Solaris 7 (Intel Platform Edition) 11/99 Release Notes

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Preface

The *Solaris™ 7 (Intel Platform Edition) 11/99 Release Notes* contain installation problem details and other information that was not available until immediately before the release of the Solaris 7 11/99 operating environment, too late to be included in the `SUNWrdm` package that is resident on the Solaris 7 11/99 CD. This document complements the information in the `SUNWrdm` package, the online release notes, except for the information in Chapter 1.

Chapter 1 supersedes the information in the `installation_bugs` file that is part of the online release notes.

You can access the `SUNWrdm` package (the online release notes) as follows:

- When reading from the Solaris 7 11/99 CD, information about this release can be found in the directory:

  `/cdrom/sol_7_1199_x86/s2/Solaris_2.7/Docs/release_info/C`

- The default installed location for information about this release can be found in the directory:

  `/usr/share/release_info/Solaris_2.7/C`

Note - The name of this product is Solaris 7 11/99, but code and path or package path names may use Solaris 2.7 or SunOS 5.7. Always follow the code or path as it is written.

Note - The term “x86” refers to the Intel 8086 family of microprocessor chips, including the Pentium, Pentium Pro, and Pentium II, Pentium II Xeon, Pentimum III, Celeron processors, and compatible microprocessor chips made by AMD and Cyrix.In this document the term “x86” refers to the overall platform architecture, whereas *“Intel Platform Edition”* appears in the product name.

Who Should Use This Book

These notes are for users and system administrators who are installing and using the Solaris 7 11/99 operating environment.

Related Books

You may need to refer to the following manuals when installing Solaris software:

- *Solaris 7 (Intel Platform Edition) Start Here*
- *Solaris 7 (Intel Platform Edition) Installation Library*
- *Solaris 7 Installation Supplement*
- *Solaris 7 System Administration Supplement*
- *Solaris 7 Software Developer Supplement*
- *Solaris 7 User Supplement*

Solaris documentation is available on the Solaris 7 Documentation CD included with this product.

In this Solaris release you will find supplemental documentation describing new functionality. If a Solaris 7 AnswerBook2™ collection has been updated, you will find a *Solaris 7 Supplement* in that collection.

Note - The *Solaris 7 (Intel Platform Edition) Hardware Compatibility List* and *Solaris 7 (Intel Platform Edition) Device Configuration Guide* have changed since publication. The changes are included in Appendix B and Appendix C of these Release Notes.

For some hardware configurations, you may need supplemental hardware-specific instructions for installing the Solaris operating environment. If your system requires hardware-specific actions at certain points, the manufacturer of your hardware has provided supplemental Solaris installation documentation. Refer to those materials for hardware-specific installation instructions.

For known problems, new features, and patches not relating to installation, view the online files in the `/cdrom/sol_7_1199_x86/s2/Solaris_2.7/Docs/release_info/C` directory on the Solaris 7 11/99 CD.

The `/cdrom/sol_7_1199_x86/s2/Solaris_2.7/Docs/release_info/C` directory includes these files:

- `new_features` - product news and features that arrived too late to be included in the *"What's New in Solaris"* documentation on the Solaris 7 Documentation CD
- `runtime_bugs` - late-breaking problems not related to installation
- `installation_bugs` - known installation problems
- `patches` - late-breaking information on current and non-integrated patches for Solaris 7
- `eof` - late-breaking end of feature statements
- `driverupdate` - late-breaking information on drivers
- `documentation_issues` - late-breaking information about documentation errata and other documentation-related issues.

The installed location for the these files is the directory:

`/usr/share/release_info/Solaris_2.7/C`

Solaris Certification Program

You can find information about the Solaris hardware certification program at `http://soldc.sun.com/support/certify/program.html`. Because certification testing is an ongoing process, updated Hardware Compatibility Lists are produced between releases; they are available at `http://soldc.sun.com/support/drivers/hcl/hcl.html`.

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What Typographic Changes Mean

TABLE P–1 Typographic Conventions

Typeface or Symbol	Meaning	Example
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls –a` to list all files. `machine_name% you have mail.`
`AaBbCc123`	What you type, contrasted with on-screen computer output	`machine_name%` **`su`** `Password:`
AaBbCc123	Command-line placeholder: replace with a real name or value	To delete a file, type **`rm`** *filename.*
AaBbCc123	Book titles, new words, or terms, or words to be emphasized.	Read Chapter 6 in *User's Guide.* These are called *class* options. You must be *root* to do this.

CHAPTER 1

Installation Issues

This chapter describes problems relating to the installation of the Solaris 7 11/99 software environment.

The information in this chapter supersedes any information listed in the `installation_bugs` file that is part of the `SUNWrdm` package on the Solaris 7 11/99 CD. If you boot from the Solaris 7 11/99 CD, the `installation_bugs` file is located in the directory:

`/cdrom/sol_7_1199_x86/s2/Solaris_2.7/Docs/release_info/C`

The default installed location for the `installation_bugs` file is located in the directory:

`/usr/share/release_info/Solaris_2.7/C`

Note - The name of this product is Solaris 7 11/99, but code and path or package path names may use Solaris 2.7 or SunOS 5.7. Always follow the code or path as it is written.

Solaris Web Start Bugs

This section only describes known installation bugs that may occur when using Solaris Web Start, the browser-based program that enables you to install both the Solaris software and copackaged software.

Cannot Move the Root File System (4046659)

You can choose a system disk in Solaris Web Start but you cannot move the root file system off the system disk afterwards.

Workaround: If you need to do this, use the Solaris Interactive Installation program instead of Solaris Web Start.

Products May Not Use All Reserved Space (4059182)

Solaris Web Start reserves disk space based on the total requirements of all the products that you install. If you check disk space allocation after installing but before using the products, you may find a substantial amount of apparently unused space. Some of this space may be taken up when you run the software; some of it may remain unused.

Workaround: If you want to allocate less total disk space than Solaris Web Start requires, use the Solaris Interactive Installation program instead.

The Root (/) File System Extends Beyond HBA Cylinder 1023 (4062008)

If a manual file system layout is used in Solaris Web Start, an error message may display after the start of an installation because too much space has been allocated in the root (/) file system.

Workaround: Restart Solaris Web Start and use the Automatic File System Layout.

Installing With Solaris Web Start in Client/Server Mode May Produce Exception Messages in the HotJava Console Window (4248436)

When installing with Solaris Web Start in client/server mode, you may see the following exception messages in the HotJava console window:

```
sun.applet.AppletSecurityException: checkaccess.thread
  at java.lang.Throwable.<init>(Compiled Code)
  at java.lang.Exception.<init>(Compiled Code)
  at java.lang.RuntimeException.<init>(Compiled Code)
```

(continued)

(Continuation)

```
  at java.lang.SecurityException.<init>(Compiled Code)
  at  sun.applet.AppletSecurityException.<init>(Compiled Code)
  at sun.hotjava.security.PolicyUntrusted.checkAccess(Compiled Code)
  at sun.hotjava.security.HotjavaSecurity.checkAccess(Compiled Code)
  at java.lang.Thread.checkAccess(Compiled Code)
  at java.lang.Thread.stop(Compiled Code)
  at MouseOverPanel.handleMouseEnter(Compiled Code)
  at SolsticeConfTaskPage.handleEvent(Compiled Code)
  at java.awt.Component.postEvent(Compiled Code)
  at java.awt.Component.postEvent(Compiled Code)
  at java.awt.Component.postEvent(Compiled Code)
  at java.awt.Component.postEvent(Compiled Code)
  at java.awt.Component.postEvent(Compiled Code)
  at java.awt.Component.postEvent(Compiled Code)
  at java.awt.Component.postEvent(Compiled Code)
  at java.awt.Component.postEvent(Compiled Code)
  at java.awt.Component.dispatchEventImpl(Compiled Code)
  at java.awt.Container.dispatchEventImpl(Compiled Code)
  at java.awt.Component.dispatchEvent(Compiled Code)
  at java.awt.EventDispatchThread.run(Compiled Code)
Exception occurred during event dispatching:
sun.applet.AppletSecurityException: checkaccess.thread
```

When exception messages appear, mouse clicks may become slow to update and some information panels may not display properly.

