whom we have existing contractual obligations. This is the final stage before a product is completely removed from the SGI product set. IRIX 6.2, IRIX 6.3, and IRIX 6.4 operating system versions are examples of major operating system releases that are supported in this category beginning January 2003.

Software stays in this category for a minimum of 18 months before being moved to Expired Mode.

Expired Mode software products have reached the end of their useful life. These products are not supported or distributed in any form by SGI. Examples are: IRIX® 5.3, IRIXPro™, and Proconf.

Supportfolio Online (http://support.sgi.com/) contains a Power Search capability to locate further information regarding the eight software support modes. Using the Power Search section can also help locate links to the latest customer letters and lists of the various software products that have changed support modes. We thank you for your continued commitment to SGI.

Terry Oberdank

Vice President, Global Services
SGI

Welcome to your SGI IRIX 6.5.22 update. This booklet contains:

- A list of key features in IRIX 6.5.22
- A list of CDs contained in the IRIX 6.5.22 update kit
- A guide to SGI websites

IRIX 6.5.22 Key New Features

The following changes have been incorporated into the core IRIX 6.5.22 overlay CDs and the Applications CD.

New Software Enhancements - Maintenance and Feature Stream

Maintenance Stream Support

- **Feature support added to maintenance stream**
  For IRIX 6.5.22, support for the following features is now provided in both the feature stream (IRIX 6.5.22f) and the maintenance stream (IRIX 6.5.22m). In previous releases, these features were supported in the feature stream only:
  - The XVM logical volume manager
  - CXFS
  - The SJIS feature of IRIX Language Support, supporting Shift JIS, Traditional Chinese BIG5, and Simplified Chinese GBK locales.

Installation

- **Updated Inst program**
  New installation features were used starting with IRIX 6.5.21 that necessitate an updated version of the Inst program. If you plan to install using the miniroot, then you may do so by the usual method. However, if you plan to upgrade by live install and are running IRIX

6.5.19 or earlier, you must first install patch 5086. For further information, consult the caveats to read before you upgrade that you can access from the Installation link off the Welcome webpage.

Filesystems

- **Changes to CXFS Packaging in IRIX 6.5.22**
  Starting with IRIX 6.5.22, The IRIX CXFS software is no longer bundled in the IRIX overlay CDs but instead is on a separate CD that is labeled CXFS IRIX Server and Client 3.0 for IRIX 6.5.22. This changes the installation procedure. For information on CXFS installation, see *SGI InfiniteStorage CXFS Administration Guide*.

  Note: If you are upgrading from a previous IRIX release and have CXFS installed, you must upgrade both IRIX and CXFS. If you try to upgrade one without the other, conflicts will occur.

  CXFS customers should make sure that their CXFS support contract contains the CD media option. This option is required for future delivery of the latest features, enhancements, and bug fixes, available only on CD. The CD media option allows you to take advantage of secure and expedited delivery using the online ordering system, through Software Updates on Supportfolio, or through your local support center by telephone.

For further information on this packaging change and CXFS support, go to the following page on Supportfolio: http://support.sgi.com/search_request/publications/index. Select the following parameters:

Publication type: news

Product type or keyword(s): CXFS Separate CD Media

- **Case-insensitive filename support for XFS filesystems**
  In IRIX 6.5.22, the `mkfs` command supports a new `version=ci` suboption for the `-n` (naming) option. Specifying this option enables a version 2 filesystem directory with case-insensitive filenames. Filenames will be stored in directories as they were created, but all file or directory name searches will be case-insensitive. This feature is normally used only when the filesystem will be used by Windows CXFS clients.

  Note that you will be able to mount filesystems created with this option only when running IRIX releases 6.5.22 and later. Attempting to mount the filesystem when running an earlier release produces an error message of "Wrong filesystem type: xfs".

  For information on the mkfs command, see the `mkfs_xfs`(1M) man page.

- **Trusted IRIX and IRIX extended attribute support added to UDF filesystems**
  Write-capable UDF filesystem format Universal Disk Format (UDF) is

the filesystem used on DVDs. A read-only implementation of UDF was added to IRIX 6.5.18, and a write-capable version was added for IRIX 6.5.20. Trusted IRIX support and Extended Attribute support (using UDF streams) were added to the UDF filesystem for IRIX 6.5.22.

