START HERE: Installing IRIX 6.5.12

Welcome

Print Version

Before You Install

Before You Install Checklist

1. **Make Sure Your System Can Run 6.5.12**
2. **Check For Important Caveats That Affect Your Installation**
3. **Confirm That The Applications You Rely On Are Supported**
4. **Create A Full System Backup**
5. *(Optional)* **Read About The CDs You Will Use**
6. *(Optional)* **Check For Key Changes In This Upgrade**
7. *(Optional)* **Request A License Password**

Do you have questions that remain unanswered? See the Resources section.

To Install

IRIX Operating System Installation Methods

The installation instructions for installing/upgrading the IRIX operating system in the *IRIX 6.5 Installation Instructions* CD booklet use either the **Inst** command line program or the Software Manager program, the graphical version of **Inst** that uses a graphical user interface (GUI). To obtain more details on either of these programs, see the following:

- For more information on **using Inst**, you have a few options:
  - See the online book, *IRIX Admin: Software Installation and Licensing* (choose Help > Online Books from the Toolchest, or use the Base Documentation CD).
  - Use the command line help provided in Inst by entering `help help` at the Inst prompt.
  - See the inst(1M) man page.

- For more details on **using Software Manager**, use the Software Manager (swmgr(1M)) Help menu.

IRIX Operating System Installation Instructions

After you have read through the checklist above, return to the relevant **installation instructions in the *IRIX 6.5 Installation Instructions* CD booklet** that came with your CDs.

PDF file of *IRIX 6.5 Installation Instructions* CD booklet.

If you ever need to return to the IRIX 6.5 release, follow the "Installing an Intermediate Release on IRIX 6.5 or Later" instructions in the *IRIX 6.5 Installation Instructions* CD booklet, but use the selection commands given for switching to the *maintenance* release. Also, use the core 6.5 CDs in addition to any other relevant CDs for the release to which you are downgrading.

Resources

- IRIX 6.5 Overview Information

- General

Documentation

- Technical Support

IRIX 6.5 Overview Information

This section provides information about hardware system platforms and peripherals, the IRIX CD descriptions, internationalization, and supported third−party software.

Supported Hardware System Platforms and Peripherals

To find out more information about the supported hardware and peripherals, see the Minimum Requirements page.

CD Descriptions

See the CD Descriptions page for a detailed description about each CD.

Internationalization

See the Language and Cultural Support page for information on how to set up your system for different locales.

Supported Third−Party Software

To find out about supported third−party software and peripherals, see the SGI Applications & Solutions Directory (http://www.sgi.com/products/appsdirectory.dir/appsdirectory.html). It is a comprehensive guide to third−party software applications, peripherals, and services for SGI workstations and servers. Over 3100 products are included in this web edition of the directory.

General Documentation

This section provides information on the types of documentation that are available with this IRIX release.

Release Notes

You can access release notes for each software product in a few different ways, including:

- **Before installation,** you can use the Base Documentation CD.
- **On systems running 6.3 or later**, you can use Software Manager to read the release notes by selecting the product name from the distribution list and choosing Selected > Release Notes... .
- **After installation**, choose Release Notes from the Toolchest Help menu.

Check for **Caveat and Release Note Updates**, which contain late−breaking information, at http://support.sgi.com/6.5/caveat_updates.html

IRIX Man Pages

The IRIX man pages are available on the Technical Publications Library Web site at http://techpubs.sgi.com.

IRIX Manuals

Installed | Printed | On the Web

Installed

SGI documentation is installed by default. Most applications have a Help menu or Help button. You can also use the Help menu on the Toolchest.

Some things you will find under Toolchest > Help:

- **InfoSearch:** "One−stop shopping" and searching for virtually all installed documentation, including online books, Man pages and Release Notes. (To launch InfoSearch from the command line, enter `infosearch` in a shell.)
- **Quick Answers:** Quick answers to common questions related to the tasks and tools that are a part of your system's end user software environment, including personal system administration tasks. Includes search capability.
- **Hints and Shortcuts:** A visual overview of hints and shortcuts for the IRIX Interactive Desktop.
- **Online Books:** A searchable library of online books.

Note: You can also access online documentation before (and after) installation, by using the Base Documentation CD.

Printed

Each system comes with an Owner's Guide. Hardware boards and peripherals also come with printed documentation. In addition, some hardware documentation is shipped online, and most hardware documentation can also be found on the Technical Publications Library Web site (listed below).

On the Web

Another place to find general documentation is on the Web:

- http://techpubs.sgi.com

  The IRIX 6.5 bookshelf on the Technical Publications Library Web site allows you to access all IRIX 6.5 books on the Web. It includes hardware books as well. You can search for a manual by entering its title or document number in the keyword search. You can download PDF files by clicking on the book's download link.

- http://www.sgi.com/developers/technology/index.html

  Tech Focus provides easy access to FAQs (Frequently Asked Questions), Newsgroups and much more.

Technical Support

SGI Global Services

Complete information about SGI Global Services, including Worldwide Support Sites, can be found at http://www.sgi.com/support/.

Telephone Support

The Customer Support Center (CSC)is for:

- Hardware and software telephone technical assistance
- Opening a service call or checking the status of an existing call
- Requests for on–site assistance or replacement parts
- Ordering spare parts
- Registering or obtaining information about our Customer Education courses
- Referral to your local service office for information about our support programs

(Please note that service will be provided in accordance with your system's current level of support. Service varies by warranty coverage and support program.)

Phone Number: 1.800.800.4SGI (4744)

Online Support

Supportfolio Online (http://support.sgi.com) offers you the ability to access and download the latest patches, find technical information, and open support cases all with an easy–to–use Web interface. You can also sign up for our email notification service to automatically receive updates on new support information and features. Anyone is welcome to become a Supportfolio Online member. To take full advantage of all the features, you must have a support contract with a software component. For more details, see http://www.sgi.com/support/online/.

General Software Patches

Information about software patches that apply to the general user environment can be found at the SGI Services and Support Patches page (http://www.sgi.com/support/patch_intro.html).

Before You Install Checklist

Before You Install Checklist

1. **Make Sure Your System Can Run IRIX 6.5.12**
   See the Minimum Requirements page to confirm that IRIX 6.5.12 is supported on your system.

   Because IRIX 6.5.*x* (meaning 6.5.1, 6.5.2, etc.) releases are cumulative, you do not need to upgrade to the previous IRIX 6.5.*x* release in order to upgrade to a new one.

   Similarly, if you are running a pre–6.5 version of IRIX you can install the IRIX 6.5 and

6.5.x software at the same time. For example, by following the instructions in the *IRIX 6.5 Installation Instructions* CD booklet, you can upgrade directly from IRIX 6.2 to 6.5.12.

2. **Check For Important Caveats That Affect Your Installation**
   Review the special Caveats to Read Before You Upgrade. These caveats may include key details that significantly affect your installation process. (You want to print the entire page, because it also contains Caveats to Read After You Upgrade. This way, you will not have to look them up after installation.)

   Beginning with the IRIX 6.5.4 release, a *New_IRIX_Info* icon can be found on the WhatsNew page in the Icon Catalog. When you click on this icon, a web page opens and provides descriptions of the key new features and changes of this IRIX release.

   After you install IRIX, users can access the *New_IRIX_Info* icon from their desktops through the following pulldown menu:

   Toolchest −> Find −> Icon Catalog −> WhatsNew

   The information displayed is the same Key New Features and Changes information included in this Start Here (see step 6 below).

   Note: The IRIX Welcome product is located on the Installation Tools and Overlays CDs (either CD 1 of 3 or 2 of 3, depending on which stream you are installing) in the */dist* directory; it is installed by default. The IRIX Welcome product must be installed in order for the *New_IRIX_Info* icon to be included in the WhatsNew page of the Icon Catalog.

3. **Confirm That The Applications You Rely On Are Supported**
   If you *rely on* any applications that are not bundled with this release, do not upgrade until you can confirm that they are supported on the IRIX 6.5 release family and/or until you have access to the IRIX 6.5−compatible version of such applications. Check the Software Product Knowledge Database at the *Supportfolio Online* site (http://support.sgi.com) to help you with IRIX 6.5 compatibility questions.

   The best way to confirm application compatibility is to either check the SPK database if you received the application from SGI, or check with the third−party product vendor if you received the application from the product vendor.

   A few examples are given in the Caveats section.

4. **Create A Full System Backup**
   If you are upgrading from a pre−6.5 version of IRIX, then create a full system backup before upgrading to a new operating system. If, for any reason, you need to return to a previous operating system after the upgrade, you can use a full system backup tape or filesystem to do so. If you are upgrading from IRIX 6.5 or 6.5.x to IRIX 6.5.12, a full

system backup is not required, but we encourage you to back up your system fully during any operating system installation or upgrade. Instructions for backing up and restoring workstations can be found in the online *Personal System Administration Guide*. For servers, use the backup(1) and restore(1) commands; refer to the online book *IRIX Admin: Backup, Security, and Accounting* for details. If you don't know where to find these books, see the General Documentation section.

5. *(Optional)* **Read About The CDs You Will Use**
   Are you upgrading from IRIX 6.5 or 6.5.x to IRIX 6.5.12?
   Then you only need to install the IRIX 6.5.12 CDs, unless you want to switch release streams (in which case you will also need the base IRIX 6.5 CDs). (To switch release streams, see the *IRIX 6.5 Installation Instructions* CD booklet.)

   Are you upgrading a system running a pre−6.5 version of IRIX, or installing onto a clean disk?
   If so, you need to install both the IRIX 6.5 and 6.5.12 CDs (except for the IRIX 6.5 Installation Tools CD).

   See CD Descriptions.

   See the CD Contents page for a list of contents for the IRIX 6.5.12 and 6.5 CDs.

6. *(Optional)* **Check For Key Changes In This Upgrade**
   To find out about key changes in this upgrade, check the Key New Features and Changes list. For specific details about changes in each individual software product, see the product release notes.

7. *(Optional)* **Request A License Password**
   If you need a license password for any of the optional applications that require a license password, you can refer to the License Information Guide site (http://www.sgi.com/Support/Licensing/license_info_guide.html) for details.

Do you have questions that remain unanswered? See the Resources section.

Minimum Requirements and Supported Platforms

Memory and Disk Space Requirements

- **Memory.** The minimum memory requirement for Indy, R4000 Indigo and Indigo2 is 32 megabytes (MB). However, 64MB of memory or more is highly recommended. For all other supported systems, the minimum is 64MB.

- **Disk Space.** A standard, default installation of IRIX 6.5 plus IRIX 6.5.12m occupies approximately 1.5 gigabytes (GB) of disk space.

  A 2GB or larger hard drive is recommended, although it is possible to limit your installations so that you can run 6.5 on less than 1GB, as shown in the example below.

  Example of a "Minimal IRIX" Upgrade
  What follows is an example of how you could install a *very* minimal IRIX 6.5.12 on less than 1GB−−by substituting these installation commands for the installation selection part of the IRIX upgrade. This "minimal IRIX" example occupies about 500MB on an Indy, and does not include any of the online books or man pages.

  ```
  Inst> keep *

  Inst> install required

  Inst> install default eoe 4Dwm desktop_base x_eoe desktop_eoe netscape

  Inst> keep *.books *.man

  Inst> install prereqs
  ```

Supported Platforms

You can upgrade from IRIX 5.3, or IRIX 6.2 through 6.5.11.

IRIX 6.5.12 supports all SGI systems with R4x00, R5x00, R8000, and R1x000 CPU types, except Crimson. This includes:

- Challenge S
- Challenge M
- Indigo−−see special preinstallation caveat
- Indigo2 −−see special preinstallation caveats
- Indigo2 Extreme
- Indigo2 Impact 10000
- Indy
- O2
- Octane
- Onyx
- Onyx2

- Origin 200
- Origin 2000 (now also includes the Cray Origin 2000 systems)
- Power Challenge
- Power Challenge M
- Power Indigo2
- Power Onyx
- SGI Origin 3000 server series

Obsolete Peripherals and Software

The following are not supported in 6.5.12:

- 4DDN
- 4DLT
- EISA Sync Serial Card
- GIO Sync Serial Card
- GIO Token Ring
- Hibernator II
- IRIS 5080
- IRIS Channel Adapter
- IRISxfr mainframe software
- IRIXPro
- IRIXPro Proconf
- Molecular Inventor
- Propel
- SNAserver
- SX.25
- Tooltalk Dev
- USL C++ Translator V3.0.1
- Vigra VME audio board
- VME Sync Serial Card
- VME Token Ring Card

Key New Features and Changes

The goal of the IRIX 6.5 release family is to provide a high quality and stable operating system for all SGI systems. This release family supports all SGI hardware platforms supported by IRIX 6.2, 6.3, and 6.4, except for Crimson. Significant additional software has been packaged with IRIX 6.5, including some important system and network management and interoperability tools.

