



Solaris™ 2.6 Maintenance Update 2 Release Notes

Intel Platform Edition

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Introduction

The *Solaris 2.6 Maintenance Update 2 Release Notes* explains how to install the Solaris™ 2.6 Maintenance Update™ 2 (MU2) software, a set of patches that have been tested together and packaged for a one-step installation.

The Solaris 2.6 MU2 applies to all systems running Solaris 2.6 software and to all Solaris 2.6 locales. The installation automatically updates previously installed patches without regressing any post-Solaris 2.6 patches you have on your system.

Maintenance updates are primarily designed to update the Solaris operating software to a known, tested patch-level. If you want to apply a particular patch, and only that patch, you should do so through your normal support channels.

The Solaris 2.6 MU2 contains bug fixes and performance improvements to existing driver support. If you intend to upgrade your hardware, use the Solaris 2.6 5/98 CD for additional hardware support.

The Solaris 2.6 MU2 installation procedure takes much less time than it takes to install the MU2 patches individually. The Solaris 2.6 MU2 installation time varies depending on:

- CPU speed of your host
- `install_mu` option you select
- Transfer speed of the CD-ROM drive, hard drive, or network you use to access the `install_mu` code and patch set

If you install the MU2 with the backout option disabled, installation will proceed more quickly. However, you will not be able to back out any of the patches MU2 delivers.

If you are performing an initial installation and want to make `install_mu` run slightly faster, use the `-u` option, which skips the validation step of `install_mu`. The validation step verifies that the files to be updated were not changed since the initial installation.

MU2 introduces a feature that allows you to install several MUs sequentially and back out one or more of them in the reverse order in which they were installed. This is possible because `install_mu` records and saves a list of patches it successfully applies.

`backout_mu` no longer reads its backout patch list from the source directory of installed patches, but reads a special system-wide (or client-wide) state file that contains the list that the last `install_mu` recorded. Consequently, you no longer specify a backout patch directory with the `-p` option when running `backout_mu`. This new feature ensures that MU2 is not backed out before MU3.

Note - Because this feature is new to MU2, `backout_mu` will not find a state file for MU1. To back out MU1, you will need to run the `backout_mu` script included in the MU1 distribution.

Installing the Solaris 2.6 Maintenance Update

This chapter describes how to install your Solaris 2.6 MU2 software on a standalone system or on a diskless client or Solstice™ AutoClient™ from a server. If you want to install the Solaris 2.6 MU2 software as part of a customized JumpStart™ (automatic installation) process, refer to the SunSoft Press publication *Automating Solaris Installations: A Custom JumpStart Guide*.

Requirements

Space requirements per file system vary depending on:

- Whether you select the back out option
- The location of the back out directory when saving backout data
- The disk partitions and the space available in each file system versus the patch disk space needed per file system
- Your system's locale
- Whether some of the Maintenance Update patches are already installed on your system
- Whether you are patching a client, a server, or a service area

The `install_mu` script performs a space analysis for you and reports the space needed per file system, including back out space if applicable. The space calculations take several minutes.

The `install_mu` script does not proceed if it determines that space is lacking in one or more file systems. Although the patch installation space needed is calculated fairly

precisely, the back out data space need is estimated and the reported need may be higher than the actual need.

- If you are certain that you have enough space to apply the patch set (and back out data if desired) and wish to bypass the space calculation, run `install_mu` with the `-f` option.
- If you would like to have `install_mu` report on your disk space availability and need without applying any patches, run `install_mu` with the `-D` option.

Note - The MU may only be installed on a system running the Solaris 2.6 operating environment. In a server/client environment, the MU can only be applied to a client if both the client and server are running the Solaris 2.6 operating environment.

Installing Maintenance Update 2

Solaris 2.6 MU2 software can only be installed if both the manager and the target systems are already running Solaris 2.6.

Note - Be sure that you have backed up your system's operating system before proceeding. You must shut down your system and be in a single-user state before you start to install the Solaris 2.6 MU2 software.

