



# Solaris 9 (SPARC Platform Edition) Beta Refresh Release Notes

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# Preface

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The *Solaris™ 9 (SPARC™ Platform Edition) Beta Refresh Release Notes* contains installation problem details and other information that were not available until immediately before the release of the Solaris 9 Beta Refresh operating environment.

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**Note** – The information in this document pertains to the SPARC platform. This information also pertains to both the 64-bit and 32-bit address spaces unless specified in a special chapter, section, note, bulleted item, figure, table, example, or code example.

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## Who Should Use This Book

These notes are for users and system administrators who are installing and using the Solaris 9 Beta Refresh operating environment.

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## Related Books

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

- *Solaris 9 Start Here*
- *Solaris 9 Installation Guide*
- The Solaris 9 Beta Refresh release notes are available:

- In the Solaris 9 Beta Refresh Release Notes Collection on the Solaris 9 Documentation CD
- On <http://docs.sun.com> (the most up-to-date information)
- *Solaris 9 System Administrator Collection*

Solaris documentation is available on the Solaris 9 Documentation CD included with this product.

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.

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## Typographic Conventions

The following table describes the typographic changes used in this book.



**TABLE P-1** Typographic Conventions

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

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## Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

**TABLE P-2** Shell Prompts

Shell	Prompt
C shell prompt	machine_name%
C shell superuser prompt	machine_name#
Bourne shell and Korn shell prompt	\$
Bourne shell and Korn shell superuser prompt	#



## Installation Issues

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This chapter describes problems that relate to the installation of the Solaris 9 Beta Refresh operating environment.

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### Issue You Need to Know About Before Installing Solaris 9 Software From DVD

#### Booting From the Solaris 9 DVD

The Solaris 9 operating environment is now available on DVD. To install or upgrade from DVD, insert the Solaris 9 DVD into the DVD-ROM drive and boot the system from the ok prompt with the following command.

```
ok boot cdrom
```

---

# Bugs You Need to Know About Before Installing Solaris 9 Software From DVD

## Boot From Solaris DVD Fails on Systems With Toshiba SD-M1401 DVD-ROM (4467424)

If your system has a Toshiba SD-M1401 DVD-ROM drive with firmware revision 1007, the system cannot boot from the Solaris 9 DVD.

**Workaround:** Apply patch 111649-03, or later version, to update the Toshiba SD-M1401 DVD-ROM drive's firmware. Patch 111649-03 is included on the Solaris 9 Supplement CD in the following directory.

DVD\_Firmware/Patches

See the README file in this directory for instructions on installing the patch. Be sure to read and follow all the cautions and warnings in this README file before you install the patch.

## Cannot Access Data on Solaris 9 DVD in Solaris 2.6 and Solaris 7 Operating Environments (4511090)

If your system is running the Solaris 2.6 or Solaris 7 operating environment, Volume Management incorrectly mounts the Solaris 9 DVD. The Solaris 9 DVD will mount, but the data is inaccessible. As a result, you cannot setup an install server, perform a Live Upgrade, or access any data on the media.

**Workaround:** Manually mount the Solaris 9 DVD. Do not use Volume Management to mount the Solaris 9 DVD. Follow these steps.

1. Become superuser.
2. Stop Volume Management.  

```
# /etc/init.d/volmgt stop
```
3. Manually mount the DVD.  

```
# mkdir /mnt1  
# mount -F hsfs -o ro /dev/dsk/c0t6d0s0 /mnt1
```
4. Verify that the DVD is mounted and the data is accessible.

```
# cd /mnt1
# ls
```

The system returns the following information if the DVD is correctly mounted.

```
Copyright Solaris_9 installer
```

---

## Installation Bugs That Occur During an Interactive Installation From Solaris 9 Software 1 of 2 CD

### Warnings May Occur When a File System Is Created (4189127)

One of the following warning messages might be displayed when a file system is created 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 that is being created does not map exactly to the space on the disk that is being used. This discrepancy 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 warning message.

---

# Upgrade Issues

## Solaris Management Console 2.1 Software Is Not Compatible With Solaris Management Console 1.0, 1.0.1, or 1.0.2 Software

If you upgrade to the Solaris 9 operating environment and you have Solaris Management Console™ 1.0, 1.0.1, or 1.0.2 software installed, you must uninstall the Solaris Management Console software before you upgrade. Solaris Management Console 2.1 software is not compatible with Solaris Management Console 1.0, 1.0.1, or 1.0.2 software. Solaris Management Console software might exist on your system if you installed the SEAS 2.0 overbox, the SEAS 3.0 overbox, or the Solaris 8 Admin Pack.

**Workaround:** Choose one of the following workarounds.

- Before you upgrade, run `/usr/bin/prodreg` and perform a full uninstall of Solaris Management Console software.
- If you did not uninstall Solaris Management Console 1.0, 1.0.1, or 1.0.2 software before you upgraded to the Solaris 9 operating environment, you must remove all Solaris Management Console 1.0, 1.0.1, or 1.0.2 packages. You must use `pkgrm` for package removal instead of `prodreg`, and you must carefully follow the order of package removal. Follow these steps.