The page contains a partial list of the key new features and changes for:

IRIX 6.5.12

To see the list of key features and changes for the IRIX 6.5 and IRIX 6.5.1 through 6.5.11 releases, see the previous IRIX features page.

Look for information about the IRIX 6.5 release family on Supportfolio Online (http://support.sgi.com) and www.sgi.com.

For details on any of these new features and changes, refer to the release notes.

Please be aware that some features listed here are only applicable for certain software bundles or hardware configurations.

IRIX 6.5.12 Key New Features

The following features are in the core 6.5.12 overlays.

New Software Supported

Feature Stream Only:

- Supports the labeling of disks as XVM system disks in the XVM Volume Manager. This lets you create XVM logical volumes that include the partitions of a system disk. The following XVM system disk features are supported:
  - Root partitions can be mirrored
  - There can be multiple root partitions on a system disk
  - You can include usr and swap partitions in any XVM logical volume configuration, including mirrors, concats, and stripes
  - A system disk can include slices that are not part of a root, usr, or swap partition

  You can now convert existing system disks to XVM system disks, and then use their partitions as part of an XVM logical volume. After you have converted an existing system disk to an XVM disk, you can convert the disk back to its original state by unlabeling the disk with the XVM unlabel command. For information on XVM system disks, see the *XVM Volume Manager Administrator's Guide.*

Maintenance and Feature Stream:

- OpenGL Performer 2.4.1 execution environment, which is a powerful suite of tools and features that creates real−time visual simulation and other professional performance−oriented 3D graphics applications for the IRIX operating system. The following new features for OpenGL Performer provide enhanced realism and peak−performance rendering:

  - Programmable model shading using pfShader
  - Use of pfVolFog for rendering layered and patchy fog
  - Use of pfRotorWash to create the visual effect of downwash in helicopter simulation
  - Double−precision matrix support for rendering extremely large databases where objects are far away from the origin
  - CPU priority specification to allow multiple run−time processes to run on the same processor
  - Multi−pipe scalability enhancements
  - Improved pfLOD behavior to allow custom evaluation functions
  - Speed and functionality enhancements for pfFlux, pfCliptexture, and pfLightpoints
  - pfHyperpipe support for the DPLEX hardware option
  - EventView performance tuning tool for instrumenting and tuning your OpenGL Performer application
- The IRIX tape−support feature consists of a tape support driver, personality daemons, and a daemon that manages the personality daemons. The feature enables new personality daemons to be developed and added individually. The tape−support driver, which co−exists with the current IRIX tape driver (tpsc), passes all device−dependent tasks, except for I/O processing, to a personality daemon. This release supports various devices including the Fibre Channel implementation on the StorageTek 9840 and T9940A tape drives. The reserve, release, preempt, clear, and prsv commands are available for these tape drives on the mt command. For more information, see the mt(1), tsarchive(1M), tsdaemon(1M), tserrpt(1M), tsset(1M), tsstop(1M), ts.config(4), and ts(7) man pages.
- Updated FLEXlm v7.2e support from GLOBEtrotter Software, Inc. The license manager daemon and the floating license server are built in V5 compatibility mode. For backwards compatibility, the client libraries and header files are still based on FLEXlm v6.1. For more information, see the *FLEXlm End User Manual* and the associated man pages.
- The Scheduled Transfer Protocol (STP) has moved from the feature stream to the maintenance and feature stream. STP is now a mature supported protocol and it includes TRIX support.

Applications CD:

- SGI web server, based on the Apache web server version 1.3.17, replaces the Netscape FastTrack web server; for details on how to change your default web server and configure and administer the SGI web server, see Caveats to Read After You Upgrade
- WebSetup 3.2 has been updated to support the SGI web server based on Apache
- NEdit version 5.1.1a has added extensions to the regular expression syntax, an improved international character set input, new macro subroutines, and improved syntax highlighting for several programming languages
- Runtime Plug−in for IRIX, Java(TM) Edition 1.1.1b has added support for the Netscape N32 plugin and the O32 plugin
- The following products from the Isogon Corporation have been removed: LicensePower/iFOR IS4.0.1 ARK and LicensePower/iFOR IS4.0.1 CRK. Sales and support has been divested to the Isogon Corporation at http://www.isogon.com. For more information on support modes, see the Support Policy page at http://www.support.sgi.com/news/support/index.html#support_policy.
- Impressario 2.8.5 supports two new HP printer drivers, HP4050 and HP8100

Bundled Software:

- Removal of the Out of Box Experience (OOBE) CD
- Removal of the Hot Mix CD

For more information about the bundled software that is included with this release, see CD Contents and the Bundled Software and Licenses web page that you can access from the Welcome web page.

Freeware CD:

- Security−related bug fixes or updates have been made to analog, bind, htdig, nmh, and openssh
- Several new packages have been added to the archives, including cpio, licq, and vnc
- Many packages have been updated or patched, including ddd, gdb, gimp, nedit, postgresql, and other GNOME 1.2 related packages

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

Documentation

- *IRIX Environment Variables Ready Reference*, part number 007−3942−001. This publication describes the environment variables that are used on IRIX operating systems, in the compiling environment, and in other applications that run on IRIX operating systems (such as SpeedShop).
- The *CXFS Software Installation and Administration Guide* (part number 007−4016−008) was rewritten to include more troubleshooting information.

If you are using the Before You Install checklist, return to Step 7.

Key Features and Changes for Previous IRIX Releases

The goal of the IRIX 6.5 release family is to provide a high quality and stable operating system for all SGI systems. This release family supports all SGI hardware platforms supported by IRIX 6.2, 6.3, and 6.4, except for Crimson. Significant additional software has been packaged with IRIX 6.5, including some important system and network management and interoperability tools.

The page contains a list of the key features and changes for the IRIX releases from 6.5 through 6.5.11:

IRIX 6.5.x

IRIX 6.5

To see the list of key new features and changes for the IRIX 6.5.12 release, see the Key New Features and Changes page.

For information about the IRIX 6.5 release family, see Supportfolio Online at (http://support.sgi.com) and www.sgi.com.

For details on any of these new features and changes, see the release notes.

Please be aware that some features listed here are only applicable for certain software bundles or hardware configurations.

IRIX 6.5.x Key Features

The following features are in the core 6.5.x overlays.

Hardware Supported from IRIX 6.5.1 through IRIX 6.5.11

- Support for the SGI Origin 3000 server series, including the SGI 3200, SGI 3400, and SGI 3800 servers (initially supported in 6.5.9)
- Support for the TVO digital video option board for Silicon Graphics Onyx2 systems (initially supported in 6.5.9)
- Support initiated for VPro Graphics, the next generation graphics for Octane systems (initially supported in 6.5.8)
- Onyx2 InfiniteReality3 systems (initially supported in 6.5.8)
- R12KS CPU on sgi2200, sgi2400, and sgi2800 systems (pending overall product release) (initially supported in 6.5.7)
- QLA2200 (both copper and optical) is supported for FC−AL, FC−AL via the Emulex hub or Fabric attach via the Brocade Silkworm 2000 switches (initially supported in 6.5.5)
- 270 Mhz processor for O2 and Silicon Graphics Octane (initially supported in 6.5.4)
- HDTV XIO Board for Silicon Graphics Onyx2 and SGI Origin 2000 systems (this includes systems formerly known as Cray Origin2000 systems) (initially supported in 6.5.4)
- Systems using the MIPS R12000 processor (initially supported in 6.5.3)
- Digital Video Multiplexer option board (DPLEX) for Silicon Graphics Onyx2 systems (initially supported in 6.5.3)
- Redundant Power Supply (RPS) (initially supported in 6.5.3)
- 21" Monitor Support for O2 and Octane (initially supported in 6.5.3)

- Flat Panel Monitor for O2 systems (initially supported in 6.5.2)
- 16 pipe Onyx2 InfiniteReality systems (initially supported in 6.5.2)
- GSN network adapter (initially supported in 6.5.2)
- Gigabit Ethernet for Octane and SGI Origin systems (initially supported in 6.5.1)
- 128p Metarouter for Origin 2000 systems (formerly known as Cray Origin2000 systems) (initially supported in 6.5.1)
- Dual Channel Display option for O2 systems (initially supported in 6.5.1)
- Onyx2 InfiniteReality2 systems (initially supported in 6.5.1)
- 225QC for SGI Origin 200 (initially supported in 6.5.1)

Software Supported from IRIX 6.5.1 through IRIX 6.5.11

Feature Stream Only:

- CXFS supports the use of hierarchical storage management (HSM) products through the data management application programming interface (DMAPI). An example of an HSM product is the SGI DMF product. This feature was initially added in 6.5.9.
- Support for the Scheduled Transfer Protocol (STP). STP is a lightweight network protocol that is compliant with the ANSI Standard Revision 3.1 protocol suite that is designed to support extremely high performance data movement. STP uses Direct Memory Access (DMA) to read and write data into user space from a network interface. This lets high bandwidth devices, such as Gigabyte System Network (GSN) and Gigabit Ethernet (GigE), perform at network speeds with minimum interrupt overhead. For more information, see the stp(7P) man page or http://www.hippi.org.) This STP feature was initially added in 6.5.9. In 6.5.6, STP was initially added to the IRIX feature stream with minimal functionality.
- Support for disk quotas that can now be set by project ID. Disk quotas let you limit the amount of space a user or project can occupy and the number of files (inodes) that each user or project can own. You can implement hard or soft limits; hard limits are enforced by the system and soft limits only remind the user to decrease disk usage.

  For more information on disk quotas and their administration, see *IRIX Admin: Disks and Filesystems,* which now includes information about project quota administration. For more information on project IDs, see *IRIX Admin: Backup, Security, and Accounting*. For more information on the administration of disk quotas by project, see the edquota(1M), find(1M), quota(1M), repquota(1M), and fstab(4) man pages. This feature was initially added in 6.5.9.

- Support for the waitjob feature, which includes the new functions setwaitjobpid() and waitjob(). These functions let the batch schedulers query job information following job termination. When a batch scheduler launches a job, it calls setwaitjobpid() to tell the new job what pid is waiting for information upon termination. When the job terminates, it remains as a zombie until either the batch scheduler calls waitjob() to retrieve the job's termination information or the waiting pid no longer exists. The information returned includes the job start time, usage information, and reason for termination.

  For more information, see *IRIX Admin: Resource Administration* and the waitjob(1M) and setwaitjobpid(1M) man pages. This feature was initially added in 6.5.9.

- Support for Comprehensive System Accounting (CSA). CSA is a set of user and

administrative C programs and shell scripts that provide methods to collect per−process resource usage data, monitor disk usage, and charge fees to specific login accounts. CSA uses this per−process accounting information and combines it by job identifier within the system boot uptime periods. CSA provides the following features that are not available with any other IRIX accounting package:
    - Per−job accounting
    - Daemon accounting (tape and Network Queuing System (NQS))
    - Flexible accounting periods (daily and periodic accounting reports can be generated as often as desired and not restricted to once per day or once per month)
    - Flexible system billing units (SBUs)
    - User exits for site specific customization of daily and periodic accounting
    - Configurable parameters within the /etc/csa.conf file
    - User job accounting (ja command)

  For more information, see *IRIX Admin: Resource Administration* and the csa(1M) man page. This feature was initially added in 6.5.8.

- Support for the CXFS product, which provides a cluster file system that allows file sharing between machines. CXFS includes the following capabilities:
    - High resiliency and availability
    - Reduced storage costs
    - Scalable high performance

  The 6.5.7 release contains metadata server recovery. See the *CXFS Software Installation and Administration Guide* for the administrative shutdown procedures and additional troubleshooting information. The CXFS feature was initially added in 6.5.6.