Workaround: To improve the responsiveness of the mouse and complete the installation process, close the HotJava Console window. Some information panels may not update properly, but this does not affect the installation process. Web Start installs the products that you selected, however, the description may be inaccurate if you have moved the cursor over more than one product.

To prevent the exception messages, do not open the HotJava Console window before or during installation.

Interactive Installation Issues

Solaris `dtlogin` Screen

The Solaris 7 as well as the Solaris 2.6 operating environments default to a login screen when you initially boot your workstation, regardless of which desktop you are using. You can select your desktop from the login screen. The login screen requires the user's name and password. Your desktop is displayed upon

authentication of your login name and password. For more information about the login screen, see the `dtlogin` man page (provided with the Solaris Common Desktop Environment (CDE) man pages) or the *Common Desktop Environment: Advanced User's and System Administrator's Guide*.

`dtlogin` Notes for System Administrators

A system administrator who is new to CDE needs to know about CDE's graphical login program, `dtlogin`. Review the `dtconfig` man pages.

Interactive Installation Bugs

Installation Fails With a False Non-Mountable File System Error (4164303)

The following message may be displayed:

```
The Solaris operating environment on slice c0t0d0s0 cannot be upgraded.
A file system listed in the file system table (vfstab) could not be mounted.
```

The installation software may interpret inodes that are stored on striped DiskSuite™ meta devices for root inodes and attempt to mount the meta devices as upgradable slices. When this problem occurs, the mounts fail and the installation aborts.

TotalNET Advanced Server (SunLink) Drivers Cause Panic After a Reboot (4121961)

```
 Warning:  mod_install: MT-unsafe driver 'tnatp' rejected panic[cpu0] /
thread=7051e040:mutex-enter:bad_mutex lp=1046aa20 owner=7051e040
thread=7051e040
```

An upgrade to TotalNET Advanced Server (SunLink™) version 5.2 is required with the Solaris 7 operating environment because of a driver conflict. Version 5.0 and version 5.1 for the TotalNET Advanced Server cause the Solaris 7 operating environment to not boot correctly.

Workaround: Before you install the Solaris 7 operating environment, you must upgrade all installations to version 5.2 for the TotalNET Advanced Server, which is available on the Solaris Easy Access Server 2.0 CD. Follow the instructions provided to upgrade existing TotalNET Advanced Server installations.

Installation Bugs That Occur Before the Start of an Interactive Installation

Caution - Be sure to read bug description ID 4121281 before you start upgrading your x86 based system to the Solaris 7 11/99 operating environment.

DiskSuite May Cause Data Loss (4121281)

If you are running DiskSuite™ and upgrading to Solaris 7, you must also upgrade to DiskSuite 4.2. The DiskSuite 4.2 distribution includes a script called `metacvt` that automates removal and replacement of the `metadb` replicas. You can use that script to change the SCSI driver name stored in the replicas from `cmdk` to `sd` when you upgrade to Solaris 7 and DiskSuite 4.2.

Workaround: To avoid potential data loss during upgrades to the Solaris 7 operating environment, you must save the system's meta device configurations in text files and remove their `metadb` replicas before upgrading any x86 based system that is running DiskSuite. After you finish upgrading your x86 based system, you must restore the meta device configurations by using the DiskSuite command line interface.

The *DiskSuite Version 4.2 Release Notes* contain a procedure for saving `metadb` configurations, removing `metadb` replicas, upgrading x86 based systems to the Solaris 7 operating environment, upgrading DiskSuite to version 4.2, and restoring meta device configurations. Bourne shell scripts that automate the procedure are available for the Solaris 7 operating environment.

Installation Bugs That Occur During an Interactive Installation

Erroneous Messages Indicating Packages Added a Second Time (1235464)

This appears as an attempt to install the same architecture and version of a package that is already installed. This installation overwrites this package.

When upgrading a system with the Entire Distribution plus OEM Cluster, the following packages seem to be added twice:

- SUNWolinc
- SUNWxwdim
- SUNWxwinc
- SUNWxwman
- SUNWxwpmn
- SUNWxwsrc
- SUNWolbk
- SUNWoldim
- SUNWolman
- SUNWolsrc

Installation Progress Bar May Be Inaccurate (1266156)

The “Installing Solaris Software - Progress” bar sometimes indicates that an installation is complete when it is still in progress. The install program may add packages for several minutes after the progress bar has indicated that the installation is complete. Do not rely on the progress bar to indicate that the installation is complete. The installation displays the following message when the program has completed all installation operations:

```
Installation complete
```

Installation of Diskless Client Does Not Preserve Changes in the `dfstab` File on a Server (4045544)

When you upgrade the Solaris operating environment on a server with diskless clients, the options on the `dfstab` line are not preserved for `/usr`. For example, if you entered the following in the `dfstab` file:

```
share -F nfs -o rw /export/exec/Solaris_2.7_sparc.all/usr
```

then this entry is automatically replaced with the following entry during the upgrade:

```
share -F nfs -o ro /export/exec/Solaris_2.7_sparc.all/usr
```

Workaround: Before you attempt to upgrade the Solaris operating environment on an OS server that has a diskless client or Solstice AutoClient, back up the `/etc/dfs/dfstab` file for the clients.

Installation Bugs You Need to Know About Before the Start of an Upgrade

Be sure to read bug description ID 4121281 mentioned in"Installation Bugs That Occur Before the Start of an Interactive Installation" on page 5 earlier in this chapter as well as any other bug description listed in this section before you start upgrading your x86 based system to the Solaris 7 11/99 operating environment. This problem may cause data loss.

Installation Bugs That May Occur During an Upgrade

Multiple Architecture Server Cannot Be Patched (1249343)

After upgrading a server with diskless clients of more than one SPARC kernel architecture, such as a `sun4u` server with diskless `sun4c`, `sun4d`, and `sun4m` clients, the `SUNWkvm` packages for clients whose kernel architectures differ from that of the server cannot be patched.

Workaround: Add all of the `SUNWkvm` packages before applying any patches that affect them:

```
# pkgadd -d SUNWkvm.*
```

Disk Space Requirements Can Be Exaggerated By the Upgrade Process (4041733)

The upgrade program can exaggerate by as much as 30 percent the amount of space required for upgrades to systems with the Solaris software. Therefore, it prevents

many systems from being upgraded without deselecting packages or finding more space.

Workaround: You can manually reallocate disk space among file systems or use the Software Customization menu to remove software packages that are not needed.