1. Become superuser.
2. In a terminal window, type the following command.

```
# pkginfo |grep "Solaris Management Console"  
# pkginfo |grep "Solaris Management Applications"  
# pkginfo |grep "Solaris Diskless Client Management Application"
```

The package names in the output identify a Solaris Management Console 1.0 package if the description does not start with "Solaris Management Console 2.1."

3. Use `pkgrm` to remove all instances of Solaris Management Console 1.0 packages in the following order.

---

**Note** – Do not remove any package that has "Solaris Management Console 2.1" in the description. For example, `SUNWmc . 2` might indicate Solaris Management Console 2.1 software.

---

---

**Note** – If the `pkginfo` output displays multiple versions of Solaris Management Console 1.0 packages, use `pkgrm` to remove both packages. Remove the original package and then the package that has been appended with a number. For example, if the `SUNWmcman` and `SUNWmcman.2` packages appear in the `pkginfo` output, first remove `SUNWmcman` and then `SUNWmcman.2`. Do not use `prodreg`.

---

```
# pkgrm SUNWmcman
# pkgrm SUNWmcapp
# pkgrm SUNWmcsvr
# pkgrm SUNWmcsvu
# pkgrm SUNWmc
# pkgrm SUNWmcc
# pkgrm SUNWmcsws
```

4. In a terminal window, type the following command.

```
# rm -rf /var/sadm/pkg/SUNWmcapp
```

Solaris Management Console 2.1 software should now function. For future maintenance, or if Solaris Management Console 2.1 software does not function properly, remove Solaris Management Console 2.1 software and re-install it by following the next steps.

1. In a terminal window, type the following command.

```
# pkginfo |grep "Solaris Management Console"
# pkginfo |grep "Solaris Management Applications"
# pkginfo |grep "Solaris Diskless Client Management Application"
# pkginfo |grep "Solaris Volume Management"
```

The package names in the output identify the remaining Solaris Management Console packages that are installed on your system.

2. Use `pkgrm` to remove all Solaris Management Console 2.1 packages and dependent packages in the following order.

---

**Note** – If your installation has multiple instances of Solaris Management Console 2.1 packages, such as `SUNWmc` and `SUNWmc.2`, first remove `SUNWmc`, and then `SUNWmc.2`. Do not use `prodreg`.

---

```
# pkgrm SUNWlvmg
# pkgrm SUNWlvma
# pkgrm SUNWlvmr
# pkgrm SUNWdclnt
# pkgrm SUNWmga
# pkgrm SUNWmgapp
# pkgrm SUNWmcdev
# pkgrm SUNWmcex
# pkgrm SUNWwbmc
```

```
# pkgrm SUNWmc
# pkgrm SUNWmcc
# pkgrm SUNWmccom
```

3. Insert the Solaris 9 Software (SPARC Platform Edition) 1 of 2 CD into your CD-ROM drive and type the following in a terminal window.

```
# cd /cdrom/sol_9_sparc/s0/Solaris_9/Product
# pkgadd -d . SUNWmccom SUNWmcc SUNWmc SUNWwbmc SUNWmcex SUNWmcdev \
  SUNWmgapp SUNWmga SUNWdc1nt SUNWlvmr SUNWlvma SUNWlvmg
```

All previous Solaris Management Console versions are now removed and Solaris Management Console 2.1 software is functional.

---

## Installation Bugs That Occur During an Upgrade

### Certain Systems Do Not Boot When Upgrading to Solaris 9 Beta Refresh Operating Environment With Solaris Volume Manager Enabled (4498355)

If you upgrade from the Solaris 9 Beta operating environment to the Solaris 9 Beta Refresh operating environment on a system with a certain configuration, the system does not boot. This problem affects systems with the following characteristics.

- A mirrored root file system
- All Solaris Volume Manager state database replicas are on ATA drives that use `dad` or `cmdk` drivers

**Workaround:** Choose one of the following workarounds.

- If you encounter this problem, follow these steps.
  1. Boot from the Solaris 1 of 1 CD or from the network.
  2. Mount the root file system under `/mnt`.
  3. Edit the "Begin MDD database info" area of the `/kernel/drv/md.conf` to add the following line.

```
# Begin MDD database info
md_devid_destroy=1;
```



```
# End MDD database info
```

4. Continue with the upgrade.

- To avoid this problem during an upgrade, add the following line to the "Begin MDD database info" area of the `/kernel/drv/md.conf` file before rebooting.

```
# Begin MDD database info
md_devid_destroy=1;
# End MDD database info
```

## Insufficient Space for Extra Languages During Upgrade (4414329)

When you upgrade from the Solaris 2.6 and Solaris 7 operating environments using a CD or CD images, extra European languages might be installed for locales that are not present on the system. If there is insufficient space in the file system, the upgrade will not complete. Languages for locales that are present on the system may not be installed.

**Workaround:** Choose one of the following workarounds.

- Manually select the languages you want installed during the upgrade process. Follow these steps.
  1. When the Language CD install panel is displayed, click the Back button.
  2. Deselect the extra languages and continue with the upgrade.
- Use a combined net install image to upgrade from the Solaris 2.6 and Solaris 7 operating environments. Do not use CDs or CD images to upgrade.
- After upgrading, follow these steps.
  1. Login to the system.
  2. Run `prodreg`.
  3. Uninstall any extra languages.
  4. Insert the Language CD into your CD-ROM drive and run the top level installer.
  5. Choose Custom Install.
  6. Select the languages you want installed.
  7. Complete the Language CD installation by clicking the Next and Install Now buttons.