- Support for job limits. You can use this feature if you want to prevent individual users from exceeding specified usage limits; this can improve system throughput and utilization by restricting how much of the machine each user can access. For more information, see *IRIX Admin: Resource Administration* and the jstat(1), jlimit(1), genlimits(1M), and showlimits(1) man pages. This feature was initially added in 6.5.7.

- Motif 2.1/ViewKit 2.1 (initially added in 6.5.2)

- IRIX Oplock Support (initially added in 6.5.2)

- Support for Non EUC encoding and locales (sjis/big5/gbk/utf8) (initially added in 6.5.2)

Maintenance and Feature Stream:

- Support for the use of a reserved area of memory; this reserved area is between virtual addresses 0x30000000 and 0x40000000. This feature disables the reserved area of memory that the kernel provides for applications to place their mmap and shmat mappings. For more information, see the mmap(2), shmat(2), syssgi(2), and sgi_use_anyaddr(1) man pages. This feature was initially added in 6.5.11.

- Support for weightless pthreads; they allow you to lower the priority of a process by using the npri −w command. For more information, see the npri(1) man page. This feature was initially added in 6.5.11.
- Support for upgrading license_eoe to the FLEXlm 7.1 release from Globetrotter Software, Inc. The license manager daemon will be built in V5 compatibility mode. For more information, see the *FLEXlm End User Manual* and the associated man pages. This feature was initially added in 6.5.11.
- Support for an increased maximum number of logical unit numbers (LUNs) in the SCSI infrastructure from 64 to 255. This change impacts only the fcadp and qlfc fibre channel drivers and they will now enforce this LUN limit. If a LUN is greater than 255, it will be ignored after issuing a message to this effect. If you use large numbers of LUNs, you can exhaust the hardware graph. You may need to use the systune command to increase the hwgraph_num_dev parameter to let the kernel build larger hardware graphs. This feature was initially added in 6.5.11.
- Support for licensing of partitioned environments. The SGI Origin 3000 server series and SGI Onyx 3000 series of systems give you the flexibility to distribute and manage a partitioned system environment on a large CPU server system. In most cases, software licensing behaves in the same manner on a single system image as in a partitioned environment. However, there are some differences. Depending on your applications, you may need either systemwide or per−CPU licensing. For more information, see *IRIX Admin: Software Installation and Licensing*. This feature was initially added in 6.5.11.
- Support for the PCI Hot Plug infrastructure on the SGI 3200, SGI 3400, and SGI 3800 servers. The Hot Plug feature consists of the Hot Insertion and Hot Removal actions. Each device driver must be qualified as supporting one or both of these actions. Currently, the QLogic fibre channel and QLogic SCSI device drivers are qualified for Hot Insertion. For more information on specific administrative options, see the pciconfig(1) man page. This feature was initially added in 6.5.11.
- Support for point−to−point connections between the QLogic 2200 fibre channel controller and the Brocade switch. This type of connection lets the QLogic 2200 controller perform full duplex transfers with the switch offering a potential increase in bandwidth. This capability was enabled by changing the value assigned to the qlfc_use_connection_mode variable (in /var/sysgen/master.d/qlfc) to 2. The previous value was 0. This change does not impact loop operation. This feature was initially added in 6.5.10.
- Support for the IRIX SCSI tape driver (tpsc) enhancements that let system administrators and privileged applications specify a persistent reservation on shared tape drives. After the reservation has been established, the shared tape drive cannot be accessed by another host until the reservation has been released. For more information, see the mt(1) and mtio(7M) man pages. This feature was initially added in 6.5.10.
- Support for the new Fortran, C++, and base compiler runtime libraries packaged under the ftn_eoe, c++_eoe and compiler_eoe overlay images. These libraries are based on the MIPSpro 7.3.1.2m compilers and contain new interfaces released under the MIPSpro 7.3 compilers. The libraries are backward compatible with the libraries that were released in previous versions of IRIX 6.5. For more information, see the ftn_eoe, c++_eoe, and compiler_eoe release notes. This feature was initially added in 6.5.10.
- Support for Embedded Support Partner 2.0 (ESP2.0). This release supercedes patch 3895 and includes the major features as follows:

- Automatic Call Logging to the SGI call centers for Mission Critical Supported customers
- Support of event profiles for monitoring
- A new command line interface to setup and use ESP
- A new user interface with a high level of usability and navigational features
- Fixes to the System Group Manager for secure interconnectivity between group members and the group manager
- Support for an unlimited number of group members to the System Group Manager
- Multiple ESP user support with page privileges
- ESP logbook for electronically logging and tracking support activities locally on the system

The migration from ESP1.0 to ESP2.0 is done seamlessly when upgrading from previous versions of IRIX to IRIX 6.5.9. This feature was initially added in 6.5.9.

The *Embedded Support Partner Overview* and the *Embedded Support Partner User Guide* have been combined. The new document is called the *Embedded Support Partner User Guide* and will contain overview and usage information for the ESP 2.0 command line and graphical user interfaces.

- Support for the SCSI Enclosure Services (SES). A new subsystem that manages the Fibre Channel drive enclosures has been added. The new daemon, sesdaemon, supports the Xyratex 12−slot enclosure and the Clarion 10−slot enclosure. The new client application, sesmgr, uses a command set similar to the set used by the previous fcagent/fccli subsystem. For more information, see the sesdaemon(1M) and sesmgr(1M) man pages. This feature was initially added in 6.5.9.
- Support for 32−bit direct mapping to any node on the system. This feature lets the system administrator change the 32−bit direct mapping node for a specific Peripheral Component Interconnect (PCI) bus. It also provides a new interface, pcibr_get_dmatrans_node(), that lets a device driver obtain the node ID. For more information, see the *IRIX Device Driver Programmer's Guide* and the pcibr_get_dmatrans_node(D3) man page. This feature was initially added in 6.5.8.
- Support for the cpuset programming interface (previously known as miser_cpuset). This interface is provided in the form of a Dynamic Shared Object (DSO). You can use this programming interface to create cpusets, remove cpusets, and attach processes to cpusets. You can use the cpuset programming interface in areas where the cpuset command is inappropriate. For example, if a batch system needs to use the cpuset capability in IRIX, the programming interface will provide a more flexible and robust solution than the cpuset command. For more information, see *IRIX Admin: Resource Administration* and the cpuset(5), cpusetAllocQueueDef(3x), cpusetAttach(3x), cpusetCreate(3x), cpusetDestroy(3x), cpusetDetachAll(3x), cpusetFreeCPUList(3x), cpusetFreeNameList(3x), cpusetFreePIDList(3x), cpusetGetCPUCount(3x), cpusetGetCPUList(3x), cpusetGetName(3x), cpusetGetNameList(3x), and cpusetGetPIDList(3x) man pages. This feature was initially added in 6.5.8.
- Support for new Miser cpuset options. These options allow the creation of restrictive memory pools from the nodes that contain the CPUs listed in the configuration file. Processes that exceed the available memory on those nodes may be terminated or paged (selectable). For more information on these options, see the cpuset(4) man page. This feature was initially

added in 6.5.8.

- Support for the IRIX sendmail mail system based on sendmail version 8.9.3 (see http://www.sendmail.org) Some of the new functions in version 8.9.3 are as follows:
    - The major difference between sendmail versions 8.8.8 and 8.9.3 is their configuration file. The configuration file in sendmail version 8.9.3 is configured with the *sendmail.mc* file which is processed with the m4 macro processor to create the *sendmail.cf* file.
    - A new version of configmail configures the *sendmail.mc* file and provides features similar to the configmail utility in previous versions of IRIX. This version of configmail also processes the *sendmail.mc* file into *sendmail.cf* by using the m4 macro processor.
    - Sendmail 8.9.3 includes many new features requested by IRIX users, such as anti−relay features which can be used to control spam messages.

  For more information on the 8.9.3 version of sendmail, see the *IRIX Administration: Networking and Mail* manual. For more information on how to configure sendmail, see http://www.sendmail.org/m4/readme.html. The sendmail feature was initially added to the IRIX 6.5.7 release.

- Integration of the fsr_xfs(1M) command into the fsr(1M) command. With previous releases of IRIX, the fsr command could be run only on EFS filesystems and the fsr_xfs command could be run only on XFS filesystems. Both commands reorganize filesystems so that the layout of the extents is improved. This improves the performance of mounted filesystems that have become fragmented over time. With this release, the fsr command invokes fsr_xfs when it encounters XFS filesystems. With this change, the default crontab(1M) entry that calls fsr, also reorganizes XFS filesystems. For information on the fsr command and the fsr_xfs and fsr_efs options, see the fsr(1M), fsr_xfs(1M), and fsr_efs(1M) man pages. This feature was initially added in 6.5.7.
- Support for the −u option of the sat_interpret utility that writes unbuffered output. You can use this new option if you are using the sat_interpret utility to process system audit trail data, and then you can pipe this output to another filter utility. For more information, see the sat_interpret(1M) man page. This feature was initially added in 6.5.7.
- Support for bzero error recovery; this RAS feature prevents the kernel from panicking when a memory Multiple Bit Error (MBE) is encountered while the kernel is zeroing out a new page in the virtual memory fault handler (vfault). The kernel will now discard the page with the memory error, grab a new page, and continue its task. This feature was initially added in 6.5.7.
- Support for the 66 MHz QLogic 2200 controller. This feature provides fibre channel disk connectivity for the O2 systems, for both arbitrated loops and Storage Area Networks (SANs). This capability already exists on the SGI Origin systems. This feature was initially added in 6.5.7.
- Support for the FC−Tape on a Storage Area Network (fabric) using the QLogic 2200 fibre channel controller to the tpsc driver. This feature lets you attach tape drives with the fibre channel interface to the fibre channel switch and use these tape drives. For more information on the fibre channel tapes, see the tps(7M) man page. This feature was initially added in 6.5.7.
- Support for a multithreaded version of the automatic filesystem mount daemon *autofsd*. 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 *autofsd* thread can wait for that server while other *autofsd* 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. This feature was initially added in 6.5.6.

- 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) that can occur on their system. Embedded Support Partner consists of 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 that is included in the Embedded Support Partner package. For more information, see the *Embedded Support Partner Overview*, the *Embedded Support Partner User's Guide*, and the Embedded Support Partner man pages. This feature was initially added in 6.5.5.
- Support for the version 2 XFS directory format; this format provides you with the capability to 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 the *IRIX Admin: Disks and Filesystems* and the mkfs_xfs(1M) man page. This feature was initially added in 6.5.5.
- SCSL is widely used in scientific and technical compute intensive applications and is intended to be a follow on product to Challengecomplib on all supported IRIX platforms at the next major IRIX release. Features such as convolution/correlation and filter routines to the Signal Processing functionality previously only available in Challengecomplib are now incorporated into the SCSL version 1.2 release. Additional IRIX features added to SCSL for this release are improved ordering techniques for the sparse linear solvers, performance enhancements for the MIPS R12000 processor, rollup bug fixes from SCSL 1.1, and all other Challengecomplib 3.1 functionality. SCSL can be downloaded free of charge from the Download Cool Software page at http://www.sgi.com/Products/Evaluation/. For customers who do not have web access and are enrolled under a valid support contract, CD media can be requested free of charge from their local support center. Non−contract customers can order SCSL from their local sales representative. For more information on SCSL, see http://www.sgi.com/software/scsl.html. This feature was initially added in 6.5.5.
- 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*(TM) *IRIX Base Software Administrator's Guide*. This feature was initially added in 6.5.5.
- Two new options were added to the "miser_create_cpuset" command. These options allow additional restrictions on memory assignment for processes running on a cpuset. These options are documented in the miser_cpuset(4) man pages. This feature was initially added in 6.5.5.
- Support for SAN addressing (initially added in 6.5.5)
- Support for the Miser queue repack policy. When a job finishes execution prior to 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 in order 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. For more information, see the miser(4) and miser(5) man pages, and the *IRIX Admin: System Configuration and Operation*, Chapter 7 "Managing User Processes." (initially added in 6.5.4)
- Distributed Computing Environment (DCE) Client for accessing shared resources in distributed computing DCE/DFS serving environments (initially added in 6.5.4)
    - Kernel libraries only
    - As of IRIX 6.5.8 and later, DCE/DFS 1.2.2b software is required for full functionality
- (Octane systems only) The worst–case interrupt response time is guaranteed to be less than one millisecond on properly configured Octane systems (initially added in 6.5.3)
- Support for the X security and appgroup extensions (combined with a new Netscape plugin, these allow the embedding of X applications in Web pages) (initially added in 6.5.3)
- Extra support for European fonts, including the new Euro currency symbol (initially added in 6.5.3)
- New Software Manager and Inst commands to simplify selections for upgrades (initially added in 6.5.3)
- 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 (initially added in 6.5.4)
- LDAP 3.0 now supported (initially added in 6.5.3)
- AutoFS extended to use UNS for map information (initially added in 6.5.2)
- Support for DCShare application sharing extension (initially added in 6.5.2)
- Fibre channel support to Dmnet (initially added in 6.5.2)
- Three new HP printer drivers (initially added in 6.5.2)