To install the Solaris 2.6 MU2 software:

1. **Exit the current session.**
The CDE login screen appears.
2. **Click the Options button and select Command Line Login.**
The system prompts you to login.
3. **Type your login name as `root` and enter the root password:**

```
login: root
password: root password
```

4. **Shut down your system by typing:**

```
# /usr/sbin/shutdown -y -i S -g 120
```

The system changes to single-user state, displays the following messages, and then prompts you for the root password.


```
INIT: New run level: S
INIT: SINGLE USER MODE
Type Ctrl-d to proceed with normal startup,
(or give root passwd for system maintenance):
```

5. Enter the root password.

The system displays the following message and is now in system maintenance mode.

```
Entering System Maintenance Mode

Sun Microsystems Inc. SunOS 5.6 Generic August 1997
#
```

6. Run the `install_mu` script located in the product directory.

```
# cd product directory
# ./install_mu any desired options
```

The following options can be used on the command line:

TABLE 2-1 Command Line Options for `install_mu`

Option	Description
<code>-u</code>	Unconditional install; does not verify that files to be updated were not changed since the initial installation.
<code>-d</code>	Specifies that patches will not be backed up. Using this argument decreases the time it takes to install the software, but it also prevents you from backing out individual patches when needed. Cannot be specified with <code>-B</code> option.
<code>-p patchdir</code>	Specifies directory that includes all the patches.
<code>-q</code>	Disables the display of dots that indicate <code>install_mu</code> activity.
<code>-B backoutdir</code>	Specifies that the back out data is saved in the indicated directory. Cannot be specified with the <code>-d</code> option

TABLE 2-1 Command Line Options for `install_mu` (continued)

Option	Description
<code>-f</code>	Force installation of patch set without checking for sufficient disk space. Using this option saves time, but you should only use it if you are certain that you have enough space. Cannot be specified with the <code>-D</code> option.
<code>-D</code>	Dry run mode; reports the amount of needed disk space without applying patches. Cannot be specified with <code>-f</code> option.
<code>-R rootdir</code>	Specifies an alternate root directory. Use to apply MU2 to clients whose package system information files are located in a directory tree starting in the specified <i>rootdir</i> . Cannot be specified with the <code>-S</code> option.
<code>-S servicedir</code>	Specifies an alternate service directory. Use to apply MU2 to a service area for clients of a different operating system or architecture than the server. Cannot be specified with the <code>-R</code> option.

When the installation is complete, the following message is displayed:

```
install_mu completed successfully.
```

- If you see this message, go to Steps 7 and 8 to complete the installation.
- If you encounter any errors, go to Step 9.

7. Reboot the system by typing:

```
# sync ; reboot
```

You are then prompted for a login.

8. Type your login name and password:

```
login: login
password: password
```

9. If you encounter errors, check the detail log file for error information.

Errors encountered during patch installation are displayed after installation has been completed. Check the detail log file for additional information about any patches or packages that were not installed.

```
# more \  
$rootdir/var/sadm/install_data/Maintenance_Update_log.mu_version_name.date_time
```

where:

- *\$rootdir* is the root directory of the system that you have just updated; for example, / for the local system and /export/root/clientname for a diskless client.
- *mu_version_name* is the name of the MU (it is Solaris_2.6MU2 for the MU2).
- *date_time* is the designated date and time copied from date +%Y%m%d%H%M%S (i.e., *yyyymmddHHMMSS* or *year-month-day-hour-minute-second*).

Note - *\$rootdir/var/sadm/install_data/Maintenance_Update_log* is a symbolic link to the most recent MU2 log file.

For explanations and recommended actions for error codes, see Appendix A.

Installing on a Diskless Client or Solstice AutoClient from a Server

You can install the Solaris 2.6 MU2 software on a diskless client or Solstice AutoClient from a server that is in multiuser mode. However, you cannot run *install_mu* before you add a client. Refer to *Solaris 2.6 Information Library* for details on using Solstice™ AdminSuite™.