Worldview

- **Japanese GUI and Japanese resource files no longer shipped**
  The graphical user interfaces (GUIs) for CXFS and XVM contained in IRIX 6.5.22 and later no longer support the localized Japanese GUI and the Japanese resource files do not ship with "WorldView Japanese 6.5 For IRIX 6.5.22 and above". If you are upgrading to CXFS or XVM on a system running IRIX 6.5.22 or later versions and have previously installed the Japanese resource files for these packages, you should remove them. To remove the Japanese resource files, run the following commands as root:

```
# versions remove WorldView_japanese.sw.euc_sysadm_cxfs
# versions remove WorldView_japanese.sw.sjis_sysadm_cxfs
# versions remove WorldView_japanese.sw.euc_sysadm_xvm
# versions remove WorldView_japanese.sw.sjis_sysadm_xvm
# versions remove WorldView_japanese.sw.euc_sysadm_cluster
# versions remove WorldView_japanese.sw.sjis_sysadm_cluster
# versions remove WorldView_japanese.sw.euc_sysadm_base
# versions remove WorldView_japanese.sw.sjis_sysadm_base
```

Checkpoint and Restart

- **New features of REPLACE keyword of the cpr command**
  In IRIX 6.5.22, the operation of the REPLACE action keyword of the cpr command has been enhanced.

  Under certain constraints, REPLACE actions may invoke SUBSTITUTE actions for files that have been modified or deleted, or a MERGE action for all other files.

  If a SUBSTITUTE action is performed, a notice specifying the location of the substituted file is displayed. It is the responsibility of the user to pick up any output file thus substituted. Applications that reopen a substituted file by its original name may not operate as expected. Checkpoint/Restart users are encouraged to review the information on this behavior change detailed in the *IRIX Checkpoint and Restart Operation Guide*.

Security

- **Support for Pluggable Authentication Module (PAM)**
  IRIX 6.5.22 includes support for Pluggable Authentication Modules (PAM). PAM provide a general purpose interface for customer-definable authentication. Implementation of PAM is off by default. For information on PAM, see *IRIX Admin: Backup, Security, and Accounting*.

Desktop

- **New musicplayer application**
  The IRIX 6.5.22 release includes musicplayer, a skinnable desktop music player that plays sound files using sgi audio hardware. The musicplayer application handles multiple files in a single session. For information, see the `musicplayer`(1) man page and the online help provided in the Help menu of the application.

Device Drivers

- **PCI Bus interrogation**
  In IRIX 6.5.22, a driver can obtain information about the PCI bus in which its device is installed. (The only information available about PCI buses on the other side of a PCI-to-PCI bridge is whether multi-master capability is supported.) PCI bus information is returned by the `pciio_businfo_get`() function as a pointer to a bus information structure `pciio_businfo_s`.

  For information about interrogating a PCI bus, see the *IRIX Device Driver Programmer's Guide*.

NFS

- **Improvements to NFS operation**
  The IRIX 6.5.22 release includes the following improvements to NFS:
  - Changes have been made to the operation of the buffer cache during NFS operation. These updates keep I/O performance from collapsing under heavy load and improve the efficiency of I/O in general.
  - A new mode has been added to IRIX's kernel NFS service where the number of NFS server daemons grows and shrinks in response to NFS load. Previously on IRIX this was a fixed number that the system administrator had to choose, and both the default number and the recommended tuning procedure ensured inadequate NFS performance for many workloads. IRIX now requires less tuning and will perform better out of the box.

    For information on this mode, see the section on DYNAMIC NFS DAEMONS in the `nfsd`(1M) man page.
  - A new `-d` option has been added to the nfsstat command that will display statistics about individual NFS daemons. For information on this option, see the `nfsstat`(1M) man page.
  - NFS now provides an optional `async` mode to improve write performance. This mode is set with the `async` option of the `exportfs` command. By allowing an administrator to switch from synchronous write/commit cycles to performing the same

operations asynchronously, NFS writes can finish up-to 10 times faster on the client and server can perform writes in the way which can optimize backend filesystem I/O pattern. This option is recommended only for heavy synchronous write loads. For further information, see the `exportfs`(1M) man page.