Applications CD:

- NEdit version 5.1.1 has added extensions to the regular expression syntax, an improved international character set input, new macro subroutines, and improved syntax highlighting for several programming languages.
- Cosmo Player 2.1.5 release has added support for the Netscape N32 plugin
- CustomerLink Client Software will no longer be supported. Its key features have been migrated to the SupportFolio Online site (http://support.sgi.com).
- Customer Support Services Base Software will no longer be supported. Its key features have been migrated to the SupportFolio Online site (http://support.sgi.com).
- Impressario 2.6.5 has added 1000 new PPD files to the /usr/spool/lp/PPD_untested/ directory. The README file in this directory contains details on how to use the new drivers. The new PPD files include printers from the following manufacturers:
    - 3M
    - Adobe
    - Agfa
    - Apple
    - Autologic
    - Canon
    - Dataproducts

    - Epson
    - FujiPhotoFilm
    - Hitachi Koki Co., Ltd.
    - Hewlett−Packard
    - IBM
    - Kodak
    - Konica
    - Linotype
    - MGI
    - Mitsubishi
    - OKI
    - Optronics
    - PrePress
    - QMS
    - Ricoh
    - Samsung
    - Scitex
    - Shinko
    - Sony
    - Splash
    - Topmax
    - Tektronix
    - Xante
    - Xerox
- Netscape Communicator 4.76; by default, version 4.76 will install the new N32 version of the browser. Any existing third−party plugins for the browser that are O32 will no longer function. Support for the Macromedia Flash plugin is also included. For more information, see http://home.netscape.com/communicator/v4.5/tour/index.html
- Netscape FastTrack Server 3.03 contains an updated version of the Administration Server 3.52 (initially added in 6.5.5)
- NetWare Client 1.1.1 has added support for IP35
- Runtime Plug−in for IRIX, Java(TM) Edition 1.1.1a has added support for the Netscape N32 plugin
- SGImeeting Collaboration Environment with Extensions, 2.0, Net−based data−conferencing, application−sharing software. A 30−day evaluation license is included. The following enhancements are supported:
    - Enhanced NetMeeting 3.0 interoperability − enables offline selection of compatibility for sharing applications supported by NetMeeting 3.0. For more information, see the *SGImeeting Help and User's Guide*.
    - Speed dialing − enables creation of .cnf files and initiates calls from the command line
    - Background operation − provides selections for SGImeeting to minimize, remain actively connected in the background, and pop up when you receive a call
    - Grouped window sharing − enables selecting all windows with a specific X class name to be treated as a single application and shared as a group
    - Response time performance improvement − redraws during application sharing are faster among other functional activities

The SGImeeting Extensions also offer additional whiteboard tools as "plugins" that appear on the whiteboard tool palette. These tools are ideal for group discussions in CAD and image intensive industries. 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

For more information on SGImeeting, see http://www.sgi.com/software/sgimeeting. For additional assistance, contact your local SGI sales representative.

- WebViewer Library Execution only Environment 3.0 release (initially added in 6.5.5)
- Xinet Macintosh Connectivity Software, also referred to as Xinet Appletalk, now includes K−AShare, K−FS, and K−Spool software. These products provide enhancements for Macintosh file sharing, file serving, and printing connectivity with IRIX systems. These Xinet products were updated to version 10.02 in the IRIX 6.5.9 release. Version 10.02 is only the demonstration version; **no** license is included. Any licenses from previous versions of Xinet software will not work with version 10.02. For more information on Xinet products, see http://www.xinet.com. For technical or sales questions, please contact Xinet at sales@xinet.com or 1.510.845.0555.

For more information about the bundled software that is included with this release, see CD Contents and the Bundled Software and Licenses web page that you can access from the Welcome web page.

IRIX 6.5 Key Features

IRIX 6.5 feature categories:

Origin Database

Origin Enterprise System Management

Origin Reliability, Availability, Serviceability (RAS),

Scheduling

Security

Software Distribution

Standards

Workgroup System Management

X11/Motif

Binary Compatibility

Includes both a 32–bit and a 64–bit runtime environment. Systems that use the 64–bit runtime environment support both 32–bit and 64–bit applications; systems that use the 32–bit runtime environment, such as the O2, will only support 32–bit applications.

Systems that support a 32–bit runtime environment with 64–bit extensions*:

- Indigo R4000
- Indigo2
- Indy
- Challenge S/M R4000
- Indy/Challenge
- O2
- O2 R10000

**64–bit extensions include support for XFS filesystem and 64–bit long integers, excluding 64–bit address spaces.*

Systems that support a 64–bit runtime environment:

- Challenge R4000
- Onyx R4000
- Power Indigo2
- Power Challenge
- Power Onyx
- Indigo2 Extreme 10000
- Indigo2 Impact 10000
- Origin 200
- Origin 2000
- Onyx2
- Octane

Desktop

Products:

- Site Manager 1.1, for web content validation and version control, workflow support, 3D visualization, and server traffic statistics
- Adobe Acrobat 3.0, for viewing PDF documents
- Nedit, new default text editor; jot is also available
- Accessibility Panel, new graphical interface for AccessX software, allowing movement–impaired users to use the keyboard and mouse more efficiently
- WebViewer 3.0 now supports CSS1 Style sheets, Netscape plug–ins, JavaScript, history mechanism, animated GIFs (WebViewer is embedded in System Manager, File Manager, Software Manager, InfoSearch, EZ–setup, Site Manager, Out of Box Experience, and SGIHelp)
- Netscape Communicator 4.05 provides support for Navigator (browser), Messenger (e–mail),

Composer (content creation), and Collabra (news reader); MediaMail no longer supported−see preinstallation caveat
- Netscape Communicator Lite 4.05 provides support for Navigator (browser) only

General Changes:

- Desktop now called IRIX Interactive Desktop (previously Indigo Magic)
- For security, ability to display applications that are running on other systems is now off by default (see the online *Desktop User's Guide*, "About the Remote Display Feature," for details)
- Performance improvements in application startup
- Impressario now supports PostScript Printer Description (PPD); HP and Lexmark PPD drivers are included with software

Digital Media

- Media Player now supports movies played to video output
- Movielib file now supports Quicktime MJPEG−A files
- Movielib, Media Player, and Movie Maker now support DV DIF files
- Sony DAT Qualification (LibDatAudio)
- Support new Audio Subcode I/O
- Hardware generated audio events, sample rate changes
- O2 and Octane Digital Media Buffers (dmbuffers) now support the same interface−−the Octane 6.4 interface (for compatibility, the O2 IRIX 6.3 interface will continue to be supported)
- For compatibility, VL Buffers continues to be supported for IRIX 6.2 and earlier applications (dmbuffers are recommended for new application development)

Documentation Content and Delivery

- InfoSearch, new and improved online viewer and search engine for books, man pages, and Release Notes
- New on the Toolchest: Help > Quick Answers; Help > Hints and Shortcuts
- See the Resources section for comprehensive overview of useful information and support

Graphics

- Support for OpenGL 1.1 on all systems
- Imaging performance increased for O2
    - Increased performance for luminance (8 and 16−bit) and RGB images
    - Increased performance for general and separable convolves
    - Increased throughput through the imaging engine

I/O

- Guaranteed Rate I/O (GRIO) support
- Project quotas
- User space serial I/O
- Fibre channel Arbitrated Loop Topology (AL)

Networking

- Simple Network Management Protocol (SNMP) version 2
- (Origin systems only) HP−UX MIB/SNMP provides network manageability in enterprise environments
- Unified Name Service now supports yp services
- NFS for data−serving
- (Origin systems only) Distributed Computing Environment (DCE) Client for accessing shared resources in distributed computing DCE/DFS serving environments

Origin Database

- Database Accelerator (DBA)

Origin Enterprise System Management

- Computer Associates Unicenter® TNG(TM) Framework(TM)

Origin Reliability, Availability, Serviceability (RAS)

- SBE reporting mechanism
- Automatic disabling of failing components while booting
- Extended memory error handling

Origin Scalability Features

- Single system environment consisting of up to 128 processors
    - Single system image
    - Support for balanced batch and timeshare workloads
    - Single administrative entity
- Partitioned system environment consisting of up to 128 processors
    - Partitioned system image with firewalls between each origin partition
    - Application availability with Failsafe (option)
    - Administration through IRIS Console

PC & Macintosh Interoperability

- (O2 systems only) SoftWindows 95 for Windows 3.1 and Windows 95 terminal emulation on IRIX

- Xinet Appletalk for Macintosh file and print sharing
- Novell Netware
- (Origin systems only) Syntax TAS provides instant interoperability with Windows 95 (Server Message Block), Macintosh, and Novell clients
- SAMBA (on Freeware CD) provides interoperability with Server Message Block (SMB) clients

PCI

- Support for multifunction cards
- User−level PCI drivers can now be developed for Octane

Personal System Management

Products:

- New and improved personal system administration interactive guides and tools (accessible from the System Manager)
- Process Manager, graphical tool to manage processes
- Hosts Guide, graphical tool to setup your network

General Changes:

- Startup login screen is user configurable (for example, user icons can be replaced with any image)
- Support for personal filetypes−−allows users to create custom icons for their desktops
- Keyword search now supported in System Manager
- Backup and Restore graphical tool now uses *cpio*

Scheduling

- (Origin systems, Onyx2 systems only) The worst−case interrupt response time is guaranteed to be less than one millisecond on properly configured Origin and Onyx2 systems with up to eight CPUs
- Miser predictive batch scheduler
- Share II resource manager (option)

Security

- Most features of the Commercial Security Pack are now bundled into IRIX 6.5
- Least Privilege (POSIX P1003.1e), which allows allocation of system privileges individually (rather than setuid)
- Access Control List
- Single Sign−on via Distributed Computing Environment (DCE)

Software Distribution Features

- Inst now supports ISO 9660 CDs

Standards

Standards compliance under IRIX 6.4 will be extended, with the addition of:

- Year 2000 compliance as defined by the X/Open group
- UNIX 95 Certified Single UNIX Specification − Spec 1170/UNIX 95
- DII−COE Kernel Version 3.2 available for development projects
- Full pthreads support, including system scope

Workgroup System Management

- (Origin systems only) EnlightenDSM Workgroup Server provides Distributed System Management for small enterprises and workgroups.
- (O2, Octane, Onyx2 systems only) EnlightenDSM Workgroup Client provides Distributed System Management for small enterprises and workgroups

X11/Motif

- Improved performance for X11 and Motif
- Thread−safe Xlib and Xt
- Support for X11R6.3 server and libraries (previously X11R6.1), including support for Low−Bandwidth X
- Continue to support Motif 1.2.4
- Improvements to the hardware colormap implementation minimizes colormap flashing for Impact and Octane graphics systems

If you are using the Before You Install checklist, return to Step 7.

On this page:

- Caveats to Read After You Upgrade

Caveats to Read Before You Upgrade

These caveats make you aware of changes or potential problems that could significantly affect your installation.

Different caveats will be relevant for different types of users; scan the list for information that is applicable for you.

This is not a complete list of all known bugs, workarounds, or changes, which are documented in the release notes for each individual product. In addition to reviewing this list, you may want to check "Caveat and Release Note Updates" link at http://support.sgi.com/6.5/caveat_updates.html for any late−breaking information.

All−Platform Caveats to Read Before You Upgrade

Confirm that the applications you rely on are supported
(This is also Step 3 of the Preparation Checklist.)