## Upgrade Fails if /export Is Near Capacity (4409601)

If the /export directory is near full capacity and you upgrade to the Solaris 9 operating environment, the space requirements for /export are miscalculated and the upgrade fails. The problem commonly occurs if a diskless client is installed, or if third-party software is installed in /export. The following message is displayed:

```
WARNING: Insufficient space for the upgrade.
```

**Workaround:** Before you upgrade, choose one of the following workarounds.

- Temporarily rename the /export directory until the upgrade completes.
- Temporarily comment out the /export line in the /etc/vfstab file until the upgrade is completed.
- If /export is a separate file system, then unmount /export before you perform the upgrade.

## Upgrading Diskless Client Servers and Clients (4363078)

If your system currently supports diskless clients that were installed with the AdminSuite 2.3 Diskless Client tool, you must first delete all existing diskless clients that are the same Solaris version and architecture as the server prior to installing or upgrading to the Solaris 9 operating environment. For specific instructions, see *System Administration Guide: Basic Administration*.

If you attempt to install the Solaris 9 operating environment over existing diskless clients, the following error message might appear:

```
The Solaris Version (Solaris version-number) on slice <xxxxxxx> cannot  
be upgraded.  
There is an unknown problem with the software configuration installed  
on this disk.
```

In this error message, *version-number* refers to the Solaris version currently running on your system, and <xxxxxxx> refers to the slice running this version of the Solaris operating environment.

## Upgrading the JavaSpaces Data Store to Prevent WBEM Data Loss (4365035)

If you are upgrading from the Solaris 8, Solaris 8 6/00, or Solaris 8 10/00 operating environments to the Solaris 9 operating environment (Solaris WBEM Services 2.5), you must convert any proprietary custom Managed Object Format (MOF) data to the new Reliable Log repository format that is used with Solaris WBEM Services 2.5. Failure to convert the data results in data loss.

See “Upgrading the CIM Object Manager Repository” in *Solaris WBEM Services Administration Guide* for specific instructions on how to convert your WBEM data.

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## 64-Bit Solaris Issues

### Sun UltraSPARC System (sun4u) May Need Boot Flash PROM Update

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**Note** – If your system is already running 64-bit ready firmware, then the flash PROM update is not required.

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If you want to run the 64-bit Solaris operating environment on an UltraSPARC system, you might need to update its flash PROM firmware. The Solaris 9 installation programs enable you to add 64-bit support. This 64-bit support is selected by default when you install on Sun UltraSPARC systems. A 64-bit system only boots in the 64-bit mode by default if it has a CPU speed of 200 MHz or greater.

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**Note** – If you choose to run the 32-bit Solaris operating environment on any Sun™ or UltraSPARC system, the flash PROM update is not needed.

---

The following table lists the UltraSPARC (sun4u) systems that are affected and the minimum firmware versions that are needed. *System type* is the equivalent of the output of the `uname -i` command. You can tell which firmware version you are running by using the `prtconf -v` command.

**TABLE 1-1** Minimum Firmware Versions Required to Run 64-Bit Solaris Operating Environment on UltraSPARC Systems

System Type From <code>uname -i</code>	Minimum Firmware Version From <code>prtconf -v</code>
SUNW,Ultra-1-Engine	3.10.0
SUNW,Ultra-1	3.11.1
SUNW,Ultra-2	3.11.2
SUNW,Ultra-4	3.7.107
SUNW,Ultra-Enterprise	3.2.16

---

**Note** – If a system is not listed in the previous table, it does not need a flash PROM update.

---

For instructions on performing the flash PROM update by using the Solaris CD, refer to the *Solaris 9 on Sun Hardware Collection*. If you do not have this manual, you can obtain it at <http://docs.sun.com>.

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## Documentation CD Issue

### Differences Between Documentation Distribution on CD-ROM and DVD

If you received the Solaris 9 operating environment software distributed on CD-ROM, the Solaris documentation is located on the accompanying Documentation CD. If you received the Solaris 9 software distributed on DVD, the Solaris documentation is located on the DVD.

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## Localization Bugs

### Accent Characters Do Not Display Correctly When Installing European Locales (4469750)

During a European locale Web Start 3.0 installation, rectangles display instead of accent characters.



## Solaris Runtime Issues

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This chapter describes known runtime problems.

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### Smart Card Bugs

#### System Does Not Respond to Smart Card (4415094)

If `ocfserv` terminates and the display is locked, the system remains locked even when a smart card is inserted or removed.

**Workaround:** Perform the following steps to unlock your system.

1. Remote login to the machine on which the `ocfserv` process terminated.
2. Kill the `dtsession` process by typing the following in a terminal window.

```
% kill dtsession
```

`ocfserv` restarts and smart card login and capability are restored.