Clients Do Not Receive All Patches When a Server Is Upgraded (4175220)

Patches located in the `Patches` directory on the Solaris 7 11/99 CD are not automatically applied to clients whenever a server is upgraded.

Workaround: Apply the patches located in the `Patches` directory to clients after the upgrade has been completed.

Errors May Occur During A European Upgrade (4230247, 4225787)

After upgrading from the Solaris 7 3/99 or 5/99 operating environments to the Solaris 7 8/99 operating environment, the following errors may appear in the upgrade logs:

```
Doing pkgadd of SUNWplow to /.
pkgadd: ERROR: unable to create package object
</a/usr/openwin/share/locale/de.ISO8859-15>.
    file type <s> expected <d> actual
    unable to remove existing directory at
</a/usr/openwin/share/locale/de.ISO8859-15>
....
Installation of <SUNWplow> partially failed.
pkgadd return code = 2


Doing pkgadd of SUNWpldte to /.
WARNING: /a/usr/dt/appconfig/types/de.ISO8859-15
may not overwrite a populated directory.
......
pkgadd: ERROR: /a/usr/dt/appconfig/types/de.ISO8859-15
could not be installed.
.......
Installation of <SUNWpldte> partially failed.
pkgadd return code = 2
```

This warning occurs because the patch switches the affected directories listed in the upgrade logs from symbolic links to directories. The upgrade process then attempts to install an updated version of the package that does not include the change. These errors do not affect the operating environment on your system.

Workaround: Ignore these error messages.

After Upgrading from the Solaris 2.6 5/98 Operating Environment the `postremove` Script Fails to remove the `SUNWw250h` package (4248904)

After upgrading, from the Solaris 2.6 5/98 Operating Environment, you will see the following message in the upgrade log file in the `/var/sadm/install/logs` directory:

```
Removing package SUNWw250h:
rem_major: data file \'/export/exec/Solaris_2.7_sparc.all/etc/
name_to_major\'
is missing/inaccessible.
pkgrm: ERROR: postremove script did not complete successfully

Removal of <SUNWw250h> failed.
pkgrm return code = 1
.
```

The `SUNWw250h` package contains header files that have no effect on the system if not removed.

Workaround: Ignore the error message.

Upgrading With Resizing of the Root Slice Fails (4257708)

Upgrades that involve resizing or moving the root slice fail, leaving the system unable to boot. The failure is not reported by the upgrade program. The upgrade program will not move or resize slices without positive confirmation from the user.

Workaround: You may choose one of the following workarounds:

- If you do not want the root slice resized or moved, during upgrade use the auto-layout configuration screen to adjust the constraints.
- If you want to resize or move the slices, before upgrading backup the system, manually resize or move the slices, and then restore the system.
- If you have already completed the upgrade and have resized or moved the root slice, but have not rebooted, manually remove and re-install the `SUNWcsd` package. To remove and re-install the `SUNWcsd` package:

  1. Remove the `SUNWcsd` package.

```
# pkgrm -R /a SUNWcsd
```

2. Install the SUNWcsd package.

```
# pkgadd -R /a -d /cdrom SUNWcsd
```

Upgrading With Disk Space Reallocation Removes Language Packages (4258815)

An upgrade using disk space reallocation in which the /usr partition is resized or moved causes some language packages to be removed from the system. The packages appear in the package database as installed, but the language files are not installed on the file system.

This does not occur on systems installed with only the English language.

Workaround: You may choose one of the following workarounds:

- To prevent the problem, before upgrading use patchadd with the –C option to apply patch 108176–01 or greater to the miniroot area on a Solaris 7 11/99 net install image.
- To manually adjust file system sizes before upgrading:
  1. Back up the system.
  2. Using the format command, adjust the file system sizes according to the requirements described in the install program.
  3. Restore the system on to the new file systems.
  4. Start the upgrade. The upgrade will proceed without disk space reallocation as you have adjusted the file systems so that there is enough space to complete the upgrade.
- To install the missing packages after the upgrade is complete:
  1. Determine which packages are missing. The missing packages are those that do not appear in the do_pkgadd lines in the /var/sadm/system/admin/upgrade_script and who have non-empty lines in SUNW_LOC in their pkginfo files in the /var/sadm/pkg directory.
  2. Create an admin file as /tmp/admin with the following lines:

```
instance=overwrite
mail=
```

     For detailed instructions about creating an admin file, refer to admin(4).
  3. Install the missing packages by typing the following command for each package to install:

```
# pkgadd -a /tmp/admin -d /cdrom/cdrom0/Solaris_2.7/Product package_name
```

where *package_name* is the name of the package to install.

Note - If your Solaris 7 11/99 software is mounted somewhere other than the CD-ROM drive, change the argument to the –d option to be the absolute path to the `Solaris_2.7/Product` directory.

Symbolic Links to SUNWjvrt Are Missing After Upgrading from Solaris 7 (4259033)

After upgrading from the Solaris 7 operating environment using disk space reallocation, the java commands may not be found due to missing symbolic links.

Workaround: To restore the symbolic links, complete these steps:

1. **Remove the** `SUNWjvdev` **and** `SUNWjvrt` **packages.**

```
# pkgrm SUNWjvdev SUNWjvrt
```

2. **Re-install the** `SUNWjvrt` **and** `SUNWjvdev` **packages.**

```
# pkgadd -d /cdrom/cdrom0/s0/Solaris_7 SUNWjvrt SUNWjvdev
```

Solaris Installation Bugs

Warnings May Occur When Creating a File System (4189127)

One of the following error messages may be displayed when creating a file system during installation:

```
Warning: inode blocks/cyl group (87) >= data blocks (63) in last
    cylinder group. This implies 1008 sector(s) cannot be allocated.
```

Or:

```
Warning: 1 sector(s) in last cylinder unallocated
```

The warning occurs when the size of the file system being created does not map exactly to the space on the disk being used. This can result in unused space on the disk that is not incorporated into the indicated file system. This unused space is not available for use by other file systems.

Workaround: Ignore the error message.

Not All Locales Supported Outside of Entire Metacluster (4181942)

All locales are supported only in the Entire Distribution metacluster. Subsets of these locales are supported in the Developer, End User, and Core metaclusters.

If you select a locale at the beginning of the installation that is not supported by the metacluster that you choose to install later in the installation on the metacluster selection screen, the following occur:

- Web Start installation of co-packaged products fails without installing the co-packaged products.
- You cannot open terminal windows in CDE.

For Desktop editions of the Solaris 7 11/99 operating environment, the Web Start installer installs the End User metacluster. For Server editions of the Solaris 7 11/99 operating environment, Web Start installs the Entire metacluster. You can change the defaults by selecting a Custom installation.