You need to decide whether to use *admclientpatch* or *install_mu* to install the Solaris 2.6 MU2 software in a client/server environment. Use the following table and discussion to decide which method to use:

TABLE 2-2 Differences between *admclientpatch* and *install_mu*

	<i>admclientpatch</i>	<i>install_mu</i>
Patching speed	Slower	Faster
Service area handling	Automatic	Manual

TABLE 2-2 Differences between `admclientpatch` and `install_mu` (continued)

	<code>admclientpatch</code>	<code>install_mu</code>
Ease of patching	More involved	Simple
Integration with AdminSuite	Complete	None

`admclientpatch` is an AdminSuite utility that manages the installation and removal of a collection of patches on a set of managed clients. Applying the MU patch set via `install_mu` bypasses AdminSuite's patch management process and makes it more difficult later to manage the patch set shared by multiple clients. This is a concern if the number of clients is large or if patches other than those in the MU set are installed or removed.

`admclientpatch` automatically patches client service areas. With `install_mu`, each client needs to be patched with the `-R` option, then `install_mu` must be executed with the `-S` option for each service area. If there are multiple clients that share a single service area, you only need to run `install_mu` once with the `-S` option. This procedure ensures that both the service area and root area of a client remain consistent.

`install_mu` patches clients more quickly because it bypasses the `admclientpatch` patch management process and because `admclientpatch` removes older revisions of patches before applying newer ones. In environments with few clients and service areas, `install_mu` may be a good way to patch clients and service areas.

`install_mu` may be easier to use because it recognizes the MU set of patches. The MU distribution patch directory contains a file (`.order`) that lists all of the patches it will apply in the correct order, considering patch requirements. To patch clients with `admclientpatch`, write a script that reads the `.order` file, applies the patches to the `admclientpatch` spool area, and then invokes `admclientpatch` to install the patches to the clients. Run `install_mu` with the `-D` (dry run) option to identify the location of the `.order` file.

For more information about managing clients and patches, see the *Solstice AutoClient 2.0 Administration Guide* at <http://docs.sun.com>

Note - `install_mu` supports installations on servers with both homogeneous and heterogeneous server/client root paths. It also supports installing on a server's service area for either heterogeneous or homogeneous clients.

Installing with `install_mu`

To install the Solaris 2.6 MU2 software on a diskless client or AutoClient from a server using `install_mu`:

1. Halt the diskless client or AutoClient.
2. On the server, run the `install_mu` script located in the product directory, with the client's root directory as the argument:

```
# ./install_mu -R /export/root/client_name
```

where *client_name* is the hostname of the diskless client or AutoClient.

3. Repeat this process for each diskless client or AutoClient being served.

To install the Solaris 2.6 MU2 software on a server's service area:

1. Run the `install_mu` script located in the product directory:

```
# ./install_mu -S servicedir
```

2. Repeat this process for each service area.

Patching Servers That Support Net Installs and Custom JumpStart

MU2 contains several patches that correct a problem with Interactive Install and Custom JumpStart. If you have servers that support Net Installs, install the following patch to the OS images located on the Net Install server(s).

TABLE 2-3 Patches for Net Installs and Custom JumpStart

Release	Patch
Solaris 2.6	106153-01, 106306-01



Caution - Before installing these patches, you must install patch 106125-02 to the system containing the `patchadd` binary you will use to install these special patches. You can install patch 106125-02 as a stand alone patch or by installing MU2.

The patches are in the `/product_directory/i386/Patches/Special_Patches` directory. Each patch affects the miniroot (the files located under `Tools/Boot` on the OS image) and are installed differently from other Solaris patches. To install one of

these patches, refer to the "Special Install Instructions" section of the README located in the individual patch directory.

Note - The miniroot is found on full Net Install servers and Boot servers. You must patch the miniroot in both locations. If you patch a Net Install server and subsequently make a Boot server from it using the `setup_install_server` command, the new Boot server incorporates the patch applied to the Net Install server.