#### Edit Config File Menu Item in Smart Cards Management Console Does Not Work (4447632)

The Edit Config File menu item in the Smart Cards Management Console does not edit smart card configuration files that are located in

`/etc/smartcard/opencard.properties`. If the menu item is selected a warning is displayed that indicates not to continue unless requested by technical support.

**Workaround:** Do not use the Edit Config File menu item in the Smart Cards Management Console. For information on smart card configuration, see *Solaris Smart Cards Administration Guide*.

---

## Common Desktop Environment (CDE) Issues

### Compiling Motif Programs on the Solaris 9 Operating Environment

A problem occurs when you compile a Motif program in the Solaris 9 operating environment under the following circumstances.

- You link to a shared library that has been compiled in the Solaris 2.4, 2.5, 2.5.1 or 2.6 operating environments
- The older library also uses the Motif Application Programming Interface (API).

The Motif program uses Motif version 2.1 and the old shared library uses Motif version 1.2. A core dump occurs. This is not a binary compatibility problem for applications compiled in the Solaris 2.4, 2.5, 2.5.1, and 2.6 operating environments, which should run correctly in the Solaris 9 operating environment.

**Workaround:** If you have an older shared library that links directly to the Motif library, and if you want to compile a program in the Solaris 9 operating environment that links to both Motif and that older shared library, use a line like this to compile:

```
cc foo.c -o program -DMOTIF12_HEADERS -I/usr/openwin/include  
-I/usr/dt/include -lXm12 -lXt -lX11
```

where *program* is the name of the program you are compiling.



---

## Common Desktop Environment (CDE) Bugs

### PDASync Cannot Delete Last Entry From the Desktop (4260435)

After you delete the last item from the desktop, the item is restored from the handheld device to the desktop when you synchronize your handheld device. Examples of items that you might delete and have restored are the last appointment in your Calendar or the last address in the Address Manager.

**Workaround:** Manually delete the last entry from the handheld device prior to synchronization.

### PDASync Does Not Support Data Exchange With the Multibyte Internationalized PDA Device (4263814)

If you exchange multibyte data between a PDA device and Solaris CDE, the data might be corrupted in both environments.

**Workaround:** Back up your data on your personal computer with the PDA backup utility before you run the PDASync application. If you accidentally exchange multibyte data and corrupt that data, restore your data from the backup.

---

## System Administration Bugs

### Some com.sun Application Programming Interface Method Invocations Fail Under XML/HTTP Transport Protocol (4497393, 4497399, 4497406, 4497411)

If you choose to use the com.sun application programming interface rather than the javax application programming interface to develop your WBEM software, only CIM remote method invocation (RMI) is fully supported. Other protocols, such as XML/HTTP, are not guaranteed to work completely with the com.sun application programming interface.

The following table lists examples of invocations that execute successfully under RMI, but fail under XML/HTTP.

Method Invocation	Error Message
<code>CIMClient.close()</code>	<code>NullPointerException</code>
<code>CIMClient.execQuery()</code>	<code>CIM_ERR_QUERY_LANGUAGE_NOT_SUPPORTED</code>
<code>CIMClient.getInstance()</code>	<code>CIM_ERR_FAILED</code>
<code>CIMClient.invokeMethod()</code>	<code>XMLERROR: ClassCastException</code>

### Certain Versions of `cpio` Do Not Correctly Extract Duplicated Files in an Archive (4457346)

The version of the `cpio` command that was provided with the Solaris 2.6, 7, and 8 operating environments does not properly extract some archive files. This restriction also applies to any patches that include the `cpio` command that were previously released for these operating environments. In these two instances, the `cpio` command cannot extract the following types of archive files:

- Files that have one or more duplicates in an archive file created with the Solaris 9 version of the `cpio` command (or with a version from one of the patches listed in the following workaround)

- Files that have one or more duplicates in an archive file that were hard linked to other files when the archive file was created with an earlier version of the `cpio` command

If you use the `cpio` command from the Solaris 2.6, 7, or 8 operating environment or the relevant patches to extract a file as described, `cpio` deletes the file from the destination file system. The following message displays.

```
cpio: Cannot link "file-name" and "file-name",
errno 2, No such file or directory
```

In the previous example, *file-name* is the name of the file you want to extract.

**Workaround:** Apply the `cpio` patch appropriate for your platform.

**TABLE 2-1** `cpio` Patches for the Solaris 9 Operating Environment

Platform	Patch ID
Solaris 2.6 (SPARC Platform Edition) operating environment	105746-03
Solaris 2.6 (Intel Platform Edition) operating environment	105747-03
Solaris 7 (SPARC Platform Edition) operating environment	108414-02
Solaris 7 (Intel Platform Edition) operating environment	108415-02
Solaris 8 (SPARC Platform Edition) operating environment	112097-01
Solaris 8 (Intel Platform Edition) operating environment	112098-01

## Cannot Modify File System Mount Properties with Solaris Management Console Mounts and Shares Tool (4466829)

The Solaris Management Console Mounts and Shares tool cannot modify mount options on system-critical file systems such as `/` (root), `/usr`, and `/var`.