The following table indicates which locales are supported by each metacluster:

TABLE 1–1 Locales in Each Metacluster

Locale	Description	Core	End User	Developer	Entire
ar	Egypt - English (ISO-8859-6)	•			•
he	Israel - English (ISO-8859-8)	•			•
he_IL	Israel - English (ISO-8859-8)	•			•
th_TH	Thailand - English (TIS 620.2533)			•	•
bg_BG	Bulgarian (ISO 8859-5)	•			•

TABLE 1–1 Locales in Each Metacluster *(continued)*

Locale	Description	Core	End User	Developer	Entire
cz	Czech Republic	•			•
da	Denmark	•	•	•	•
da.ISO8859-15	Denmark (ISO8859-15)	•			•
de	German	•	•	•	•
de.ISO8859-15	Euro German (ISO8859-15)	•	•	•	•
de.UTF-8	German (UTF-8)	•			•
de_AT	Austria	•			•
de_AT.ISO8859-15	Austria (ISO8859-15)	•			•
de_CH	Switzerland	•			•
el	Greece	•	•	•	•
en_AU	Australia - English (ISO-8859-1)	•	•	•	•
en_CA	Canada - English (ISO-8859-1)	•	•	•	•
en_EU.ISO8859-15	Euro English (ISO8859-15)	•	•	•	•
en_EU.UTF-8	Euro English (UTF-8)	•	•	•	•
en_GB	GB - English (ISO-8859-1)	•	•	•	•
en_GB.ISO8859-15	GB - English (ISO-8859-15)	•	•	•	•
en_IE	Ireland - English (8 bit)	•			•
en_IE.ISO8859-15	Ireland (ISO8859-15)	•			•

TABLE 1–1 Locales in Each Metacluster *(continued)*

Locale	Description	Core	End User	Developer	Entire
en_NZ	New Zealand - English (8 bit)	•			•
en_US	USA - English (ISO-8859-1)	•	•	•	•
en_US.UTF-8	USA - English (UTF-8)			•	•
es	Spanish	•	•	•	•
es.ISO8859-15	Euro Spanish (ISO8859-15)	•	•	•	•
es.UTF-8	Spanish (UTF-8)	•			•
es_AR	Argentina	•	•	•	•
es_BO	Bolivia	•	•	•	•
es_CL	Chile	•	•	•	•
es_CO	Colombia	•	•	•	•
es_CR	Costa Rica	•	•	•	•
es_EC	Ecuador	•	•	•	•
es_GT	Guatemala	•	•	•	•
es_MX	Mexico	•	•	•	•
es_NI	Nicaragua	•	•	•	•
es_PA	Panama	•	•	•	•
es_PE	Peru	•	•	•	•
es_PY	Paraguay	•	•	•	•
es_SV	El Salvador	•	•	•	•
es_UY	Uruguay	•	•	•	•
es_VE	Venezuela	•	•	•	•

TABLE 1–1 Locales in Each Metacluster *(continued)*

Locale	Description	Core	End User	Developer	Entire
et	Estonia	•			•
fi	Finland	•			•
fi.ISO8859-15	Finland (ISO8859-15)	•			•
fr	French	•	•	•	•
fr.ISO8859-15	Euro French (ISO8859-15)	•	•	•	•
fr.UTF-8	French (UTF-8)	•			•
fr_BE	Belgium	•			•
fr_BE.ISO8859-15	Belgium (ISO8859-15)	•			•
fr_CA	Canada	•			•
fr_CH	Switzerland	•			•
hr_HR	Croatian (ISO 8859-2)	•			•
hu	Hungary	•			•
it	Italian	•	•	•	•
it.ISO8859-15	Euro Italian (ISO8859-15)	•	•	•	•
it.UTF-8	Euro Italion (UTF-8)	•			•
lt	Lithuania	•			•
lv	Latvia	•			•
mk_MK	Macedonian (ISO 8859-5)	•			•
nl	Netherlands	•			•
nl.ISO8859-15	Netherlands (ISO8859-15)	•			•

TABLE 1–1 Locales in Each Metacluster *(continued)*

Locale	Description	Core	End User	Developer	Entire
nl_BE	Netherlands / Belgium	•			•
nl_BE.ISO8859-15	Netherlands / Belgium (ISO8859-15)	•			•
no	Norway	•			•
no_NY	Nynorsk	•			•
nr	Bosnian (ISO 8859-2)	•			•
pl	Poland	•			•
pt	Portugal	•			•
pt.ISO8859-15	Portugal (ISO8859-15)	•			•
pt_BR	Portugal / Brazil	•			•
ro_RO	Romanian (ISO 8859-2)	•			•
ru	Russia	•			•
sk_SK	Slovak (ISO 8859-2)	•			•
sl_SI	Slovene (ISO 8859-2)	•			•
sq_AL	Albanian (ISO 8859-2)	•			•
sr_SP	Serbian (ISO 8859-5)	•			•
sv	Swedish	•	•	•	•
sv.ISO8859-15	Euro Swedish (ISO8859-15)	•	•	•	•
sv.UTF-8	Swedish (UTF-8)	•			•
tr	Turkey	•	•	•	•

Workaround: To prevent the problem, install the metacluster that contains the desired locale.

To repair an existing installation in the `/etc/default/init` file, change the references to the unsupported locale to reference a supported locale for the installed metacluster.

Font Package Warning Occurs During Installation (4226416)

The font packages listed below in the warning messages cover all language locales, including those that may not be on your Solaris CD. If you cannot find all the packages listed in the warning message, then only install those packages that you can find on your CD.

```
Warning!  It is strongly recommended that the following font package be
installed for all locales:

SUNWi1of

Warning!  It is strongly recommended that the following font packages be
installed to support locales (other than ISO8859-1 locales) as needed:

SUNWi2of SUNWi2rf SUNWi4of SUNWi4rf SUNWi5of SUNWi7of SUNWi7rf
SUNWi9of SUNWi9rf SUNWjxcft SUNWkcoft SUNWcttf SUNWhttf SUNW5xfnt
```

This message is only advisory and does not indicate an installation failure.

Workaround: Installation of the font packages listed in the warning message is strongly recommended.

System Administration Installation Bugs

Addition of Solaris 7 Service to an OS Server Results in an Upgrade Failure Message (4171470)

When the Solaris 7 system software is added to an OS server as a service, the following error message is displayed:

```
celebris:  Error:  Error adding OS service Solaris 2.7 i386 i86pc:
service modification failed.
See /var/sadm/system/logs/upgrade_log for more information
(/var/sadm/install_data/upgrade_log on Solaris 2.3 or 2.4).
```

Where *celebris* is the name of the OS server.

If you review the indicated log file, you will see that the addition of the `SUNWplow` package failed with the following message:

```
Doing pkgadd of SUNWplow to /.
ERROR: attribute verification of
<export/exec/Solaris_2.7_i386.all/etc/default/init> failed
pathname does not exist
```

Workaround: Ignore the error message.

User Disabling of Daemons and Servers in `inetd.conf` Overridden by Package Instance (4220923)

The interactive installation program adds lines for the KCMS Profile Server, Font Server, CacheFS Daemon, and Kerbd Daemon even though they already exist and are commented out in `/etc/inetd.conf`.

Workaround: The unnecessary entries in `/etc/inetd.conf` can be deleted or commented out with a text editor.

AnswerBook2 Documentation Installation Bugs

Installing `SUNWab2u` Before `SUNWab2r` and `SUNWab2s` Causes Problems (4230969)

Installing the `SUNWab2u` package before the other AnswerBook2 packages, `SUNWab2r` and `SUNWab2s`, causes the following:

- Warning messages will display during the installation
- The scan option will not find any AnswerBook1 collections

- Links between books will attempt to retrieve the book from docs.sun.com, rather than from the local server

Workaround: Use the installer (Web Start utility) or the `pkgrm` command to remove the `SUNWab2u`, `SUNWab2r`, and `SUNWab2s` packages.

To install the packages in the correct order, use the installer (Web Start utility).