Follow these steps to backout the special patches:

1. Change directories to the patch directory:

```
# cd product_directory/i386/Patches/Special_Patches/patch_id
```

2. Type the following command:

```
# ./backoutpatch -C path_to_image/Boot patch_id
```

Backing Out

The patches in the Solaris 2.6 MU2 software have been tested together as a set and, for the greatest stability, should be used that way. If you need to remove one of the patches, you may do so provided that you did not use the `-d` option of `install_mu` during the installation of the Solaris 2.6 MU2 software.

Instructions for backing out individual patches are located in each patch directory. Patch directories are located in `$rootdir/var/sadm/patch/`.

Note - Backing out the entire MU is not possible if you selected the `-d` option of `install_mu`.

The `backout_mu` script provided by MU2 enables you to back out an entire MU. To back out the Solaris 2.6 MU2 software:

1. **Exit the current session.**
The CDE login screen appears.
2. **Click the Options button and select Command Line Login.**
The system prompts you to login.
3. **Type your login name as `root` and enter the root password:**

```
login: root
password: root password
```

4. Shut down your system by typing:

```
# /usr/sbin/shutdown -y -i S -g 120
```

The system changes to single-user state, displays the following messages, and then prompts you for the root password.

```
INIT: New run level: S
INIT: SINGLE USER MODE
Type Ctrl-d to proceed with normal startup,
(or give root passwd for system maintenance):
```

5. Enter the root password.

The system displays the following message and is now in system maintenance mode.

```
Entering System Maintenance Mode

Sun Microsystems Inc. SunOS 5.6 Generic August 1997
#
```

6. Run the `backout_mu` script located in the product directory.

```
# cd product directory
# ./backout_mu any desired options
```

The following options can be used on the command line:

TABLE 2-4 Command Line Options for `backout_mu`

Option	Description
<code>-T tooldir</code>	Specifies the location of the patch tools directory.
<code>-q</code>	Disables the display of dots that indicate <code>install_mu</code> activity.

TABLE 2-4 Command Line Options for backout_mu (continued)

Option	Description
-B <i>backoutdir</i>	Specifies an alternate directory in which patches have been saved.
-R <i>rootdir</i>	Specifies an alternate root directory.
-S <i>servicedir</i>	Specifies an alternate service directory.

When the back out is complete, the following message is displayed:

```
backout_mu completed successfully.
```

- If you see this message, go to Steps 7 and 8 to complete the back out.
- If you encounter any errors, go to Step 9.

7. Reboot the system by typing:

```
# sync ; reboot
```

You are then prompted for a login.

8. Type your login name and password:

```
login: login
password: password
```

9. If you encounter errors, check the detail log file for error information.

Errors encountered during patch back out are displayed after back out has been completed. Check the detail log file for additional information about any patches or packages that were not backed out.

```
# more \
$rootdir/var/sadm/install_data/MU_Backout_log.mu_version_name.date_time
```

where:

- *\$rootdir* is the root directory of the system that you have just updated; for example, / for the local system and /export/root/*clientname* for a diskless client.

- *mu_version_name* is the name of the MU (it is `Solaris_2.6MU2` for the MU2).
- *date_time* is the designated date and time copied from `date +%Y%m%d%H%M%S` (i.e., *yyyymmddHHMMSS* or *year-month-day-hour-minute-second*).

Note - `$rootdir/var/sadm/install_data/Maintenance_Backout_log` is a symbolic link to the most recent MU2 log file.

For explanations and recommended actions for error codes, see Appendix A.

Identifying the Version of Your Solaris 2.6 Maintenance Update

To identify the version of your Solaris 2.6 MU software, type:

```
# cat /etc/release
```


Error Messages

The screen messages displayed during the execution of `install_mu` and `backout_mu` do not include all errors that may have occurred. Therefore, verify the results of the installation by looking at the `Maintenance_Update_log` or `Maintenance_Backout_log` file in the `/var/sadm/install_data` directory. Messages recorded in this log file reflect the installation or back out status of each patch and package. Some error message examples follow.