  - A an `offline` option to the `exportfs` command has been added for use with Failsafe operations. Historically Failsafe relied on brute-force approach to stop NFS-related activity by killing NFS daemons. With the `offline` option a selected subset of filesystem can be moved offline while NFS server can continue to serve requests to other filesystems. For information on this option, see the `exportfs`(1M) man page.

Networking

- **Network time protocol (NTP) support**
  Network time protocol (NTP) is a newly supported component as of the IRIX 6.5.22 release. For more information see “Setting up Time Synchronization Service” in *IRIX Admin: Networking and Mail*.

- **Bind Version 9.2.2**
  The IRIX 6.5.22 release supports BIND version 9.2.2. BIND version 9 is a major rewrite of nearly all aspects of the underlying BIND architecture. Some of the important features of BIND 9 are, as follows:

  - DNS security enhancements

- IP version 6
- DNS protocol enhancements
- Multiple views of the DNS namespace
- Multiprocessor support
- Improved portability architecture

For more information on BIND version 9, see *IRIX Admin: Networking and Mail*. Detailed information is available at http://www.isc.org/. Follow the link to BIND documentation.

SGI Software Product Life Cycle Management

- **IRIX Support Policy**
  In accordance with the SGI software product life cycle management strategy announced in December 2002, SGI will announce support mode changes for various software products on a semi-annual basis. To view customer letters containing support mode changes announced since December 2002, as well as the latest IRIX Support Policy documents, visit the IRIX Support Policy Web page on Supportfolio Online (http://support.sgi.com/).

Applications CD

The following full images have been added to the IRIX 6.5 Applications CD, November 2003:

- Java3D 1.3.1

The following full images have been added or moved to the IRIX 6.5 Complementary Applications CD, November 2003:

- OpenOffice.org, 1.0.3.1a
- Common Desktop Environment, 5.3.2
- Cosmo Create Authoring Environment, 1.0.3a
- Netscape Navigator Client, 4.8a (extras)
- Netscape Communicator Developer's Environment, 4.8a (dev)
- SGI Book Building Tools, 5.3 (dev)

The following full images have been revised for the IRIX 6.5 Applications CD, November 2003:

- Access for Movement-Impaired Users, 1.1.5
- Adobe Acrobat Reader, 4.05b
- Macromedia's Flash5 plugin - 5.0.89.2
- Information Searching Execution Environment, 6.5.22
- Online Documentation Software, 5.3

- Java2 v1.4.1_02 Execution Environment (Sun JRE v1.4.1_02)
- Java2 v1.4.1_02 Debug Binaries (Sun JDK v1.4.1_02) (dev)
- Java2 v1.4.1_02 Development Environment (Sun JDK v1.4.1_02) (dev)
- Macrovision FLEXlm (v9.0) License Tools, 3.4.10
- Mozilla 1.0.2b
- Netscape Communicator Client, 4.8a
- SGI Scientific Library 1.4.1.3 (SCSL 1.4.1.3)
- SGI Web Server based on Apache, 1.3.28
- SGImeeting Collaboration Environment, 2.0.6
- sgsearch Indexing and Search Environment, 4.3
- SiteMgr - Web Content Administration, 1.2.2

The following overlays have been revised on the IRIX 6.5.22 Overlay CD:

- IRIX Interactive Desktop
- IRIX Interactive Desktop Tools
- IRIX Impressario Printing & Scanning Tools
- WebViewer Library Execution only Enviroment

The following images have been retired from the IRIX 6.5 Applications CD, November 2003:

- Display PostScript/X, 2.0.8 based on PostScript Level

IRIX OS Bundled Software

For information about the bundled software that is included with this release, see the Bundled software and licenses webpage that you can access from the Welcome webpage.

Freeware CDs

For information about the freeware that is supported for this release, including a complete list of the freeware packages, see http://freeware.sgi.com/.

Documentation

The following manuals have been revised for the new features incorporated into this release.

IRIX Admin: Backup, Security, and Accounting, 007-2862-006, includes information about Pluggable Authentication Modules (PAM).

IRIX Admin: Networking and Mail, 007-2860-009, includes information about BIND version 9 and network time protocol (NTP).

IRIX Admin: Software Installation and Licensing, 007-1364-140, includes small technical corrections.

IRIX Checkpoint and Restart Operation Guide, 007-3236-009, includes updated information about the REPLACE keyword.

IRIX Device Driver Programmer's Guide, 007-0911-210, includes information about interrogating a PCI bus.