If you install the packages manually using the `pkgadd` command, install them in the following order:

1. `SUNWab2r`
2. `SUNWab2s`
3. `SUNWab2u`

The `fr.UTF-8` Locale Displays `ab2cd` Installation Messages in English (4248169)

If you are using the `fr.UTF-8` french locale you will see `ab2cd` installation status and error messages displayed in English. This occurs because on the Solaris 7 8/99 Documentation CD, the `.ab2cd_msgs/i386/fr.UTF-8/` directory was incorrectly named `.ab2cd_msgs/i386/fr..UTF-8/`.

Workaround: None.

Solstice AutoClient Installation Issue

The Solstice AutoClient product is not included in the SEAS 3.0 product shipped with the Solaris 7 11/99 release. If you have installed diskless clients and AutoClient systems, you can continue to use those systems. You can manage those systems using an earlier release of Solstice AdminSuite.

CHAPTER 2

Late-Breaking Solaris Runtime Issues

This chapter describes known runtime problems. You may also want to refer to the online `runtime_bugs` file in the `SUNWrdm` package on the Solaris 7 11/99 CD for additional runtime problems.

The information in this chapter supplements any information listed in the `runtime_bugs` file that is part of the `SUNWrdm` package on the Solaris 7 11/99 CD. If you boot from the Solaris 7 11/99 CD, the `runtime_bugs` file is located in the directory:

`/cdrom/sol_7_1199_x86/s2/Solaris_2.7/Docs/release_info/C`

The default installed location for the `runtime_bugs` file is the directory:

`/usr/share/release_info/Solaris_2.7/C`

Note - The name of this product is Solaris 7 11/99, but code and path or package path names may use Solaris 2.7 or SunOS 5.7. Always follow the code or path as it is written.

Common Desktop Environment (CDE) Bugs

Cannot Print in `dtmail` for Non-ISO_1 Locales (4072209)

If you are running a non-ISO_1 locale, such as `ru`, `hr`, and `pl`, you cannot print emails in `dtmail`.

Workaround: To print an email, save the e-mail as a file and use `dtpad` or the `lp` command to print the file.

Solaris Information Files Display in English (4202477)

If you display the 7 Solaris information files (listed in Step 2 on page 22) that are included in the `SUNWrdm` packages and installed in the `/usr/share/release_info/Solaris_2.7/`*locale* directory, you can only view them in English even though you logged in using the European locale.

1. **Select Information from the front panel's Help menu.**

2. **Double-click the Solaris_2.7 folder in the Application Manager.**

   The following 7 Solaris Information files are displayed:

   - `documentation_issues`
   - `driverupdate`
   - `eof`
   - `installation_bugs`
   - `new_features`
   - `patches`
   - `runtime_bugs`

3. **Double-click on each file.**

   It displays each file in `dtpad`.

Workaround: Go to `/usr/share/release_info/Solaris_2.7/`*locale* and use `vi` or `dtpad`.

System Administration Bugs

`/var/adm/messages` File Contains Incorrect Time Stamp (4216235)

The system time in the `/var/adm/messages` file is inaccurate when displaying boot-related information for the first boot after a `netinstall`. In the following excerpt from the `/var/adm/messages` file, you will see that the system time gets set to a later time.

```
Jun  1 22:05:07 sunergy2 unix: mem = 49152K (0x3000000)
Jun  1 22:05:07 sunergy2 unix: avail mem = 44359680
Jun  1 22:05:07 sunergy2 unix: root nexus = SUNW,SPARCclassic
Jun  1 17:39:59 sunergy2 unix: iommu0 at root
Jun  1 17:39:59 sunergy2 unix: :
Jun  1 17:39:59 sunergy2 unix: obio 0x10000000
Jun  1 17:39:59 sunergy2 unix:
Jun  1 17:39:59 sunergy2 unix: sbus0 at iommu0
```

Workaround: You may delete the innaccurate messages.

UFS Quotas Not Enabled After Booting (4226352)

If you have UFS file systems listed in `/etc/vfstab` with quotas enabled, you must apply the following workaround. Otherwise, quotas are not enabled automatically after booting a system.

Workaround: You must run `quotacheck -a` and `quotaon -a` for quotas to be correctly enabled. Otherwise, quotas remain disabled.

Remote Console Bugs

The following bugs occur when the Remote Console feature is enabled.

`init` Does Not Recognize Carrier Drop Off From a Serial Display and Therefore Does Not Revert to the Default Console (4191023)

If you lose the carrier, for example, become disconnected from the serial port that is not located on the default console or on an auxiliary console through which you are logged in, and then bring the system to single-user or administrative mode by executing the `init` command from that port, you must ensure that the carrier is reestablished on that serial port before bringing the system back up. The system then prompts you for a run level to which you want to boot the system (only on the port where the `init` command was initiated).

Workaround: Reconnect to the serial ports when you lose the carrier before rebooting the system.

`init` Prompts for Run Level When the `reboot` Command Is Executed From a Standalone Session (4191148)

A misleading message is sometimes displayed on the device on which you initiated the `init` state transition when administering a system using the `init` command even though you executed the `reboot` command. When executing `init s`, a single-user shell is established on a remote console and the subsequent rebooting of the system can cause the following message to be displayed:

```
Enter run level
```

Workaround: Ignore the misleading message.

Change the `init` Command's Run Level Prompt to Display on a `tty` On Which Control—D or the `exit` Command Are Executed (4196862)

If you press Control—D as a superuser or after logging in as `root` from the superuser login prompt and then issue an `exit` command to be at the default run level, you are prompted for the default run level. The prompt is displayed on a console on which the `init` command was initially executed instead of the console on which Control—D or the `exit` command were originally issued.

If you execute the `init` command from a `pty`, `/dev/console` becomes the default device on which you are prompted for a run level. If you are running a remote console and log in as a superuser and then type Control—D to boot the system, the run level prompt is then displayed on the console instead of the auxiliary console.

The `init` Command Does Not Display Its Run Level Prompt When Reconnecting to the Port of an Auxiliary Console (4196993)

If a configuration includes one or more auxiliary consoles and the carrier drops the connection for the auxiliary console on which the `init` command was run, and the sulogin shell has exited from another auxiliary or default console, then the following prompt will not be displayed after reestablishing the connection on the port from which the carrier dropped the connection:

```
Enter Run Level
```

Although you are never prompted for the run level, the system is still waiting for the run level to be entered.

Workaround: Reestablish the connection on the port from the carrier has dropped the connection and enter the desired run level even though you are not prompted for the run level.

Some Console Messages Cannot Be Redirected to Auxiliary Consoles (4197589)

Daemons or commands may use `/dev/console` explicitly to display messages. The frequency of such messages is low among the set of messages that the console may display.

Workaround: All messages are still printed to `/dev/console` and can therefore be monitored. You can also monitor syslog log files.

`syslog` Writes Messages to `/dev/syscon` When Unable to Send to `syslogd` (4219265)

If `syslogd` needs to display error messages on a console, these messages will be directed to the default location `/dev/syscon`. The error messages are not displayed on any configured auxiliary consoles in this feature patch.

File System Bugs

UFS File System Panic (4241656)

Very infrequently, while doing disk I/O, the UFS file system will panic with the error message:

```
panic, ufs_fault_v+0x4c:, call, real_panic_v, alloccgblk:
can’t find blk    in cyl .....
```

Workaround: Reboot the system and run the `fsck` command on the affected file system to recover from the problem.