Note - You will see only the error text when the message appears, not the error code number included here. The error code numbers are included here in case you are writing a script that calls the `install_mu` or `backout_mu` and your script needs to know the return values for the failure conditions.

Error Code 1

signal detected.

`install_mu (backout_mu)` is terminating.

Explanation and recommended action: You interrupted `install_mu` (or `backout_mu`) by pressing Control-C. Reinvoke the program. If you reinvoke `install_mu`, error messages about previously applied patches will appear in the log file. Ignore the error messages.

Error Code 2:

`install_mu (backout_mu)` is unable to find the `INST_RELEASE` file for the target filesystem. This file must be present for `install_mu (backout_mu)` to function correctly.

Explanation and recommended action: The program cannot find the file `/var/sadm/system/admin/INST_RELEASE` in the client's root area. The client

was not created properly or has become corrupted. Back up the client, then remove and recreate it.

Error Code 3:

ERROR: Cannot find \$xcommand which is required for proper execution of install_mu (backout_mu).

Explanation and recommended action: install_mu and backout_mu require a number of system utilities (for example awk, sed, grep) to be present in the server's /usr/bin and /usr/sbin directories. One of these utilities is missing. Contact your system administrator for assistance.

Error Code 4:

The -B and -d arguments are mutually exclusive.

Explanation and recommended action: The -d option requests that no backout data be saved. The -B option specifies a directory to store backout data. These two options cannot be used together. Reinvoke install_mu with only one of these options.

Error Code 5:

The -p parameter must be a directory. \$uPATCHDIR is not a directory.

Explanation and recommended action: You selected the -p option and supplied a path that is not a valid directory. Reinvoke install_mu (or backout_mu) with a valid path to the -p option.

Error Code 6:

The -B parameter must be a directory. \$l is not a directory.

Explanation and recommended action: You supplied an option to -B that is not a directory. Reinvoke install_mu (or backout_mu) with a valid path to the -B option.

Error Code 7:

Permissions on backout directory \$BACKOUTDIR not adequate.

Explanation and recommended action: You supplied an option to -B that is not a writable directory. Contact your system administrator for assistance.

Error Code 8:

The -R parameter must be a directory. \$ROOTDIR is not a directory.

Explanation and recommended action: You supplied an option to -R that is not a directory. Reinvoke install_mu (or backout_mu) with a valid path for the -R option.

Error Code 9:

The -S parameter must be a directory. /export/\$1 is not a directory.

Explanation and recommended action: install_mu and backout_mu look in /export for the Service area you supply to the -S option. Currently "Solaris_2.6" is the only valid option to -S. The /export/Solaris_2.6 directory must exist. If it does not, then the service area does not exist. Contact your system administrator for assistance.

Error Code 10:

Invalid option.

Explanation and recommended action: You selected an unrecognized option. Read the usage message displayed and reinvoke install_mu (or backout_mu).

Error Code 11:

Can't write to Log File: \$LOGFILE

Explanation and recommended action: install_mu and backout_mu need to write its log into the \$ROOTDIR/var/sadm/install_data directory, where \$ROOTDIR specifies the root directory of your client or server. Check that the install_data directory is writable, then reinvoke install_mu (or backout_mu).

Error Code 12:

SUNWcar (core architecture root) package does not exist in \$ROOTDIR/var/sadm/pkg.

Explanation and recommended action: The /var/sadm/pkg/SUNWcar directory is missing in the client or server's root area. Your client or server has become corrupted. Contact your system administrator for assistance.

Exit Code 13:

install_mu (backout_mu) only supports sparc and i386 architectures. install_mu (backout_mu) has detected ARCH=\$LPROC.