Note: An application supported on any release in the IRIX 6.5 family will run on all subsequent IRIX 6.5 family releases. Additionally, the application will be compatible with all prior releases of the IRIX 6.5 family, as long as the application does not utilize a new feature from a later 6.5.x release.

Here are some examples *(not a complete list)* of applications that either need to be upgraded or are not yet supported:

– DFS Domestic: DFS Domestic version 1.2.2a (1275426100) is incompatible with IRIX 6.5.12. DFS Domestic version 1.2.2c is available and is compatible with IRIX 6.5.12. DFS Domestic users must remove DFS Domestic version 1.2.2a before they upgrade and install DFS Domestic version 1.2.2c after they upgrade.

– Netscape Communicator or Navigator: By default, version 4.76 will install the new N32 version of the browser. Any existing third−party plugins for the browser that are O32 will no longer function. If you require existing O32 plugins, you can install an O32 version of the browser from netscape.sw.o32_client and netscape.o32_plugin.*. Macromedia is planning to release an N32 version of the Flash plugin in the near future. Real.com has released an N32 version of their plugin. Check the third−party web sites for updates on the status of their plugins.

– REACT/Pro: Version 3.2 is incompatible with IRIX 6.5.2 or later releases. REACT/Pro users need to upgrade to version 4.1 to run frame scheduler applications on IRIX 6.5.2 or later.

– HIPPI: Version 3.2 or later is needed to run on IRIX 6.5.*x* releases.To find out how to upgrade, see www.sgi.com/software (under Software Categories, click Networking, then click HIPPI 3.3.1).

– iFOR/LS**:** Contact the Isogon Corporation at http://www.isogon.com for the latest release of LicensePower/iFOR (formerly known as iFOR/LS) that runs on IRIX 6.5.

– Inventor: Version 2.1.6 or later is needed to run on IRIX 6.5.12. The Inventor overlay 2.1.6 is available from the /CDROM/dist directory of IRIX 6.5.12 Overlays CD (3 of 3), May 2001. This overlay requires that the base Inventor 2.1.4 image be installed already, or with the overlay during the same install session. The Inventor overlay 2.1.6 can be installed on IRIX 6.5.5 and later.

If you have Inventor 2.1.5 installed through some other mechanism, you will get a conflict when you attempt to install this release. If you get this conflict, you can resolve it by using the following set of commands. You will need your Inventor 2.1.4 installation CDROM or a network distribution for it as part of the process. From within your installation session, enter the following commands:

```
open <Inventor 2.1.6+ from /CDROM/dist/inventor_657+>
open <Inventor 2.1.4 from the base IRIX 6.5 CD>
install inventor_eoe
set neweroverride on
```

Ensure that you have not selected any other downgrades before proceeding or an incorrect installation may occur. You can check for other downgrades by using the following command:

```
list i D
```

If any subsystems other than `inventor_eoe` are listed, you must deselect them before you continue.

– Intranet Junction**:** Version 1.0.2 or later is needed to run on IRIX 6.5.*x* releases.

– ClearCase: See the RATIONAL Software site for information on purchasing a version of ClearCase that runs on IRIX 6.5.

– Sybase: Contact Sybase, Inc. for information on purchasing a version of Sybase that runs on IRIX 6.5.

If you have edited configuration files, check for changed versions at end of installation
Ideally, configuration file differences should be merged prior to restarting the system *at the end* of an installation. Before restarting the system at the end of your installation, use the Inst command `admin config changed` to find out which system configuration files were modified since installation. You can find out more about this command by entering `help config` at the Inst prompt. To avoid compatibility problems, merge configuration files if new versions were created. The "Updating Configuration Files" section of the versions(1M) man page describes configuration file updating, as does the online *IRIX Admin: Software Installation and Licensing* guide.

One example of a file that may need to be merged is the `/etc/group` file. If you have edited your `/etc/group` file, see the Default group file now reinstalled caveat under Caveats to Read After Upgrading.

Users who have installed ftn_eoe.sw.lib from the MIPSpro 7.3 product before installing the IRIX 6.5.x images may see a downgrade conflict with distribution subsystem ftn_eoe.sw.libeag when they install with the `install maint` command if they also have the original 6.5 Foundation−1 CD open when they do the installation.
If this downgrade conflict occurs, you must specify the `keep ftn_eoe.sw.libeag` command. The conflict occurs because ftn_eoe.sw.libeag was replaced by the 7.3 ftn_eoe.sw.lib, and the install program logic with `install maint` now automatically selects downgrades.

Customers who have the MIPSpro 7.3 compilers installed or who will install MIPSpro 7.3 on R4000 or R4400 platforms running IRIX 6.5.5 should install the new 7.3.1m runtime libraries that are available from Supportfolio at http://support.sgi.com.

Customers enrolled under a valid support contract who do not have web access can obtain these libraries on CD media free of charge upon request from their local support organization.

Cumulative for 6.5 through 6.5.11, and still applicable for 6.5.12:

- **CXFS and IRIX FailSafe coexecution configuration**
 As of IRIX 6.5.12f, a cluster can be configured with a maximum of 16 nodes. All the nodes in the cluster are CXFS nodes. As many as 8 nodes can also run IRIS FailSafe (coexecution).

- **The Fortran BLAS libraries packaged under ftn_eoe.sw.libblas (ftn_eoe.sw64.libblas on**

IRIX64 systems) are marked for default installation
As a result of this packaging, you may receive the following conflict during installation if you did not already install these libraries:

```
Overlay product ftn_eoe.sw.libblas (1276765510) cannot be installed because
of missing prerequisites: base product ftn_eoe.sw.libblas (1274567300):

1a. Do not install ftn_eoe.sw.libbals (1276765510)

1b. Also install base product ftn_eoe.sw.libblas (1274567300) from an
additional distribution -- insert another CD or specify another software
distribution
```

You can resolve this conflict by either not installing libblas or by installing the base product from the IRIX 6.5 Foundation 1 CD.

- **System processor compatibility with XVM**
  XVM installed with CXFS is currently qualified on IP27 systems (Origin 200, Origin 2000, and Onyx2), IP30 systems (Octane) and the SGI Origin 3000 server series.

- **XVM can be used only when running CXFS**
  XVM is the new volume manager that is required when you use the CXFS filesystem. XVM can be used **only** when it is layered with the CXFS filesystem, except if you are using a system (root/swap/usr) disk. Other than for system disks, XVM is not currently supported as a standalone volume manager to replace XLV. If CXFS is not being used on a system, SGI will support only XLV as a standalone volume manager. The current required licensing for CXFS includes the use of XVM with CXFS. XVM is only available on the IRIX feature stream.

- **Use the XVM give and steal commands with extreme caution**
  XVM runs in either the local domain or in the cluster domain, and XVM disks are classified according to whether they are owned by the local domain, an active cluster domain, or a foreign domain. The XVM give and steal commands let the administrator change the ownership of a list of XVM disks. Here are some guidelines to follow when using the give and steal commands:
  - If you are changing the domain ownership of XVM disks, you should use the give command instead of the steal command. The steal command is intended to be used only as a last resort when the give command cannot be used.
  - In general, an XVM probe command should be run after the give command. If the XVM disk was given to a local host, the probe command is run on the new owner host. If the XVM disk was given to a new cluster, the probe command is run on any host that is a member of that cluster.
  - The give and steal commands should never be used so that a multidisk volume configuration is split between domains. The user must ensure that the list of disks that will move from one domain to another is complete; that is, all volume configurations are fully contained on this set of disks. The XVM show command can be used to examine the top−down configuration for all volumes in the system, including the full set of disks that contain parts of these volumes.

- **The NUMA migration call migr_range_migrate() was not reporting a migration failure**
  The NUMA migration call migr_range_migrate() was not reporting a migration failure when the migration target was either a nonexistent node or an uninitialized policy module of an SGI Origin system. Beginning with the IRIX 6.5.9 release, this error condition is now reported back to the user application as EINVAL. For more information, see the migration(5) man page. This caveat will affect the MediaBase application and it will be fixed in a subsequent release.

- **The fibre channel storage area network (SAN) port names may change**
  There has been a change in the way the final component of a fabric target's path will be generated. Some paths that include a 16−digit port name in the final component may have that port name shortened to a single digit port number. If you use fibre channel switches to form SANs, this change **will** affect you. This name change will require you to update the configuration files that contain the paths to fibre channel fabric devices, including the following files:
  - `/etc/fstab`
  - `/etc/failover.conf`

  You are **not** impacted by this change if the paths to your SAN targets are similar to the following:

  ```
  /dev/dsk/5006094670006f7d/lun0s7/c4p1
  ```

  You **may** be impacted by this change if the paths to your SAN targets are similar to the following:

  ```
  /dev/dsk/5006094670006f7d/lun0s7/c4p5006094670006f7d
  ```

  The path name to the target might be shortened as follows:

  ```
  /dev/dsk/5006094670006f7d/lun0s7/c4p1
  ```

- **Miser unable to schedule jobs during the transition from Daylight Savings Time to Standard Time**
  If the requested time of a submitted Miser job is such that the job, when scheduled, will be executed during the transition time period from Daylight Saving Time back to Standard time, Miser will not schedule the job until after the transition occurs.

- **Installing CXFS and XVM products available in the IRIX 6.5.11 release**
  If you install the CXFS and XVM products that are available in the IRIX 6.5.11 release, it is highly recommended that you check the "Caveat and Release Note Updates" link at http://support.sgi.com/6.5/caveat_updates.html for information on the latest CXFS and XVM patches, CXFS and XVM feature descriptions, and any late−breaking caveats.

- **The miser_qinfo command only reports the first 250 scheduled jobs**
  This limitation is due to the Miser buffer limit and will be fixed in a subsequent release.

- **The miser_qinfo command rounds up the amount of reported available system memory**
  The amount of reported system memory available may be inaccurate by .5 gigabytes (GB) when Miser is configured with more than 1 gigabyte (GB) of memory.

- **Repacking stops scheduled Miser jobs if daemon is restarted**
  If scheduled Miser jobs are in a Miser queue that has a repack scheduling policy, after Miser has been stopped and restarted, the repacking stops for the existing jobs.

- **Submitting a large number of jobs to a Miser queue**
  If you submit a large number of jobs to a Miser queue, it may result in some of these jobs being hung and failing to terminate.

- **Coexecution of CXFS and IRIS FailSafe**
  CXFS 6.5.12f can install and run CXFS with IRIS FailSafe 2.1 or later, with applicable licensing. This is known as coexecution. However, CXFS cannot reside on the same system with earlier versions of IRIS FailSafe. (If you first install an earlier version of IRIS FailSafe, you must deinstall it before you can install CXFS, and vice versa).

  XVM is currently provided at no additional charge with this release. With future releases, XVM will be repackaged, licensed, and supported as an additional software product for use with the IRIX operating system. For more information on how to obtain a license, contact your SGI service provider.

- **Xservers file changes**
  Starting with 6.5, the file `/var/X11/xdm/`**`Xservers`** **is no longer automatically replaced** when installing new versions of x_eoe.sw.eoe. Instead, the new version is installed as `Xservers.N`. This allows most users to preserve changes that they have made to their `Xservers` file without having to merge them back in with each new software upgrade.

  Also, the Xsgi command line argument *shmnumclients* is no longer supported, and will prevent the X server from coming up if it's specified in the Xserver file. **If you added the shmnumclients flag to the Xservers file, remove the shmnumclients flag before upgrading** to 6.5 or later.

- **"Filesystem too large for device" Error Message**
  "Filesystem too large for device" error message
  If you have repartitioned your disk drive with `fx` but did not create a filesystem with `mkfs`, you may see a message like this (under certain rare conditions) when booting the miniroot:

```
"Mounting file systems:
mount: /dev/dsk/dks0d1s0 on /root: Filesystem too large for device.
mount: giving up on: /root
Unable to mount partition: /dev/dsk/dks0d1s0 on /root.
This is your system disk: without it we have nothing on which to install
```

```
software.
 Please manually correct your configuration and try again.
 Press Enter to invoke C Shell csh:"
```

This generally indicates that you need to run `/sbin/mkfs` on the named disk partition. Inside the miniroot, a convenience script (`mrmkfsrc`) is provided to run `mkfs`.