Java Development Kit (JDK™) Bugs

JDK 1.1.7_08: Java Applications Dump Core When There Is Insufficient Swap Space (4037312, 4042667)

Java applications dump core when there is not enough swap space. Applications sometimes produce the following bus error:

```
not enough space
```

Workaround: Exit other applications running on the system or add more swap space. See the *Solaris System Administration Guide* for details on adding swap space.

JDK 1.2.1_03: Underlined Text Displays Slowly on a Non-local Host (4170221)

When you set the DISPLAY environment variable to a host other than the one running the virtual machine, underlined text in a network browser displays at a much slower rate than text that is not underlined.

Workaround: Do not use remote display.

JDK 1.2.1_03: Text Rendering Performance Regression From JDK 1.1.7 and Earlier Releases (4210230)

Text rendering with JDK 1.2 is much slower than with JDK 1.1.7 and earlier releases, including rendering on platforms with Direct Graphics Access support (for example: cg6, ffb frame buffers).

Workaround: Keep socket writes to less than 64 kbytes.

AnswerBook2 Documentation Bugs

AnswerBook2 Print Function Disabled for Asian Locales (4163661)

The AnswerBook2 Print function does not work for Asian (Korean, Simplified Chinese, and Traditional Chinese) documents.

Workaround: To print AnswerBook2 pages in these locales, use your browser's print function.

ab2cd Causes TCL Errors When Started With LC_ALL Set to a Value Other Than C or Blank (4249211)

When running the AnswerBook2 server with the command ab2cd, if LC_ALL is set to a value other than C or blank, you will see the following error message:

```
Internal Server Plugin Error
../dwinterp/dwinterp.cc reported


TCL script exception:

File not found: "/tmp/.ab2/data/config/dynaweb.dwc"
------------------------------


Please notify your System Administrator.../dwsp/dwspns.cc reported "Null
Pointer" exception caught in ../dwsp/dwspns.cc, line 244
Please notify your System Administrator.
```

Workaround: Before starting ab2cd, type the following command:

```
# unsetenv LC_ALL
```

Solaris Runtime Bugs

Man Page for `netstat` Truncated (4246745)

When a user tries to access the `netstat(1M)` reference manual page using the man command, the page does not print completely. The problem arises because of an `nroff` bug that occurs only in the C locale. The `nroff` file generated by the man command contains invalid characters that may cause a core dump.

The same behavior occurs with the `netmask(1M)` and `m64config(1M)` reference manual pages.

`Workaround:` Use AnswerBook2 to view the complete `netstat(1M)`, `netmask(1M)`, and `m64config(1M)` reference manual pages.

Localization Bugs

OpenWindows Is Not Supported As a Desktop Option In Some Locales

OpenWindows™ is not supported as a desktop option in the following locales and partial locales:

TABLE 2–1 Desktop Options Not Supported

Desktop Option	Name of Country
`en_GB.ISO8859-15`	Britain
`de.ISO8859-15`	Germany
`fr.ISO8859-15`	France
`it.ISO8859-15`	Italy
`es.ISO8859-15`	Spain
`sv.ISO8859-15`	Sweden

TABLE 2–1 Desktop Options Not Supported *(continued)*

Desktop Option	Name of Country
da.ISO8859-15	Denmark
de_AT.ISO8859-15	Austria
en_IE.ISO8859-15	Ireland
pt.ISO8859-15	Portugal
nl_BE.ISO8859-15	Belgium
nl.ISO8859-15	Netherlands
fr_BE.ISO8859-15	Belgium
fi.ISO8859-15	Finland
el_EURO	Greece
he	Israel
ar	Egypt
de.UTF-8	Germany
fr.UTF-8	France
it.UTF-8	Italy
es.UTF-8	Spain
sv.UTF-8	Sweden
en_EU.UTF-8	Europe

CHAPTER 3

End-of-Support Statements

This chapter lists late-breaking end-of-support statements that arrived too late to be included in the online `eof` file in the `SUNWrdm` package on the Solaris CD.

The information in this chapter supplements any information listed in the `eof` file that is part of the `SUNWrdm` package on the Solaris 7 11/99 CD. If you boot from the Solaris 7 11/99 CD, the `eof` file is located in the directory:

`/cdrom/sol_7_1199_x86/s2/Solaris_2.7/Docs/release_info/C`

The default installed location for the `eof` file is the directory:

`/usr/share/release_info/Solaris_2.7/C`

Note - The name of this product is Solaris 7 11/99, but code and path or package path names may use Solaris 2.7 or SunOS 5.7. Always follow the code or path as it is written.

End of Software Support Statements for Future Releases of the Solaris Operating Environment

The `sysidnis(1M)` System Identification Program

The `sysidnis(1M)` program may be removed in a future release. `sysidnis(1m)` is the System Identification program responsible for configuring name services during installation and upgrade, and after unconfiguration using `sys-unconfig(1M)`.

`sysidnis(1M)` will be replaced by `sysidns(1M)`.

XIL

XIL may no longer be supported in a future release. The following warning is generated when an XIL program is compiled:

```
#error: "XGL has been declared Obsolete and may not be present in
versions of Solaris after 8.
#define SUNXIL_WARNING_DISABLE (or use -D) to disable this message."
```

To compile an XIL program, disable the message by adding **`#define`** to the program:

```
#define SUNXIL_WARNING_DISABLE
```

or by using the following compiler directive:

```
-DSUNXIL_WARNING_DISABLE
```

The Console Subsystem for the Solaris Operating Environment, Intel Platform Edition Is Being Replaced

The replacement is more compatible with the equivalent subsystem used on SPARC based systems. Therefore, it provides for future extensibility. It invalidates a large number of undocumented and unsupported interfaces, as well as some documented interfaces.

The following documented interfaces may no longer be supported in a future release:

- `pcmapkeys(1)`
- `loadfont(1)`
- `loadfont(4)`

If you want to program the keyboard, use `loadkeys(1)` instead of `pcmapkeys(1)`. In console mode, there will no longer be a mechanism to load a different font in the video card. The only available font is ISO8859-1

The following undocumented and unsupported interfaces may no longer be available in a future release:

- `ioctls` listed in `/usr/include/sys/kd.h`
- `ioctls` listed in `/usr/include/sys/vt.h`
- Support for Virtual Terminals
- `/dev/vt*` special files to support virtual terminals

The terminal type for the console will be "sun-color" rather than AT386.

CHAPTER 4

Documentation Issues

This chapter describes known documentation problems. You may also want to refer to the online `documentation_issues` file in the `SUNWrdm` package on the Solaris 7 11/99 CD for additional documentation problems.

Note - The information in this chapter supplements any information listed in the `documentation_issues` file that is part of the `SUNWrdm` package on the Solaris 7 11/99 CD. If you boot from the Solaris 7 11/99 CD, the `documentation_issues` file is located in the directory:

`/cdrom/sol_7_1199_x86/s2/Solaris_2.7/Docs/release_info/C`

The default installed location for the `documentation_issues` file is the directory:

`/usr/share/release_info/Solaris_2.7/C`

Note - The name of this product is Solaris 7 but code and path or package path names may use Solaris 2.7 or SunOS 5.7. Always follow the code or path as it is written.

Documentation Errata

Documentation Errata for AnswerBook2 Server

Book Affected: Traditional Chinese version of *Installing and Administering an AnswerBook2 Server*

In the Traditional Chinese version of the book *Installing and Administering an AnswerBook2 Server*, several commands have been translated to show Chinese

commands or parameters. These commands should remain in their original form, as shown in the English version of the book.