**Workaround:** Choose one of the following workarounds.

- Use the `remount` option with the `mount` command.

```
# mount -F file-system-type -o remount, additional-mount-options \
device-to-mount mount-point
```

---

**Note** – Mount property modifications that are made using the `-remount` option with the `mount` command are not persistent. In addition, all mount options that are not specified in the *additional-mount-options* portion of the previous command inherit the default values that are specified by the system. See the man page `mount_ufs(1M)` for more information.

---

- Edit the appropriate entry in the `/etc/vfstab` file to modify the file system mount properties, then reboot the system.

## CIM\_ERR\_LOW\_ON\_MEMORY Error Occurs When Trying to Add Data With WBEM (4312409)

The following error message is displayed when memory is low:

```
CIM_ERR_LOW_ON_MEMORY
You cannot add more entries when the Common Information Model (CIM) Object
Manager has run low on memory. You must reset the CIM Object Manager Repository.
```

**Workaround:** To reset the CIM Object Manager Repository, follow these steps.

1. Become superuser.
2. Stop the CIM Object Manager.

```
# /etc/init.d/init.wbem stop
```
3. Remove the JavaSpaces log directory.

```
# /bin/rm -rf /var/sadm/wbem/log
```
4. Restart the CIM Object Manager.

```
# /etc/init.d/init.wbem start
```

---

**Note** – You lose any proprietary definitions in your datastore. You must recompile the MOF files that contain those definitions by using the `mofcomp` command. For example:

```
# /usr/sadm/bin/mofcomp -u root -p root-password your-mof-file
```

---

---

## Localization Issues

### Use Font Downloader to Print From Any Non-ISO8859-1 Locale

Perform the following steps to print from any non-ISO8859-1 locale by using the Font Downloader.

1. Log in to CDE.
2. Type `fdl` at the command line to start the Font Downloader.
3. Specify the printer by selecting Add from the Printer menu.
4. Select Font Bundle from the Download menu.

The font bundles are then downloaded to the specified printer, depending on what codeset is needed for printing.

---

## Localization Bugs

### Shift+U Does Not Work as Expected in Arabic Locales (4303879)

To generate the diacritic character in Arabic locales, type the Arabic character, then Shift+U.

## Sorting in the European UTF-8 Locales Does Not Function Correctly (4307314)

Sorting in the European UTF-8 locales does not work properly.

**Workaround:** Before you attempt to sort in a FIGGS UTF-8 locale, set the `LC_COLLATE` variable to the ISO-1 equivalent.

```
# echo $LC_COLLATE
> es_ES.UTF-8
# setenv LC_COLLATE es_ES.IS08859-1
Then start sorting.
```

## Applications Not Fully Localized (4304495, 4306619)

The following applications are not fully localized. Some parts cannot be fully translated.

- Smart Card application (4304495)
- SEAM application messages (4306619)

## End-of-Software Support Statements

---

This chapter lists end-of-support statements.

---

### Features Removed From the Solaris 9 Operating Environment

#### adb(1) Map Modifiers and Watchpoint Syntax

The `adb(1)` utility is implemented as a link to the new `mdb(1)` utility in this release of the Solaris operating environment.

The `mdb(1)` man page describes the features of the new debugger, including its `adb(1)` compatibility mode. Even in this compatibility mode, differences between `adb(1)` and `mdb(1)` exist. These differences include the following:

- The text output format of some subcommands is different in `mdb(1)`. Macro files are formatted by using the same rules, but scripts that depend on the output of other subcommands might need to be modified.
- The watchpoint length specifier syntax in `mdb(1)` is different from the syntax that is described in `adb(1)`. The `adb(1)` watchpoint commands `:w`, `:a`, and `:p` enable an integer length (in bytes) to be inserted between the colon and the command character. In `mdb(1)`, the count should be specified following the initial address as a repeat count.

The `adb(1)` command `123:456w` is specified in `mdb(1)` as `123,456:w`.

- The `/m`, `/*m`, `?m`, and `?*m` format specifiers are not recognized or supported by `mdb(1)`.

## AnswerBook2 Server

The AnswerBook2™ server is no longer included in this release. Existing AnswerBook2 servers can run on the Solaris 9 operating environment. Solaris documentation is available on the Solaris Documentation CD in online formats. All Solaris documentation is also always available at <http://docs.sun.com>.

## aspppd(1M) Utility

The `aspppd(1M)` utility is no longer included in this release. Use the `pppd(1M)` utility with Solaris PPP 4.0 that is included in the Solaris 9 operating environment.

## ATOK8 Japanese Input Method

The ATOK8 Japanese input method is no longer supported in this release. The ATOK12 japanese input method included in the Solaris 9 operating environment provides functionality similar to ATOK8, with several enhancements.

## crash(1M) Utility

The `crash(1M)` utility is no longer supported in this release. The `crash` command is a utility that examines system crash dump files, which is a capability that is superseded by the new `mdb(1)` utility. The `crash` command's interface has been structured around implementation details, such as slots, that have no relation to the Solaris operating system implementation.

“Transition From `crash`” in *Solaris Modular Debugger Guide* provides information for users who are making the transition from using `crash` to using `mdb`.



## Crash Dump Options For Solaris `ipcs(1)` Command

The capability of applying the `ipcs(1)` command to system crash dumps by using the `-C` and `-N` command-line options is no longer supported in this release. Equivalent functionality is now provided by the `mdb(1) :: ipcs` debugger command.