Personal System Administration Guide, 007-1366-190, includes small technical corrections.

SGI InfiniteStorage CXFS Administration Guide, 007-4016-018, (formerly titled CXFS Version 2 Software Installation and Administration Guide) includes new information about the installation process as well as new information about CXFS configuration and operation.

Trusted IRIX/CMW Security Administration Guide, 007-3299-009, includes updated information on the `xfsdump` and `xfsrestore` utilities.

Trusted IRIX/CMW Security Features User's Guide, 007-3300-005, includes small technical updates and corrections.

XVM Volume Manager Administrator's Guide, 007-4003-016, can now be used as an independent reference for the XVM Graphical User Interface.

Key New Features from Previous IRIX Releases

Descriptions of key new features and changes for the IRIX releases from 6.5.1 through 6.5.21 are provided in the Customer Welcome document. This document is available on the IRIX 6.5.22 Overlay CDs and can be accessed in any of the following ways:

- Insert Installation Tools and Overlays CD 1 or CD2 into the CD-ROM drive and point a web browser at file:///CDROM/WhatsNew/yoursystem.html. Note that you enter the literal yourSystem.html; do not type your actual system name.
- After completing an install, click on the Guide button of the web browser. Holding the button down yields a menu with `Welcome` as the first item.
- After completing an install, double click the “Welcome to SGI” icon on the desktop.

Descriptions of new features for IRIX 6.5.17 and later are available on Supportfolio Online from the following webpage: http://support.sgi.com/search_request/publications. After logging in to Supportfolio, enter “Start Here” as the keyword and select “IRIX OS Docs ” as the Publication type. Select a Start Here document and follow the “Key New Features and Changes” link for information on the new features for the release selected.

Upcoming Changes to Support Mode Status

The following workstations, graphics and scalable server systems will transition to retired support mode after the IRIX 6.5.22 release in November 2003:

- Challenge DM
- Challenge L

- Challenge XL
- Challenge M
- Challenge S
- Indigo
- Indigo2
- Indigo2 Extreme
- Indigo2 Impact
- Indy
- Power Challenge
- Power Indigo2
- Power Onyx
- Onyx1

Contact your local sales representative to discuss options for replacement or upgrade products.

For information on support for these systems in IRIX 6.5.22 and IRIX 6.5.23, go to the following page on Supportfolio: http://support.sgi.com/search_request/publications/index.

Select the following parameters:

Publication type: news

Product type or keyword(s): IRIX 6.5.22 System Platform Retirement

The following product will transition to retired support mode after the IRIX 6.5.22 release in November 2003:

- Distributed Computing Environment (DCE) / Distributed File System (DFS)

Contact your local sales representative to discuss options for replacement or upgrade products.

IRIX 6.5.22 Update Kit Contents

The IRIX 6.5.22 Update Kit contains the following items for both server and workstation system configurations:

- CD Name:
    1. IRIX 6.5.22 (1 of 3) Installation Tools & Overlays CD, November 2003
    2. IRIX 6.5.22 (2 of 3) Overlays CD, November 2003
    3. IRIX 6.5.22 (3 of 3) Overlays CD, November 2003
    4. Applications CD 1 of 2 for 6.5.22, November 2003
    5. Applications CD 2 of 2 for 6.5.22, November 2003
- The IRIX CD booklet *Installation Instructions: Installing an Intermediate (Overlay) Release, Installing Applications, Installing Software Licenses*

SGI Websites

IRIX 6.5-Related Websites

- SGI product information

  http://www.sgi.com/products/
- IRIX 6.5 datasheet

  http://www.sgi.com/software/irix6.5/datasheet.pdf
- Supportfolio Online, IRIX 6.5 content

  http://support.sgi.com/irix/6.5

Services

- Customer Education Services

  http://www.sgi.com/support/custeducation/
- Professional Services

  http://www.sgi.com/services/

Online Tools

- Customer Registration

  http://www.sgi.com/support/custreg.html
- Software Licensing/Key-O-Matic

  http://www.sgi.com/support/licensing/
- Online documentation - Technical Publications Library

  http://docs.sgi.com/
- Supportfolio Online

  http://support.sgi.com/

Other Sites

- Download Cool Software

  http://www.sgi.com/products/evaluation/
- Free Software

  http://freeware.sgi.com/

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