Explanation and recommended action: You ran install_mu (or backout_mu) on a system whose architecture is not SPARC or i386. Reinvoke install_mu (or backout_mu) on a supported platform.

Exit Code 14:

`-p` parameter does not point to a directory containing a `.order` file. Looked in `$uPATCHDIR` and in `$uPATCHDIR/$MU_TOP/$LPROC/Patches`.

Explanation and recommended action: You provided a path to a patch directory but `install_mu` could not find a `.order` file in that directory, which it needs to determine the correct patch installation order. `install_mu` (or `backout_mu`) looked in `$path_you_specified` and in `$path_you_specified/MU/$arch/Patches`, where `$arch` is either "sparc" or "i386." Check for the existence of a `.order` file and reinvoke `install_mu` (or `backout_mu`).

Exit Code 15:

`install_mu` cannot locate patch order (`.order`) file. Paths searched: `./LPROC/Patches`, `$MU_TOP/LPROC/Patches`, `/cdrom/cdrom0/LPROC/Patches`, `./$uPATCHDIR`, and `./$uPATCHDIR/$MU_TOP/LPROC/Patches`.

Explanation and recommended action: You did not supply `install_mu` (or `backout_mu`) with the `-p` option to identify the patch directory and `install_mu` (or `backout_mu`) could not locate the patch directory. Reinvoke `install_mu` (or `backout_mu`) with the `-p` option.

Exit Code 16:

You must be root to execute this script.

Explanation and recommended action: You need root privileges to run `install_mu` or `backout_mu` since only user root can apply and remove patches. Reinvoke the program as root.

Exit Code 17:

`install_mu` (`backout_mu`) can only patch version 2.6 systems. Target system is version `$TrgOSVers`.

Explanation and recommended action: You asked `install_mu` to apply patches to a server or client not running Solaris 2.6, or you asked `backout_mu` to back out patches from a server or client not running Solaris 2.6; `install_mu` and `backout_mu` must be run on a Solaris 2.6 system.

Exit Code 18:

Directory with patch tools, `$TOOLS DIR`, not found.

Explanation and recommended action: `install_mu` (or `backout_mu`) cannot find the Tools directory distributed with the Maintenance Update. If you copied the Maintenance Update distribution to your system, then the copy has probably become corrupted or modified. Reinstall the Maintenance Update distribution.

Exit Code 19:

`$TOOLS_DIR/patchadd` (or `patchrm`) does not exist or is not executable.

Explanation and recommended action: The Maintenance Update distribution comes with its own versions of `patchadd` and `patchrm`. One of these is missing or is not executable. If you copied the Maintenance Update distribution to your system, then the copy has probably become corrupted or modified. Reinstall the Maintenance Update distribution.

Exit Code 20:

The service area must be `Solaris_2.6`.

Explanation and recommended action: The `-S` option currently only supports patch Solaris 2.6 Service areas. Reinvoke `install_mu` (or `backout_mu`) with a valid 2.6 service area and the argument "`Solaris_2.6`" to the `-S` option.

Exit Code 21:

The `-S` and `-R` arguments are mutually exclusive.

Explanation and recommended action: If you are applying (or backing out) the Maintenance Update to a diskless client or AutoClient, then you need to invoke `install_mu` (or `backout_mu`) twice, once with the `-R` option to patch (or backout) the client's root area and again with the `-S` option to patch (or backout) the client's service area.

Exit Code 22:

Not enough disk space to apply entire patch set.

Explanation and recommended action: `install_mu` analyzed your system and determined that there was not enough disk space on one or more file systems to install the entire patch set. Free up disk space in the deficient file systems reported and reinvoke `install_mu`. If you believe that you have enough disk space to apply the Maintenance Update, reinvoke `install_mu` with the `-f` option.

Exit Code 23:

Not enough disk space to save patch backout data.

Explanation and recommended action: `install_mu` analyzed your system and determined that there was not enough disk space in the back out directory to save patch back out data. Select a back out directory with enough space, as is reported needed, then reinvoke `install_mu`. If you believe that you really have enough disk space in the back out directory reinvoke `install_mu` with the `-f` option.