## `cs00` Japanese Input Method

The `cs00` Japanese input method is no longer supported in the Solaris 9 operating environment. Related interfaces, such as the `xci` interface, the Japanese Feature Package (JFP) `libmle` API, and the `mle` command, are also no longer supported in the Solaris 9 operating environment.

If you upgrade to the Solaris 9 operating environment from a previous release, the existing public user dictionary `/var/mle/ja/cs00/cs00_u.dic` will be removed.

Two Japanese input methods, `ATOK12` and `Wnn6`, are supported in the Solaris 9 operating environment. For more information on these input methods, see *International Language Environments Guide*.

## Emulex MD21 Disk Controller for ESDI Drives

The MD21 disk controller for ESDI drives is no longer supported in the Solaris 9 operating environment.

## `enable_mixed_bcp` Tunable

The `enable_mixed_bcp` tunable is no longer supported in this release. In Solaris releases prior to the Solaris 9 operating environment, the `/etc/system` variable `enable_mixed_bcp` could be set to 0 to disable dynamic linking of partially statically linked SunOS™ 4.0 and compatible executables. The system used dynamic linking for these executables by default. In the Solaris 9 operating environment, dynamic linking is always used for these executables, and the `enable_mixed_bcp` tunable has been removed from the system. This change does not affect binary compatibility for SunOS 4.0 and compatible executables in any way.

## japanese Locale Name Alternate

The `japanese` locale name alternate of the `ja` Japanese Extended Unix Code (EUC) locale is no longer supported in this release. This locale name facilitated migrating from the Solaris 1.0 release, and compatible releases. You can use `ja` or `ja_JP.eucJP` as the Japanese EUC locale with the Solaris 9 operating environment. The Solaris 1.0 BCP (JLE) application, and compatible versions, can still run in the Solaris 9 operating environment without any changes.

## Java Software Developer's Kit (SDK) 1.2.2

Version 1.2.2 of the Java™ SDK (`SUNWj2dev`) is no longer included in the Solaris 9 release. Near-equivalent functionality is supported by Java 2 Standard Edition, versions 1.4 and compatible versions. Current and previous versions of JDK and JRE are available for download from <http://java.sun.com>.

## JDK 1.1.8 and JRE 1.1.8

Version 1.1.8 of the JDK and version 1.1.8 of the JRE are no longer supported in this release. Near-equivalent functionality is supported by Java 2 Standard Edition, versions 1.4 and compatible versions. Current and previous versions of JDK and JRE are available for download from <http://java.sun.com>.

## OpenWindows Toolkits for Developers

Development in the OpenWindows™ XView™ and OLIT toolkits is no longer supported in this release. Applications developed with the OpenWindows XView and OLIT toolkits can still run on the Solaris 9 operating environment. Therefore, consider migration to the Motif toolkit.

## OpenWindows Environment for Users

The OpenWindows environment is no longer supported in this release. The Common Desktop Environment (CDE) is the default desktop environment included in the Solaris 9 operating environment. Applications using the OpenWindows XView and OLIT toolkits can still run on the Solaris 9 operating environment in CDE.

## Priority Paging and Related Kernel Tunables (priority\_paging/cacheefree)

The `priority_paging` and `cacheefree` tunable parameters are not supported in the Solaris 9 release. These parameters have been replaced with an enhanced file system caching architecture that implements paging policies similar to priority paging, but are always enabled. Attempts to set these parameters in the `/etc/system` file result in boot-time warnings such as:

```
sorry, variable 'priority_paging' is not defined in the 'kernel'  
sorry, variable 'cacheefree' is not defined in the 'kernel'
```

The `SUNWcsr` packages that contain the `/etc/system` file have been modified so that the inclusion of the `priority_paging` or `cacheefree` tunable parameters are prohibited.

If you upgrade to the Solaris 9 release or `pkgadd` the `SUNWcsr` packages and your `/etc/system` file includes the `priority_paging` or `cacheefree` parameters, the following occurs:

1. The following message is displayed if the `priority_paging` or `cacheefree` parameters are set in the `/etc/system` file:  

```
NOTE: /etc/system has been modified since it contains references to  
      priority paging tunables. Please review the changed file.
```
2. Comments are inserted in the `/etc/system` file before any line that sets `priority_paging` or `cacheefree`. For example, if `priority_paging` is set to 1, this line is replaced with the following lines:

```
* NOTE: As of Solaris 9, priority paging is unnecessary and has been removed.  
* Since references to priority paging-related tunables will now result in  
* boot-time warnings, the assignment below has been commented out. For more  
* details, see the Solaris 9 Release Notes, or the "Solaris Tunable Parameters  
* Reference Manual".
```

```
* set priority_paging=1
```

## s5fs File System

The `s5fs` file system is no longer supported in this release. The `s5fs` file system supports the installation of Interactive UNIX applications. Support for the installation of Interactive UNIX applications is no longer required in the Solaris operating environment.