For example, for the above failure, you could press `Enter` and do the following (only if the disk is free of important data, because this procedure will remove all the data on the disk):

`# mkfs /dev/dsk/dks0d1s0` *(if this is the system disk)*

`# exit`
(To exit `csh` and have the miniroot script try to remount root.)

- **Upgrade the flash prom after installation on diskless systems** (see under O2−specific caveats and Octane−specific caveats)

- **During miniroot installation: innocuous Appletalk error messages**
 If you install from the miniroot, the following message may be displayed during the installation of Appletalk. You can safely ignore it.

```
 "Command "( if test 'grep ksd $rbase/var/adm/appletalk/services | wc -l' -eq
0; then echo "# Start K-AShare Server\\n/usr/etc/appletalk/ksd -f -o -i
X/usr/bsd/hostnameX" | tr X \\140 >> $rbase/var/adm/appletalk/services; fi
)" failed (return status 127, subsystem appletalk.sw.xinet_base 1429002000)"
```

- **Obsolete software may cause installation conflicts**
 Starting with the 6.5.3 release, the installation process detects some additional software package versions that are obsolete and incompatible with the 6.5 release family. During installation, you may see conflict messages caused by such software. When you see these conflict messages, simply choose to remove the incompatible software or replace it with newer versions (if available).

- **MediaMail now replaced by Netscape mail**
 MediaMail is no longer available from SGI. The Netscape mail program, which is bundled with Netscape Communicator, is the new default installed e−mail program for all SGI systems. SGI recommends a transition to Netscape e−mail (Netscape Messenger) and have included software with Netscape that enables conversion of MediaMail mail to Netscape e−mail format.

  When you transition from MediaMail to Netscape mail:

- Be sure to check your home directory for a `.forward` file. If you have one that contains a line that mentions `/usr/lib/Zmail/bin/reassembler`, remove or rename the `.forward` file **immediately before or after the IRIX installation**, in order to prevent problems with mail delivery to your account. On multi−user systems, each user should check for this file within their own home directory.

- To learn about getting started with Netscape Mail, see About Netscape Messenger (you can also access this page by choosing Find > WebTools from the Toolchest, and double−clicking the *AboutNetscapeMessenger* icon).

Note: If you still require MediaMail, please contact NetManage, Inc. for product and sales information: http://www.netmanage.com. (Note that NetManage's Z−Mail for UNIX product is the same as MediaMail.) Please be aware that MediaMail is no longer officially supported on IRIX.

- **Appletalk will not work on diskless systems**
  Appletalk (Xinet Macintosh Connectivity) won't work on a diskless system because `appletalk` installs files into `/usr/adm`.

- **XFS filesystem is strongly recommended**
  To install this version of IRIX you should have an XFS filesystem. If you want to move a disk with a 6.5 (or later) filesystem to a pre−6.5 system, use the `-d unwritten=0` option when you run `mkfs`, or install the current XFS patches on the pre−6.5 system.

- **During miniroot installation: innocuous disk space error message**
  You may may ignore the following message if you see it during a miniroot installation:

```
"/proc/pinfo/: no such file or directory"
```

- **The ftn_eoe.sw.libblas and ftn_eoe.sw64.libblas are no longer marked for default installation.**
  This caveat applies only to the IRIX 6.5 through IRIX 6.5.9 releases; it is not applicable to the IRIX 6.5.10 and later releases. If you require these subsystems, you must specifically select them during installation.

- **If you are upgrading from a pre−6.5 release or to a clean disk, you must open the core 6.5 CDs during the installation.**
  The instructions in the Installation Instructions CD booklet will prompt you to do this at the right time.

Platform−Specific Caveats to Read Before You Upgrade

If you have an Indigo R4000, Indigo2, Octane, O2, Origin 2000, or Origin 3000 please check the relevant caveats below before you begin your installation.

Indigo R4000 and Indigo2 R4000 Systems

If the system you are upgrading has a separate filesystem for `/` and `/usr`, then the `/` filesystem must be at least 25MB in order to do the upgrade. Systems shipped with IRIX 4.0.x were shipped with separate `/` filesystems of approximately 16MB, which is too small for this version of IRIX.

To check, use the command "df –k /"

If the df –k / output looks similar to

```
Filesystem  Type  kbytes  use   avail  %use  Mounted on

/dev/root   efs   15275   9492  5783   62%   /
```

the disk will need to be backed up, and repartitioned with the *fx* command before IRIX can be installed.

To do this, refer to the online book *IRIX Admin: Software Installation and Licensing, Troubleshooting* section, *Using fx to Restore the Swap Partition,* for how to do this with the `fx` command. However, before you begin this procedure, make sure you back up important data! And, instead of the last step, `label/create/boot`, use the command `/repartition/root`, then press Enter in answer to the prompt:

"`fx/repartition/rootdrive: type of data partition = (xfs)`"

Next, when you see

```
"Warning: you will need to re-install all software and restore
user data from backups after changing the partition layout.
Changing partitions will cause all data on the drive to be lost.
Be sure you have the drive backed up if it contains any user
data. Continue?"
```

press Enter.

The *kbytes* number should be at least 25600 in order to install IRIX, and it is recommended that it be at least 40MB, particularly on systems that support running 64 bit address executables (systems where `uname -s` returns IRIX64, on systems running IRIX 6.2 and later).

Indigo2 Systems

The EISA Token Ring driver is not supported.

Octane Systems

- **Upgrade the flash prom after installation on diskless systems**
  On diskless systems, the installation may fail if the flash prom is too old. To upgrade it on an Octane, enter the following lines in a shell:

```
su
/usr/sbin/flash -P /usr/cpu/firmware
```

  You can compare the before and after results of `/usr/sbin/flash -V` to confirm the revision change. Reboot afterward.

O2 Systems

- **Upgrade the flash prom after installation on diskless systems**
  On diskless systems, the installation may fail if the flash prom is too old. To upgrade it on an O2, enter the following in a shell:

```
su
/sbin/flashinst -T -y -q /usr/cpu/firmware/ip32prom.image
```

  You can compare the before and after results of `/sbin/flashinst -v` to confirm the revision change. Reboot afterward.

- **If you program device drivers for the O2 PCI expansion slot**, you must use the routines (pciio_pio_*()) described in Chapter 22 of the *6.5 Device Driver Programmers Guide,* under the section"PCI Drivers for the IP32 (O2) Platform," to perform PIO (Program IO) accesses. **You must use the pciio_pio_* routines for all PIO access to the device, including the PCI config space**. These routines were made available in 6.3 via patch 2801 (if your PCI device driver is already using these routines then there is nothing more you need to do).

Origin 2000 Systems

- **Special upgrade instructions for SGI Origin 2000 systems with 65+ processors**
  There are special upgrade instructions for SGI Origin 2000 systems that have 65 or more processors. To receive a copy of these instructions, please send a request to techpubs@sgi.com, specifying the kind of system you have and whether you are going to be upgrading to 6.5.12 or installing 6.5.12 onto a clean disk.

- **System now reboots on panic without stopping at the PROM menu**
  Rebooting on panic without stopping at the PROM menu is the new default behavior. You can stop the system during reboot by pressing the `Esc` key at the "`Starting Up The System`" message.

  If the system panics during the reboot, the system will go into a panic/reboot loop. If this should happen, press the Esc key to break the loop.

If you do not want the system to reboot on panic, you can override the default reboot_on_panic variable with the PROM variable rebound. To do this, enter the following at the PROM prompt, accessed via option 5 at the PROM menu:

```
setenv rebound n
```

- **To get the MMSC version number, check the bottom line of the LCS control panel.**
  MMSC version numbers for this version of IRIX operating system should be 1.2.E (or higher). SGI recommends that you upgrade to version 1.2.E if your version is lower.

  A second way to get the version of all the MMSCs is to connect to the alternate console port on one MMSC and enter the following:

  ```
  ^T track * ver
  ```

- **Potential FLEXlm licensing problems**
  The Flexible License Manager (FLEXlm) controls the use of certain software products that are asynchronous to the IRIX operating system.

  A FLEXlm key is generated for each asynchronous software product, based on a unique system identifier. Because the Origin 2000 system does not have a unique system identifier, the FLEXlm host ID (lmhostid) of the first system module is used to create a FLEXlm key.

  If an Origin 2000 system is reconfigured, a different module with a different FLEXlm host ID could be located in the first position, causing a previously valid FLEXlm key to fail.

  If a license key problem arises after a system has been reconfigured, a new license must be generated. Contact the vendor of the software product in question and give them the host ID number (the FLEXlm host ID of the first module) of the reconfigured system to generate a new key.

SGI Origin 3000 server series

If the system you are upgrading is partitioned, the /var/sysgen/system/irix.sm file must be edited again after the installation has completed. Merge the changes that you previously made to this file back into the new version of the file to reenable system partitioning support.

Caveats to Read After You Upgrade

These caveats make you aware of changes or potential problems that could significantly affect your experience after your upgrade.

Different caveats will be relevant for different types of users; scan the list for information that is applicable for you.

This is not a complete list of all known bugs, workarounds, or changes, which are documented in the release notes for each individual product. In addition to reviewing this list, you may want to check "Caveat and Release Note Updates" at http://support.sgi.com/6.5/caveat_updates.html for any late−breaking information.

New for 6.5.12:

- **Netscape FastTrack Personal Web Server replaced by the SGI Web Server based on Apache**
  The new default web server on the IRIX 6.5.12 Applications CD is the SGI web server based on the Apache web server, version 1.3.17. Functionally, the SGI web server replaces the Netscape FastTrack web server. If you still have Netscape FastTrack enabled through the chkconfig command, the new SGI web server will not start up. To enable the new SGI web server, you must enter the following commands before you reboot your system:

  ```
  # chkconfig nss_fasttrack off
  # chkconfig sgi_apache on
  ```

  If you changed the default Netscape FastTrack configuration, you must manually move those changes into the new SGI web server. For more information, see the SGI release notes about the SGI web server and the Apache web site (httpd://httpd.apache.org/docs/).

  If you use the Web Setup product, you must turn off the Netscape FastTrack version to run the SGI version, by entering the following commands before you reboot your system:

  ```
  # chkconfig webface off
  # chkconfig webface_apache on
  ```

  The SGI web server includes software that was developed by the Apache Software Foundation (http://www.apache.org).

  This release contains no administrative GUI for the SGI web server; this will be included with a future IRIX release. For information on how to configure and administer the Apache web server, see httpd://httpd.apache.org/docs/. For a list of frequently asked questions, see httpd://httpd.apache.org/docs/misc/FAQ.html.

Cumulative for 6.5 through 6.5.11, and still applicable for 6.5.12:

- **Downgrading using a live (non−miniroot) installation**
  If you are **downgrading** from **feature stream** 6.5.*x* to 6.5 using a live (non−miniroot) installation, *inst/swmgr* will prompt you to continue installing from the miniroot. The prompt is as follows:

  ```
  This software must be installed from the miniroot. The system is about
  to be shut down and automatically booted to the miniroot where the
  installation will continue automatically. Okay to proceed?
  ```

  It is not necessary to perform this type of installation from the miniroot. To avoid this prompt, the user should set the "`live_install`" preference to "`on`" before typing go/pressing start.

  If you want to downgrade to an earlier 6.5.*x* version of the feature stream, use the following set of commands:

  ```
  set newoverride on
  k *
  install standard
  install downgrades
  install prereqs
  keep incompleteoverlays
  ```

- **Default group file now reinstalled**
  With release 6.5.3, the default group file, `/etc/group`, is reinstalled. The original group file is saved as group.O, which appears only if you have previously edited `/etc/group`. This update is necessary because some optional packages, such as nss_fasttrack, require the group "`nobody`" to be present during the installation process.

  After installation, **users who have defined new groups will have to merge the old group file into the new** group file. When merging, please be sure to **preserve the entry for "`nobody`."**

  The Inst command `admin config change` and the post−installation command *versions changed* will both report any changed configuration files, including the `/etc/group` file. As mentioned in the <u>Caveats to Read Before You Upgrade</u>, this should ideally be done before at the end of the installation process, but before you restart the system.

- **New file for setting NIS server**
  It is no longer possible to set the NIS server in the `/etc/config/ypbind.options` file. If your system is configured this way, create the file

  `/var/yp/binding/`<*DOMAIN*>`/ypservers`

  where <*DOMAIN*> is the NIS domain name. Type the NIS server on a new line in this file.