Exit Code 24:

Dryrun disk space check failed.

Explanation and recommended action: `install_mu` invokes `pkgadd` with a special option to check for sufficient disk space. `pkgadd` failed, probably because `/` or `/var` is very low on disk space or because your system has become corrupted. Contact your system administrator for assistance.

Exit Code 25:

The `-f` and `-D` options are mutually exclusive.

Explanation and recommended action: The `-f` option instructs `install_mu` to skip the dry run disk space calculation phase. The `-D` option requests that only the dry run calculations be made. Choose one option or the other, but not both.

Exit Code 26:

The `$service_area` service cannot be found on this system.

Explanation and recommended action: `install_mu` expected to find the `/export/$service_area/var/sadm/pkg` directory, where `$service_area` is the argument to the `-S` option. The directory was not found. Check that you have a valid service area. Contact your system administrator for assistance.

Error Code 27:

Cannot find state file. Looked for a file of the form `$ROOTDIR/var/sadm/install_data/.mu_state`. `{ $root_or_usr }`.

Explanation and recommended action: Starting with MU2, `backout_mu` requires a file containing a list of patches `install_mu` applied to know which patches to back out. If this file is missing, `backout_mu` cannot function. To remove the MU1 patch set, run the `backout_mu` program from the MU1 software distribution.

Error Code 28:

The `-T` parameter must be a directory. `uTOOLDIR` is not a directory.

Explanation and recommended action: You supplied an option to `-T` that is not a directory. Reinvoke `backout_mu` with a valid path to the `-T` option.

Error Code 29:

`-T` parameter does not point to a directory containing patching tools. Looked in `$uTOOLDIR` and in `$uTOOLDIR/MU/common/Tools`.

Explanation and recommended action: `backout_mu` requires the tools `installpatch.fast` and `backoutpatch.fast`. These tools could not be found in the directory specified by the `-T` option. Reinvoke `backout_mu` with a valid path to the `-T` option.

Error Code 30:

backout_mu cannot locate tools directory. Paths searched: ./
common/Tools, MU/common/Tools, /cdrom/cdrom0/MU/common/Tools

Explanation and recommended action: backout_mu searched unsuccessfully in various directories for the patch tools installpatch.fast and backoutpatch.fast. Reinvoke backout_mu with the -T option and a path to these tools.

Known Problems

Known Problems in Solaris 2.6 MU2

This chapter describes known problems relating to the installation and use of the Solaris 2.6 MU2 software.

Installation Bugs

`install_mu` Does Not Function Correctly When Starting It Using `sh` 4108278

Because of problems regarding the interactions between `sh(1)` and `ksh(1)`, the `install_mu` utility may fail to install certain patches correctly whenever you start it using the following command from the command line or from an administrative script:

```
# /bin/sh ./install_mu arguments
```

Workaround: Execute `install_mu` from the command line or from an administrative script as follows:

```
# ./install_mu arguments
```

install_mu Leaves Files in the /tmp Directory 4108278

install_mu leaves files and working directories in /tmp. The files and directories could cause /tmp to become full, potentially leading to system problems. Files and directories left in /tmp are of the form install* and SUNW*.

Workaround: After install_mu has completed execution, check /tmp for files and directories named install* and SUNW*. If the files were created recently by root, remove them. Or, if the MU was applied to a stand alone machine or server, reboot the system.

install_mu Does Not Install Elx1 Patch 105674-03 4126814

install_mu does not install patch 105674-03. You need to install this patch:

- if you require support for the 3COM 3C905B or 3C900 Fast EtherLink XL adapters. These adapters were previously unsupported by Solaris.
- to obtain performance improvements for the 3C905 adapter. All adapters (3C905, 3C905B & 3C900) are now supported in DMA rather than PIO mode. This results in significant performance gains.