## sendmail Utility Features

Some features of the `sendmail` utility are no longer supported in this release. The affected features are modifications that are specific to Sun and non-standard. These features include special syntax and semantics for V1/Sun configuration files, the remote mode feature, and the three `sun-reverse-alias` features.

More information about these features and migration issues is located at <http://www.sendmail.org/vendor/sun/solaris9.html>.

## SUNWebnfs

The `SUNWebnfs` package is no longer included on the Solaris operating environment media.

The library and documentation are available for download from <http://www.sun.com/webnfs>.

## sun4d-Based Servers

The following `sun4d`-based architecture servers are no longer supported in this release.

- SPARCserver™ 1000
- SPARCcenter™ 2000

Hardware options that are dependent on the `sun4d`-based architecture are no longer supported in this release.

## SUNWrdrdm

The `SUNWrdrdm` package, which formerly contained text release notes, is no longer included on the Solaris Software CD in this release.

For release notes, refer to the Release Notes on the Solaris Documentation CD or the most up-to-date release notes available on <http://docs.sun.com>.

---

## Features That Might Be Removed in a Future Release

### AdminTool

AdminTool (`admintool`), including `swmtool`, might not be supported in a future release.

### Deprecate `sendmail -AutoRebuildAliases` Option

The `-AutoRebuildAliases` option for the `sendmail(1m)` man page is deprecated and might not be supported in a future release.

### Early Access (EA) Directory

The name of the EA directory might be changed in a future minor release of the Solaris operating environment media.

### Federated Naming Service (FNS)/XFN Libraries and Commands

The Federated Naming Service that is based on the X/Open XFN standard might not be supported in a future release.

### GMT Zoneinfo Timezones

The `/usr/share/lib/zoneinfo/GMT[+-]*` timezones might not be supported in a future release. These files may be removed from `/usr/share/lib/zoneinfo`. Replace usage of the zoneinfo timezones with the equivalent `Etc/GMT[-+]*` file. See the man pages `zoneinfo(4)` and `environ(5)` for more information.

## JRE 1.2.2

Version 1.2.2 of the JRE might not be supported in a future release. Near-equivalent functionality is supported by Java 2 Standard Edition, versions 1.4 and compatible versions. Current and previous versions of JRE are available for download from <http://java.sun.com>.

## Kerberos Version 4 Client

The Kerberos version 4 client might be removed from a future release. This client includes the Kerberos version 4 support in the `kinit(1)`, `kdestroy(1)`, `klist(1)`, `ksrvtgt(1)`, `mount_nfs(1M)`, `share(1M)`, and `kerbd(1M)` commands, support also in the `kerberos(3KRB)` library, and in the ONC RPC programming API `kerberos_rpc(3KRB)`.

## Lightweight Directory Access Protocol (LDAP) Client Library

LDAP client library, `libldap.so.3`, might not be included in a future release. The new version of this library, `libldap.so.4`, is compliant with the `draft-ietf-ldapext-ldap-c-api-04.txt` revision of the `ldap-c-api` draft from the Internet Engineering Task Force (IETF).

## NIS+

NIS+ might not be supported in a future release. Tools to aid the migration from NIS+ to LDAP are available in the Solaris 9 operating environment. For more information, visit <http://www.sun.com/directory/nisplus/transition.html>.

## Perl Version 5.005\_03

The default version of Perl might be changed to a version that is not binary compatible with the current default (5.005\_03) in a future release of the Solaris operating environment. Customer-installed modules need to be rebuilt and reinstalled against the new version. Modify any scripts that require the use of version 5.005\_03 to explicitly use the 5.005\_03 version of the interpreter (`/usr/perl5/5.005_03/bin/perl`) instead of the default version (`/bin/perl` or `/usr/perl5/bin/perl`).

## Solstice Enterprise Agents

Solstice Enterprise Agents might not be supported in a future release.

## XIL

XIL might not be supported in a future release. An application that uses XIL causes the following warning message to be displayed.

```
WARNING: XIL OBSOLESCENCE
This application uses the Solaris XIL interface
which has been declared obsolete and may not be
present in version of Solaris beyond Solaris 9.
Please notify your application supplier.
The message can be suppressed by setting the environment variable
"_XIL_SUPPRESS_OBSOLETE_MSG."
```





## CERT Advisories

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This chapter lists all CERT Advisories as of 1/6/2000.

**TABLE 4-1** CERT Advisories

<b>CERT Advisory</b>	<b>Topic</b>	<b>Fix Integrated in OS Version</b>	<b>Comments</b>
CA-96.01	UDP Port Denial-of-Service Attack	Solaris 2.5.1	See CERT Advisory for more details
CA-96.03	Kerberos 4 Key Server	N/A	See CERT Advisory for more details
CA-96.04	Corrupt Information from Network Servers	Solaris 2.5.1	Solaris 9 operating environment not affected
CA-96.05	Java	N/A	Solaris 9 operating environment not affected
CA-96.06	NCSA/Apache CGI	N/A	Solaris 9 operating environment not affected
CA-96.07	Java Bytecode Verifier	N/A	See CERT Advisory for more details
CA-96.08	PCNFSD	N/A	
CA-96.09	rps.statd	Solaris 2.5.1	
CA-96.10	NIS+ Configuration	Solaris 2.5.1	
CA-96.11	Interpreters in CGI bin	N/A	