There were several other NIS−related changes in 6.5 that affect customers who upgrade from a pre−6.5 release of the IRIX operating system. For example, the IRIX name services have been completely rewritten. Please refer to the IRIX eoe release notes (chapter 3, Changes and Additions) for details.

- **Remote host display now off by default**
  In the interest of security, the ability to display applications that are running on other systems is now disabled by default. There are a few different ways you can re−enable the remote host display. For details, see "About the Remote Display Feature" in Chapter 13 of the online *Desktop User's Guide.*

- **Printer may not be recognized if turned on after system**
  Even after a printer is configured, it may not function if you turn it on after turning on your system. This is because the printer device is not present in the hardware graph. To work around this problem, perform the following commands in a shell:

```
% su
# cd /dev
# ./MAKEDEV
# ioconfig −f /hw
# exit
```

- **Full hostname now used by default**
  For customers installing IRIX on new systems, or reconfiguring existing systems after IRIX is installed or upgraded: the graphical system administration tools now use the fully qualified hostname by default. This affects scripts that assume that only the partial hostname is used. Scripts may need to be modified to use hostname −s rather than hostname. If you wish, you can override this default and use only the partial hostname.

- **Gang−scheduled graphics processes can cause graphics to hang**
  Graphics programs using the schedctl(2) system call to choose gang scheduling mode (SGS_GANG) may cause the graphics to hang. (Gang−scheduled processes that do not use graphics are not affected by this problem.)

Origin 2000 Caveats

The following caveats are for large (64+ processors) Origin 2000 systems.

Cumulative for 6.5 through 6.5.11, and still applicable for 6.5.12:

- **Process Activity Reporter (par) sometimes hangs**

Par hangs when the system−monitoring daemon, `rtmond`, produces a data stream that overloads the clients. As a result, clients that feed par, like padc, will discard events. If the *process exited* event is discarded by these clients, par hangs. When this happens, you see messages like the following in `/var/adm/SYSLOG`:

```
"rtmond[669]: (CPU 0) Client <local>:11:64505 events 1718 dropped (2%) 289
writes(0% push)for 4720560 bytes, 5 push buffers for 80 KB"
```

As shown in this example, you can tell that par has hung because the message tells you that the dropped count is other than 0.

Contents of Core 6.5.12 and 6.5 CDs

On this page:

Contents of IRIX 6.5.12

Key

m = maintenance stream f = feature stream

6.5.12 (1 of 3) Installation Tools and Overlays, May 2001

***/dist* directory**

4Dwm_6512m: Desktop Window Manager, 6.5.12m

Welcome: Customer Welcome, May 2001

desktop_base_6512m: IRIX Interactive Desktop Base Software, 6.5.12m

desktop_eoe_6512m: IRIX Interactive Desktop, 6.5.12m

desktop_tools_6512m: Desktop Tools, 6.5.12m

dev_6512m: Development System, 7.3.1.2

eoe_6512m: IRIX Execution Environment, 6.5.12m

irix_dev_6512m: IRIX Development Headers/Documentation/Examples, 6.5.12m

nfs_6512m: Network File System, 6.5.12m

pcp_eoe_6512m: Performance Co−Pilot Execution Only Environment, 2.1

print_6512m: Printing Tools, Release 1.12.5

roboinst: RoboInst Tools for Automatic Installations 1.2

sysadmdesktop_6512m: IRIX Interactive Desktop System Administration, 6.5.12m

sysmon_6512m: Desktop System Monitor, 2.1.3

x_eoe_6512m: X11 Execution Environment, 6.5.12m, based on X11R6.3

***installtools* directory**

patchSG0003700: Installation tools support for overlays patch. Enables live upgrade for systems running 6.5 or later.

6.5.12 (2 of 3) Installation Tools and Overlays, May 2001

***/dist* directory**

4Dwm_6512f: Desktop Window Manager, 6.5.12f

Welcome: Customer Welcome, May 2001

desktop_base_6512f: IRIX Interactive Desktop Base Software, 6.5.12f

desktop_eoe_6512f: IRIX Interactive Desktop, 6.5.12f

desktop_tools_6512f: Desktop Tools, 6.5.12f

dev_6512f: Development System, 7.3.1.2

eoe_6512f: IRIX Execution Environment, 6.5.12f

irix_dev_6512f: IRIX Development Headers/Documentation/Examples, 6.5.12f

nfs_6512f: Network File System, 6.5.12f

pcp_eoe_6512f: Performance Co−Pilot Execution Only Environment, 2.1

print_6512f: Printing Tools, Release 1.13.5f

roboinst: RoboInst Tools for Automatic Installations 1.2

sysadmdesktop_6512f: IRIX Interactive Desktop System Administration, 6.5.12f

sysmon_6512f: Desktop System Monitor, 2.1.3

x_eoe_6512f: X11 Execution Environment, 6.5.12m, based on X11R6.3

***installtools* directory**

patchSG0003700: Installation tools support for overlays patch. Enables live upgrade for systems running 6.5 or later.

6.5.12 (3 of 3) Overlays CD, May 2001

***/CDROM/dist* directory**

FDDIXpress_6512m: FDDIXpress, 6.5.12m

Register_6512m: On−Line Registration, 2.1

ViewKit21_dev: ViewKit 2.1 (BETA) Development Environment, Version 2.1.0

ViewKit_dev_6512m: ViewKit Development Environment, Version 1.5.3

ViewKit_eoe_6512m: ViewKit Execution Environment, Version 1.5.3

c++_eoe_7312_6512m: Standard Execution Environment (C++ Headers and Libraries, 7.3.1.2m)

cluster_admin: Cluster Administration Services, 6.5.12

cluster_control: Cluster Control Services, 6.5.12

cluster_services: Cluster Infrastructure Services, 6.5.12

compiler_eoe_7312_6512m: IRIX Standard Execution Environment (Base Compiler Headers and Libraries, 7.3.1.2m)

cxfs: CXFS and XVM for 6.5.12f

dmedia_dev_6512m: Digital Media Development Environment, 6.5.12m

dmedia_eoe_6512m: Digital Media Execution Environment, 6.5.12m

dps_eoe_6512m: Display PostScript/X, 2.0.8 based on PostScript Level 2

dvdr_6512m: Device Driver, 5.0

dynaweb_6512m: Dynaweb (InSight to HTML), 4.3.4

eis_features: EIS Specific Features. 6.5.12f

field_diags_sysco: Standalone System Controller Environment for 6.5.12m

ftn_eoe_7312_6512m: Standard Execution Environment (Fortran Headers and Libraries, 7.3.1.2m)

gl_dev_6512m: Graphics Library Development System, 6.5.12m

hwguides_eoe_6512m: Hardware Owner's Guides, 1.1

ifl_dev_6512m: Image Format Library Development Environment, 1.2.2

ifl_eoe_6512m: Image Format Library Execution Only Environment, 1.2.2

il_eoe_6512m: ImageVision Library Execution Only Environment, 3.2.1

impr_base_6512m: Impressario 2.8.5 Base

impr_dev_6512m: Impressario 2.8.5 Developer's Kit

impr_print_6512m: Impressario 2.8.5 Print Server

impr_rip_6512m: Impressario 2.8.5 PostScript Renderer (Requires Optional Impressario License)

impr_rip_printers_6512m: Impressario 2.8.5 Host RIP Printers

impr_scan_6512m: Impressario 2.8.5 Scanner Software

infosearch_6512m: Information Searching Execution Environment, 6.5.12m

insight_6512m: InSight Online Doc Viewer, 4.3.4

insight_base_6512m: InSight Online Doc Viewer Base Software, 4.3.4

inst_dev_6512m: Software Packager, 1.5

inventor_eoe_655m: Inventor Execution Only Environment, 2.1.6

io4prom_6512m: IO4prom for 64bit OS systems, 6.5.12m

ip32prom_6512m: Flash PROM for IP32 systems, 6.5.12m

isdn_eoe_6512m: ISDN Execution Environment, 2.0

license_dev_6512m: License Development Environment 3.4.4

license_eoe_6512m: License Tools 3.4.4

media_warehouse_6512m: IRIX Interactive Desktop MediaWarehouse 1.2

motif21_dev: IRIX IM 2.1 Development Software, 6.5 (based on OSF/Motif 2.1.20)

motif_dev_6512m: IRIX IM Development Software, 6.5 (based on OSF/Motif 1.2.4)

motif_eoe_6512m: IRIX IM Execution Software (Motif 1.2 and 2.1 Combined) for 6.5.12m

performer_demo: Performer Demos and Demo Data, 2.4.1

performer_eoe: OpenGL Performer 2.4.1 Run−time Environment

sgsearch_6512m: Fulltext Indexing & Search Environment, 3.0

sysadm_base: Sysadm Base, 1.4

sysadm_cxfs: CXFS Cluster Manager GUI, 2.1

tooltalk_eoe_6512m: ToolTalk 1.3 Execution Only Environment

vfc_6512m: Video Format Compiler, 1.2

webviewer_6512m: WebViewer library execution only environment, 3.0.1

webviewer_dev_6512m: WebViewer library development environment, 3.0.1

x_books_6512m: O'Reilly & Associates, Inc. developer books, X11R5

x_dev_6512m: X11 Development Environment, 3.8 based on X11R6.3

/CDROM/dist/unbundled **directory**

aso_audio_6512m: Audio/Serial Option Card Audio Support 1.3 for IRIX 6.5.12m

atm: ATM Software, 2.3.10

dba_6512m: Database Accelerator, 6.5.12m

dfs_6512m: Distributed File System, 6.5.12m

divo_6512m: DIVO/DIVO–DVC Video Execution Environment, 2.2 for 6.5.12m

dwb_655m: Documenter's WorkBench, 4.1.4

evo_6512m: Octane Personal Video Execution Environment, 6.5.12m

galileo_6512m: Galileo Video Execution Environment, 6.5.12m

il_dev_6512m: ImageVision Library, 3.2.1

impactI2V_6512m: Impact Indigo2 Video Execution Environment, 6.5.12m

impactcomp_6512m: Impact Compression Execution Environment, 6.5.12m

impactdm_6512m: Impact Digital Media Base Execution Environment, 6.5.12m

impactvideo_6512m: Impact Video Execution Environment, 6.5.12m

sirius_6512m: Sirius Video Execution Environment, 6.5.12m

IRIX Applications for 6.5.12, May 2001

***/CDROM/dist* directory**

InPerson: InPerson Desktop Conferencing, 2.2.1

PeoplePages: PeoplePages – The Indigo Magic Phonebook, 1.2.1

Register: On–Line Registration, 1.4

accessx: Access for Movement–Impaired Users, 1.1.3

acrobat: Adobe Acrobat Reader, 4.05

annotator: IRIS Annotator 1.2

appletalk: Xinet Macintosh Connectivity 10.02

arraysvcs: Array Services 3.4

cms_eoe: Color Management 2.0.5

cosmocreate: Cosmo Create Authoring Environment, 1.0.3

cosmoplayer: Cosmo Player VRML Viewer 2.1.5 for IRIX 6.5

desktop_eoe: IRIX Interactive Desktop, 6.5

desktop_tools: Desktop Tools, 6.5

dps_eoe: Display PostScript/X, 2.0.8 based on PostScript Level 2

dynaweb: Dynaweb (InSight to HTML), 3.1a

fddivis: FDDI Visualyzer, 6.5

gateway: Internet Gateway Execution Environment, 3.1

imgtools: ImageVision Tools, 3.2.1

impr_base: Impressario 2.2.5 Base

impr_print: Impressario 2.2.5 Print Server

impr_rip: Impressario 2.2.5 PostScript Renderer (Requires Optional Impressario License)

impr_rip_printers: Impressario 2.2.5 Host RIP Printers

impr_scan: Impressario 2.2.5 Scanner Software

infosearch: Information Searching Execution Environment, 6.5

insight: InSight Online Doc Viewer, 3.1

insight_gloss: IRIS InSight Online Glossary, 3.0.1

java_eoe: Java Execution Environment 3.2 (Sun JRE 1.1.8)

java_plugin: Runtime Plug−in for IRIX, Java(TM) Edition 1.1.1b

license_eoe: License Tools 3.3

macromedia: Macromedia Movie Player, 1.4.1

media_warehouse: IRIX Interactive Desktop MediaWarehouse 1.2

nedit: NEdit V5.1.1a − GUI style editor

netscape: Netscape Communicator Client, 4.76

netwr_client: NetWare Client 1.1.1

outbox: OutBox Personal Web Site, 1.6

print: Printing Tools, Release 1.7.5

sgi_apache: SGI Web Server based on Apache, 1.3.17

sgimeeting: SGImeeting Collaboration Environment, 2.0

sgips: Adobe Photoshop Performance Package, 1.2

sgsearch: Fulltext Indexing & Search Environment, 2.0

showcase: IRIS Showcase 3.4.2

sitemgr: SiteMgr − Web Content Administration, 1.1

sysadmdesktop: IRIX Interactive Desktop System Administration, 6.5

sysmon: Desktop System Monitor, 2.1.2

vlan: VLAN software 1.0 for IRIX 6.5

websetup: Web Setup and Administration, 3.2

webviewer: WebViewer library execution only environment, 3.0

xlators_3d: 3D File Translators 1.1.1

***/CDROM/dist/extras* directory**

netscape_lite: Netscape Navigator Client, 4.76

***/CDROM/dev* directory**

insight_dev: InSight Developer Book Building Tools, 4.3.4

java_dev: Java Development Environment 3.2 (Sun JDK 1.1.8)

netscape_dev: Netscape Communicator Developer's Environment, 4.76

Contents of IRIX 6.5

Contents of IRIX 6.5 Installation Tools CD

Note: The patches on this CD are necessary and are automatically selected for installation; do not deselect any of these patches. This CD also includes installation components, such as the miniroot, which are loaded automatically, and thus are not listed here as installable software.