To read the correct examples of commands and parameters, refer to the English version of *Installing and Administering an AnswerBook2 Server*.

APPENDIX **A**

Maintenance Update Patch List

The patches listed in this appendix are are on the Solaris 7 11/99 CD. They have been applied using:

- SolStart

  The patches are located in the `/var/sadm/patch` directory on an installed system.

- Freshbits technology

  These patches were applied when the Solaris 7 11/99 CD was created. Therefore, these patches are not located in the `/var/sadm/patch` directory.

The `showrev -p` command provides a list of all patches applied to the installed system regardless of how they were applied. The Solaris 7 11/99 CD includes a known and tested level of patches; however, patches cannot be backed out of the Solaris 7 11/99 release.

Patch List

TO BE ADDED

APPENDIX **B**

Hardware Compatibility List (Intel Platform Edition) 3/99, 5/99, 8/99, and 11/99

This appendix provides information about new and enhanced peripheral and system platform support in the Solaris 7 (Intel Platform Edition) 3/99, 5/99, 8/99, and 11/99 computing environments.

Note - The information in this appendix supplements the *Solaris 7 (Intel Platform Edition) Hardware Compatibility List*.

Solaris 7 11/99 Hardware Compatibility List

Added Support for Video Display Devices

Support for the following video display devices has been added.

TABLE B–1 Video Display Devices

Vendor	Model	Bus	Video Chip	Resolution and Color Depth									
				800x 600		1024x 768		1152x 900		1280x 1024		1600x 1200	
				8	24	8	24	8	24	8	24	8	24
Matrox	Millennium G400	AGP	MGA-G400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Matrox	Mystique G400	AGP	MGA-G400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Solaris 7 5/99 Hardware Compatibility List

Added Support for Video Display Devices

Support for the following video display devices has been added.

TABLE B–2 Video Display Devices

Vendor	Model	Bus	Video Chip	Resolution and Color Depth									
				800x 600		1024x 768		1152x 900		1280x 1024		1600x 1200	
				8	24	8	24	8	24	8	24	8	24
3Dlabs	Permedia 2	PCI/ AGP	3Dlabs Permedia 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Diamond	Fire GL 1000 Pro	AGP	3Dlabs Permedia 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Matrox	Millennium G200	AGP	MGA-G200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mystique G200	AGP	MGA-G200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Solaris 7 3/99 Hardware Compatibility List

Added Support for Video Display Devices

Support for the following video display devices has been added.

TABLE B–3 Video Display Devices

Vendor	Model	Bus	Video Chip	Resolution and Color Depth									
				800x 600		1024x 768		1152x 900		1280x 1024		1600x 1200	
				8	24	8	24	8	24	8	24	8	24
Cirrus Logic	5465[1]	PCI/ AGP	Cirrus Logic GD5465	✓	✓	✓	✓	✓		✓		✓	
S3	Trio3D[1]	PCI/ AGP	S3 Trio3D (86E366)	✓	✓	✓	✓	✓		✓		✓	

1. Sun does not guarantee that every video device with this chip will work, but it is possible that your model can be used successfully.

APPENDIX **C**

Device Configuration Guide (Intel Platform Edition) 3/99, 5/99, and 8/99

This appendix provides information about x86 hardware devices that are supported in the Solaris 7 (Intel Platform Edition) 3/99, 5/99, and 8/99 computing environments and contains Device Reference Pages to solve configuration problems.

Note - The information in this appendix supplements the *Solaris 7 (Intel Platform Edition) Device Configuration Guide.*

Solaris 7 8/99 Device Configuration Guide

Adaptec AHA-2940U2B, 2940U2W, 2940U2/OEM, 2950U2B, 3950U2B HBAs

Solaris Device Driver:	`cadp`
Device Types:	SCSI-2, SCSI-3, Ultra2 SCSI
Adapters:	Adaptec AHA-2940U2B, AHA-2940U2W, AHA-2940U2/OEM, AHA-2950U2B, AHA-3950U2B

Chips: AIC-7890AB, AIC-7891B, AIC-7896, AIC-7897

Bus Type: PCI

Preconfiguration Information

- Multi-initiator configurations are not supported.
- The Plug N Play SCAM Support option is not supported.
- Ensure that the Adaptec SCSISelect BIOS option Reset SCSI Bus at IC Initialization (under the Advanced Configuration Options menu) is set to Enabled. Run the SCSISelect utility by pressing Ctrl-A when you see the Adaptec banner during system boot.
- Reboot the system after you install patches.
- If you are both upgrading your Solaris *Intel Platform Edition* installation and adding a new device driver, you must first upgrade Solaris, then reboot your system, and then apply the Driver Update (DU), as follows.

  1. Perform the Solaris upgrade. Do not apply the `cadp` DU at this time.
  2. Reboot your system.
  3. When the system has rebooted successfully, insert the DU diskette into the diskette drive and apply the DU as follows.

     Mount the DOS formatted file system:

     ```
     # mount -Fpcfs /dev/diskette0 /mnt
     ```

     Change directories:

     ```
     # cd /mnt/DU/sol_27/i86pc/Tools
     ```

     Install the DU:

     ```
     # . ./install.sh -i
     ```

     Perform a reconfiguration reboot.

Known Problems and Limitations

- If you experience problems when using a narrow SCSI CD-ROM drive on the internal wide interface, disable “negotiate wide,” “negotiate sync,” or both for that device in the Adaptec configuration utility.

- If you experience problems when using the narrow internal connector, then disable “de-selection” in the Adaptec configuration utility.
- The Fujitsu narrow disk (M1603SAU) has been observed reselecting with an invalid queue tag ID. This is a violation of the SCSI protocol and it causes the `cadp` driver to behave erroneously. Because this is difficult to guard against, it is best to disable tagged queuing for these targets.

  Use the `iostat -E` command to determine if you have a Fujitsu M1603S-512 disk. If you do, edit the `/kernel/drv/cadp.conf` file and add the property `target` *n* `-scsi -options=0x1f78`, where *n* is the target number.
- The IBM external wide disk (DFHSS2W, Revision 1717) is not supported.

Configuration Procedure

Using the Adaptec configuration utility:

- Configure each SCSI device to have a unique SCSI ID. On the Advanced Configuration Options menu, set Plug N Play SCAM Support to Disabled.

  Ensure that devices on either end of the SCSI chain are terminated. When mixing wide (16 bits) and narrow (8 bits) devices on the same wide chain, ensure that a wide device is at the end of the chain. If a narrow device is placed at the end of the chain, the wide devices on the same chain only have the low byte terminated, and this is an illegal configuration.
- If there is more than one controller (or an embedded controller), try to use one IRQ per controller.
- Enable bus mastering for the slot(s) with your host bus adapter(s), when asked.
- For older disk drives, tape drives, and most CD-ROM devices, make sure the maximum SCSI data transfer speed is set to 5.0 Mbps.
- Enable support for disks larger than 1 Gbyte if applicable.