**TABLE 4-1** CERT Advisories (Continued)

<b>CERT Advisory</b>	<b>Topic</b>	<b>Fix Integrated in OS Version</b>	<b>Comments</b>
CA-96.12	suidperl	N/A	
CA-96.13	dip	N/A	
CA-96.14	rdist	Solaris 2.6	
CA-96.15	KCMS	Solaris 2.6	
CA-96.16	AdminTools	Solaris 2.6	
CA-96.17	vold	Solaris 2.6	
CA-96.18	fm_fl	N/A	
CA-96.19	expreserve	Solaris 2.5	
CA-96.20	sendmail resource starvation	Solaris 2.6	
CA-96.21	TCP SYN Flood	Solaris 2.6	
CA-96.22	bash	N/A	
CA-96.23	workman	N/A	
CA-96.24	sendmail daemon mode vulnerability	N/A	Solaris 9 operating environment not affected
CA-96.25	sendmail group permissions	Solaris 2.6	
CA-96.26	ping	Solaris 2.6	
CA-96.27	HP Software Installation Programs	N/A	
CA-97.01	FLEXIm	N/A	
CA-97.02	HP-UX newgrp	N/A	
CA-97.03	csetup	N/A	
CA-97.04	talkd	Solaris 2.6	
CA-97.05	MIME Conversion Buffer Overflow	N/A	Solaris 9 operating environment not affected
CA-97.06	rlogin-term	Solaris 2.6	
CA-97.07	nph-test	N/A	
CA-97.08	innd	N/A	

**TABLE 4-1** CERT Advisories (Continued)

<b>CERT Advisory</b>	<b>Topic</b>	<b>Fix Integrated in OS Version</b>	<b>Comments</b>
CA-97.09	imap and pop	N/A	Solaris 9 operating environment not affected
CA-97.10	Natural Language	N/A	Solaris 9 operating environment not affected
CA-97.11	libXt	Solaris 2.6	
CA-97.12	webdist.cgi	N/A	
CA-97.13	xlock	Solaris 2.6	
CA-97.14	metamail	N/A	
CA-97.15	SGI Login	N/A	
CA-97.16	ftpd	N/A	Solaris 9 operating environment not affected
CA-97.17	sperl	N/A	
CA-97.18	at	Solaris 2.6	
CA-97.19	bsdip	N/A	Solaris 9 operating environment not affected
CA-97.20	JavaScript	N/A	
CA-97.21	SGI Buffer	N/A	
CA-97.22	bind	Solaris 7	
CA-97.23	rdist	Solaris 7	
CA-97.24	Count.cgi	N/A	
CA-97.25	CGI_metachar	N/A	
CA-97.26	statd	Solaris 2.6	
CA-97.27	FTP bound	Solaris 2.6	
CA-97.28	Teardrop and Land	N/A	Solaris 9 operating environment not affected
CA-98.01	smurf	N/A	See CERT Advisory for more details
CA-98.02	CDE	Solaris 7 and 8	

**TABLE 4-1** CERT Advisories (Continued)

<b>CERT Advisory</b>	<b>Topic</b>	<b>Fix Integrated in OS Version</b>	<b>Comments</b>
CA-98.03	ssh-agent	N/A	
CA-98.04	Microsoft Windows	N/A	
CA-98.05	bind_problems	Solaris 7	
CA-98.06	nisd	Solaris 7	
CA-98.07	PKCS	N/A	Solaris 9 operating environment not affected
CA-98.08	qpopper_vul	N/A	
CA-98.09	imapd	N/A	Solaris 9 operating environment not affected
CA-98.10	Mime buffer overflow	Solaris 7	
CA-98.11	tooltalk	Solaris 7	
CA-98.12	mountd	N/A	Solaris 9 operating environment not affected
CA-99-01	Trojan-TC	N/A	
CA-99-02	Trojan-Horse	N/A	
CA-99-03	FTP buffer overflows	N/A	Solaris 9 operating environment not affected
CA-99-04	Melissa	N/A	Solaris 9 operating environment not affected
CA-99-05	statd-automountd	Solaris 7 (statd) Solaris 2.6 (automount)	
CA-99-06	exploresip	N/A	Solaris 9 operating environment not affected
CA-99-07	IIS buffer overflow	N/A	
CA-99-08	rpc.cmsd	Solaris 9	
CA-99-09	arrayd	N/A	

**TABLE 4-1** CERT Advisories (Continued)

<b>CERT Advisory</b>	<b>Topic</b>	<b>Fix Integrated in OS Version</b>	<b>Comments</b>
CA-99-10	cobalt.rag2	N/A	
CA-99-11	CDE		Solaris 9 operating environment not affected
CA-99-12	amd		Solaris 9 operating environment not affected
CA-99-13	wuftpd		Solaris 9 operating environment not affected
CA-99-14	bind		Solaris 9 operating environment not affected
CA-99-15	RSAREF2		Solaris 9 operating environment not affected
CA-99-16	sadmind		Solaris 9 operating environment not affected
CA-99-17	Denial of service tools		Not part of the Solaris 9 operating environment. See Sun Security Bulletin #00193