patchSG0003131: 7.2.1 base compiler runtime environment for IRIX 6.2/6.3/6.4/6.5

patchSG0003139: libmp rollup

patchSG0003140: 7.2.1 FORTRAN runtime for IRIX 6.2/6.3/6.4/6.5 – REQUIRED FOR F90

roboinst: RoboInst Tools for Automatic Installations 1.0

Welcome: Customer Welcome

Contents of IRIX 6.5 Foundation 1 CD

4Dwm: Desktop Window Manager, 6.5

ViewKit_eoe: ViewKit Execution Environment, Version 1.5.2

c++_eoe: Standard Execution Environment (C++ Headers and Libraries, 7.2.1)

compiler_eoe: IRIX Standard Execution Environment (Base Compiler Headers and Libraries, 7.2.1)

desktop_base: IRIX Interactive Desktop Base Software, 6.5

dmedia_eoe: Digital Media Execution Environment, 6.5

eoe: IRIX Execution Environment, 6.5

ftn_eoe: Standard Execution Environment (Fortran Headers and Libraries, 7.2.1)

insight_base: InSight Online Doc Viewer Base Software, 3.1

io4prom: IO4prom for 64bit OS systems, 6.5

ip32prom: Flash PROM for IP32 systems, 6.5

motif_eoe: IRIX IM Execution Only Environment, 6.5 (based on OSF/Motif 1.2.4)

tooltalk_eoe: ToolTalk 1.3 Execution Only Environment

websupport_eoe: WebSupport 1.3 eoe

x_eoe: X11 Execution Environment, 3.8 based on X11R6.3

Contents of IRIX 6.5 Foundation 2 CD

FDDIXpress: FDDIXpress, 6.5

gnu: GNU Software configured & precompiled for IRIX, 1.0

hwguides_eoe: Hardware Owner's Guides, 1.1

ifl_eoe: Image Format Library Execution Only Environment, 1.2.1

il_eoe: ImageVision Library Execution Only Environment, 3.2.1

inventor_eoe: Inventor Execution Only Environment, 2.1.4

isdn_eoe: ISDN Execution Environment, 2.0

javascript_eoe: JavaScript library execution only environment, 1.0

pcp_eoe: Performance Co−Pilot Execution Only Environment, 2.0

performer_demo: Performer 2.2.1 Demos and Demo Data

performer_eoe: Performer 2.2.1 Execution Environment

sgitcl_eoe: SGI Tcl Execution Environment, 1.1

vfc: Video Format Compiler, 1.2

Contents of IRIX 6.5 Applications CD

InPerson: InPerson Desktop Conferencing, 2.2.1

PeoplePages: PeoplePages − The Indigo Magic Phonebook, 1.2.1

Register: On−Line Registration, 1.4

accessx: Access for Movement−Impaired Users, 1.0

acrobat: Adobe Acrobat Reader, 3.01

annotator: IRIS Annotator 1.2

appletalk: Xinet Macintosh Connectivity 9.02

arraysvcs: Array Services 3.1

cms_eoe: Color Management 2.0.5

cosmocreate: Cosmo Create Authoring Environment, 1.0.3

cosmoplayer: Cosmo Player VRML Viewer 1.1 for IRIX 6.5

custlink: CustomerLink Client Software, 2.2.3

demos: Demonstration Programs, 6.5

desktop_eoe: IRIX Interactive Desktop, 6.5

desktop_tools: Desktop Tools, 6.5

dps_eoe: Display PostScript/X, 2.0.8 based on PostScript Level 2

dynaweb: Dynaweb (InSight to HTML), 4.1

elec_svcs: Customer Support Services Base Software, Rel. 2.2

fddivis: FDDI Visualyzer, 6.5

gateway: Internet Gateway Execution Environment, 3.1

iforark: LicensePower/iFOR IS4.0.1 ARK

iforcrk: LicensePower/iFOR IS4.0.1 CRK

imgtools: ImageVision Tools, 3.2.1

impr_base: Impressario 2.2.5 Base

impr_print: Impressario 2.2.5 Print Server

impr_rip: Impressario 2.2.5 PostScript Renderer (Requires Optional Impressario License)

impr_rip_printers: Impressario 2.2.5 Host RIP Printers

impr_scan: Impressario 2.2.5 Scanner Software

infosearch: Information Searching Execution Environment, 6.5

insight: InSight Online Doc Viewer, 3.1

insight_gloss: IRIS InSight Online Glossary, 3.0

java_eoe: Java Execution Environment 3.1 (Sun JRE 1.1.5)

license_eoe: License Tools 3.4.2

macromedia: Macromedia Movie Player, 1.4.1

mbase_client: WebFORCE MediaBase 2.1 – Client

media_warehouse: IRIX Interactive Desktop MediaWarehouse 1.2

nedit: NEdit V4.0.3i – GUI style editor

netscape: Netscape Communicator Client, 4.05

netscape_lite: Netscape Navigator Client, 4.05

netwr_client: NetWare Client 1.1

ns_admin: Netscape Administration Server, 2.13

ns_fasttrack: Netscape Fasttrack Personal Server, 2.01

ocs_client: WebFORCE MediaBase 2.1 – OCS Client Execution Only Environment

outbox: OutBox Personal Web Site, 1.5

print: Printing Tools, Release 1.7.5

sgips: Adobe Photoshop Performance Package, 1.2

sgsearch: Fulltext Indexing & Search Environment, 2.3

showcase: IRIS Showcase 3.4.2

sitemgr: SiteMgr – Web Content Administration, 1.1

sysadmdesktop: IRIX Interactive Desktop System Administration, 6.5

sysmon: Desktop System Monitor, 2.1.2

vlan: VLAN software 1.0 for IRIX 6.5

websetup: Web Setup and Administration, 3.1

webviewer: WebViewer library execution only environment, 3.0

xlators_3d: 3D File Translators 1.1.1

Contents of IRIX 6.5 Development Foundation CD

c++_dev: C++ Headers and Libraries, 7.3

c_dev: C Headers and Libraries, 7.3

compiler_dev: Base Compiler Development Environment, 7.3

ftn77_dev: Fortran 77 Headers and Libraries, 7.3

ftn90_dev: Fortran 90 Headers and Libraries, 7.3

ftn_dev: Fortran Headers and Libraries, 7.3

langtools: Source Code Utilities 1.0

modules: Modules Package 2.2.2.4

Contents of IRIX 6.5 Development Libraries CD

ViewKit_dev: ViewKit Development Environment, Version 1.5.2

cms_dev: Color Management Software 2.0.5 Development

complib_dev: ChallengeComplib, 3.1.1

complib_eoe: ChallengeComplib Execution Environment, 3.1.1

dev: Development System, 7.2.1

dmedia_dev: Digital Media Development Environment, 6.5

dvdr: Device Driver, 5.0

gl_dev: Graphics Library Development System, 6.5

ifl_dev: Image Format Library Development Environment, 1.2.1

impr_dev: Impressario 2.2.5 Developer's Kit

inst_dev: Software Packager, 1.5

irix_dev: IRIX Development Headers/Documentation/Examples, 6.5

java_dev: Java Development Environment 3.1 (Sun JDK 1.1.5)

license_dev: License Development Environment 3.3

motif_books: OSF Motif developer books, 1.2.3

motif_dev: IRIX IM Development Software, 6.5 (based on OSF/Motif 1.2.4)

netscape_dev: Netscape Communicator Developer's Environment, 4.05

webviewer_dev: WebViewer library development environment, 3.0

x_books: O'Reilly & Associates, Inc. developer books, X11R5

x_dev: X11 Development Environment, 3.8 based on X11R6.3

If you are using the Before You Install checklist, return to Step 6.

Using the Base Documentation CD

About This CD

For customers with new systems that shipped with this release, new and updated documentation can be viewed offline using the IRIX 6.5 Base Documentation CD, February 2001.

The IRIX 6.5 Base Documentation CD allows you to access standard release notes, online books, and man pages before you install the system software. You view the documentation directly from the CD; you do not use this CD to install documentation. No license is required to use the tools provided on the CD. (Documentation is installed, by default, with software CDs. To find out about accessing *installed* documentation see General Documentation.)

The IRIX 6.5 Base Documentation CD is not shipped with the IRIX 6.5.*x* Update Kits. Corresponding book documentation, release note, and man page information can be viewed by customers who have purchased SGI systems through the web on the *Supportfolio Online* site (http://support.sgi.com/surfzone/search).

Note: There is a duplicate copy of Start Here on the Base Documentation CD.

Tip: This CD is an ISO9660 standard CD, which means that it can be used in most CD−ROM drives. This allows your IRIX−based system to mount the CD from a variety of remote CD−ROM drives (as long as they are connected to operating systems that support exporting ISO9660 filesystems).

How to Use This CD

1. Login and insert the Base Documentation CD into your CD−ROM drive.

2. Open a shell:
   From the Toolchest, choose Desktop > Open Unix Shell.

3. Go to the CDROM directory:

   Use the *cd* command:
   ```
   % cd /CDROM
   ```

Inside of the directory are the six different CD scripts, which you can see listed with the *ls* command:

```
% ls
CDgrelnotes   CDinsight CDrelnotes
CDinfosearch  CDman     CDsgihelp
```

4. Use the CD scripts to access the documentation on the CD. To run any of the scripts, in a UNIX shell, enter `./` followed by the script name.

   For example:

   ```
   % ./CDgrelnotes
   ```

   What follows are descriptions of what each of the scripts do:

   - **`./CDgrelnotes`** – launches *[g]relnotes*, which you can use to view Release Notes. You can specify the product name in the command. For example, to view the release notes for Netscape you would enter: **`./CDgrelnotes netscape`**
   - **`./CDman`** – displays man pages when used like the *man* command. For example, to see the man page on *inst*, enter **`./CDman inst`**
   - **`./CDinsight`** – launches the online book viewer, *InSight.* Displays the online book library on the CD. **Note:** If you are running IRIX 6.2 on your workstation, you must have version 3.0 of InSight or higher in order for this to work.
   - **`./CDsgihelp`** – displays *instructions* for making *sgihelp* work with the content on the CD. (Involves setting a couple of X–resources in a local *.Xdefaults* file.)
   - **`./CDinfosearch`** – displays *instructions* for making Infosearch work with the content on the CD. (Involves editing some configuration files.) InfoSearch is used for searching and viewing all online books, release notes, and man pages. **You must already be running 6.5 for *CDinfosearch* to work with the content of this CD.**

If you are using the Before You Install checklist, return to Step 5.