LSI Logic (formerly Symbios Logic or NCR) 53C810, 53C810A, 53C815, 53C820, 53C825, 53C825A, 53C860, 53C875, 53C875J, 53C876, 53C895 HBAs

Solaris Device Driver:	`ncrs`
Device Type:	SCSI
Adapters:	LSI Logic (formerly Symbios Logic or NCR) 53C810, 53C810A, 53C815, 53C820, 53C825, 53C825A, 53C860, 53C875, 53C875J, 53C876, 53C895
Bus Type:	PCI

Preconfiguration Information

Known Problems and Limitations

- Because the NCR BIOS and the Solaris `fdisk` program may be incompatible, use the DOS version of `FDISK` (or equivalent utility) to create an entry in the `FDISK` partition table before installing the Solaris software. Create at least a 1-cylinder DOS partition starting at cylinder 0. If the DOS partition isn't created, the system won't reboot after Solaris installation.
- An add-in card with the 53C815, 53C820, 53C825, or 53C825A controller can only be used in a bus-mastering PCI slot. On motherboards with only two PCI slots, both of the PCI slots are usually bus-master capable. On motherboards with three or more PCI slots, and on motherboards with several embedded PCI controllers, some of the PCI slots may not be bus-master capable.
- Some PCI motherboards with the LSI Logic SDMS BIOS and an embedded 53C810 or 53C810A controller do not work correctly with the 53C82*x* family of add-in cards that also have an LSI Logic SDMS BIOS. Upgrading the motherboard BIOS, the add-in card, or both may prevent these conflicts.
- On some early PCI systems with the 53C810 chip on the motherboard, the interrupt pin on the chip is not connected. Such a system cannot be used with Solaris software.
- Do not attempt to connect wide targets to the narrow connector of the cards listed as supporting narrow disks. These configurations are not supported.

- If your adapter supports the LSI Logic SCSI Configuration utility, which can be accessed by pressing Control-C, do not change the value of the Host SCSI ID (an option under the Adapter Setup menu) to anything but 7.
- If you experience problems with old target devices, add the following entry to the `/kernel/drv/ncrs.conf` file:

```
targetN-scsi-options = 0x0;
```

  where *N* is the ID of the failing target.

- If you are using a Conner 10805 narrow SCSI drive, you might see warnings like:

```
WARNING: /pci@0,0/pci1000,f@d(ncrs0):
invalid reselection(0,0)
WARNING: /pci@0,0/pci1000,f@d/sd@0,0(sd0):
SCSI transport failed: 'reset: retrying command'
```

  You can suppress these warnings by disabling tagged queuing in the `ncrs.conf` file. See the **ncrs**(7D) man page.

- On some Pentium motherboards (Intel NX chipset) using P90 or slower processors, `ncrs` hangs and this message is displayed on the console:

```
WARNING: /pci@0,0/pci1000,3@6(ncrs0)
Unexpected DMA state:active dstat=c0<DMA-FIFO-empty,
master-data-parity-error>
```

  This is an unrecoverable state; the system will not install using the `ncrs` driver.

- The `ncrs` driver supports Revision 4 and above of the 53C875 chipset. Previous revisions were pre-release versions of the chip, so there might still be a few in circulation.
- In rare circumstances, when using an SDT7000/SDT9000 tape drive, you see this message on the console:

```
Unexpected DMA state: ACTIVE. dstat=81<DMA-FIFO-empty,illegal-instruction>
```

  In these instances, the system recovers and the tape drive remains usable. You can still use the `tar` command to add or extract files to or from the tape in the drive.

Solaris 7 5/99 Device Configuration Guide

LSI Logic (formerly Symbios) 64-Bit PCI Dual Channel Ultra2 SCSI 53C896 HBA

Solaris Device Driver:	`symhisl`
Device Type:	SCSI
Adapters:	SYM22910 (both channel A and B support SE and LVD mode), SYM21002 (channel A supports SE only, channel B supports both SE and LVD mode)
Bus Type:	PCI

Preconfiguration Information

Known Problems and Limitations

- For Ultra2 SCSI LVD transfer, make sure you use Ultra2 SCSI LVD-compliant SCSI cable. Also, for best performance, keep the devices 6 to 8 inches apart.
- If both the 53C896 chip and an older 53C8*xx* chip are embedded on the motherboard, when your system boots, the system BIOS recognizes the older 53C8*xx* chip first. In this case, wait until the newer version of the Symbios SDMS BIOS, which supports the newer 53C896 chip, recognizes all 53C8*xx* chips embedded on your motherboard before proceeding.

  To prevent the older BIOS utility from coming up, reflash the older 53C8*xx* BIOS of the add-in controller.

  You can download the latest Symbios SDMS BIOS from `http://www.symbios.com/techsupport/pci_sw.htm#Symbios CPI BIOS & Flash Utility`.
- Due to a hardware problem in revisions B0 and C0 of the 53C896 chip, the `symhisl` driver does not work properly with 64-bit PCI slots. The `symhisl` driver issues a SCSI bus reset when the problem occurs. To avoid this problem, upgrade to revision C1 of the 53C896 chip.

Other revisions of the 53C896 chip may exhibit hardware incompatibilities with earlier PCI chips and designs. For a complete list of errata about each revision of the 53C896 chip, see LSI Logic's Web site (`http://www.lsil.com`).

- Under some conditions, LVD technology may exhibit firmware incompatibilities. If you experience SCSI errors with a correctly configured LVD SCSI bus, contact the manufacturer for updated firmware.

Solaris 7 3/99 Device Configuration Guide

Added Support for Physical Address Extension (PAE) Mode

With the release of Pentium Pro, Intel introduced a mode called PAE (Physical Address Extension) on its advanced processors. By using PAE, Solaris (Intel Platform Edition) can address up to 32 Gbytes of physical memory. Individual processes are still limited to a maximum of 3.5 Gbytes of virtual address space.

PAE mode enables you to run multiple instances of databases and memory-intensive applications, and to support large numbers of online users on your machine.

It is best to use PCI disk controllers that support Dual Address Cycle (DAC) in your machine because they can transfer data to and from any physical location. Other cards are limited to 4 Gbytes of physical memory, and as a result performance may slow down because the system needs to copy additional memory to transfer data.

Caution - Some device drivers are not yet able to take advantage of PAE mode. Sun has tested PCI device drivers written by Sun on x86 based machines with more than 4 Gbytes of memory. Sun's OEM partners intend to test their machines with devices they supply on x86 based machines with more than 4 Gbytes of memory. In some cases however, if you add a third-party device driver to your system, it may become unstable, and panics and data corruption may result. If your system becomes unstable and you need that driver, you must disable PAE mode support.

Disabling PAE Mode Support

To disable support for PAE mode, follow these steps:

1. **Reboot your machine.**

2. **Interrupt autoboot by pressing the Esc key.**

The Solaris Device Configuration Assistant starts.

3. **Press F2_Continue until the Boot Solaris screen is displayed.**

4. **Press F4_Boot Tasks.**
   The Boot Tasks screen is displayed.

5. **Select View/Edit Property Settings.**
   The View/Edit Property Settings screen is displayed.

6. **Press F4_Create.**
   The Create Property screen is displayed.

7. **In the Specify Property Name field, type `mmu-modlist` and press Enter.**

8. **In the Specify Value field, type `mmu32` and press Enter.**
   The message "Updating Saved Configuration information..." is displayed on the Updating screen. When the property and value are saved successfully, the View/Edit Property Settings screen is displayed.

9. **Press F2_Back.**
   The Boot Tasks screen is displayed.

10. **Press F3_Back.**
    After drivers on your machine are loaded, the Boot Solaris screen is displayed.

11. **Continue booting your machine as you normally would.**