Workaround: Follow these steps to manually install patch 105674-03:

1. Change directories to the patch directory:

```
# cd product_directory/i386/Patches/Special_Patches/105674-03
```

2. Type the following command:

```
# ./installpatch .
```

Solaris 2.6 MU1 and MU2 Display Errors in the Miniroot With Solaris 2.6 and Solaris 2.6 Hardware: 3/98 4133860

If you are running the Solaris 2.6 or Solaris 2.6 Hardware: 3/98 operating environment and you use install_mu in the miniroot environment or through JumpStart to install MU1 or MU2, the following message is displayed:

```
ERROR: Cannot find /usr/xpg4/bin/grep which is required
for proper execution of patchadd.
```

Workaround: To correct the problem you must extract the missing grep file from the SUNWxcu4 package's compressed cpio archive and put it into the proper place in the OS image miniroot area. Follow these steps to do this:

1. Change directories to the Boot directory:

```
# cd 2.6_OS_image/Tools/Boot
```

2. Type the following command:

```
# zcat ../../Product/SUNWxcu4/reloc.cpio.Z | cpio -imd usr/xpg4/bin/grep
```


Solaris 2.6 Maintenance Update Contents

This chapter provides a patch list for the Intel platform.

For example, the following patch:

```
105182-03 : SunOS 5.6_x86: kernel update patch
          4062572 4064495 4070968 4076062 4077343
```

lists all parts of a patch where:

- 105182-03: is the patch ID number
- SunOS 5.6_x86: kernel update patch is the synopsis patch description

4062572 4064495 4070968 4076062 4077343 are the bug ID numbers fixed by patch ID 105182-03

Patch List

```
105161-02 : CDE 1.2_x86: dtterm libDtTerm.so.1 patch
          4064605 4091071
```

```
105182-05 : SunOS 5.6_x86: kernel update patch
          1237009 4062572 4064495 4067641 4070968 4073684 4076062 4077343 4086905 4089451 4090862 4090929
          4095411 4097082 4099656 4101647 4106093 4114176 4115793 4117898
```

```
105191-02 : OpenWindows 3.6_x86: Updated ATI video support.
```

(continued)

105192-02 : OpenWindows 3.6_x86: New Cirrus video support.

105193-02 : Toshiba Satellite 200CDS:

105194-03 : OpenWindows 3.6_x86: Updated S3 Video Support.

105195-02 : OpenWindows 3.6_x86: Updated Matrox video support.

105200-03 : OpenWindows 3.6_x86: Updated common video library, monitors and configuration

105201-03 : SunOS 5.6_x86: xlibi18n.so.2 and locale.alias patch for upgrade
4061479 4111022

105209-01 : when card not presetn the ata_open should not set the open_flag:
4063171

105211-05 : SunOS 5.6_x86: libc & watchmalloc patch
1256914 4055257 4089406 4089981 4097441 4112035

105215-01 : SunOS 5.6_x86: /kernel/fs/sockfs patch
4065762 4067568

105217-03 : SunOS 5.6_x86: /usr/sbin/rpcbind patch
4066019 4070261 4073327 4085394

105220-01 : ncrs: NCRS.BEF hangs during MDB boot.
4051233

105226-01 : convert mega realmode driver for 2.6 :
4059732 4073565

105229-02 : SunOS 5.6_x86: /kernel/drv driver patch
4032786 4033081 4034111 4046783 4030280 4074439

105232-01 : SunOS 2.6_x86: platform/i86pc/kernel/drv/aha driver patch
1262128 4010912 4050186 1198190 4011198 4031357 3001795 4045061 1241638 4009697 4050186

105240-01 : SunOS 5.6_x86: /platform/i86pc/boot/solaris/drivers/isa.025/fdc.bef
4056322

105241-01 : SunOS 5.6_x86: /platform/i86pc/kernel/drv/eha
1173461

105242-01 : SunOS 5.6_x86: /platform/i86pc/kernel/drv/mcis
1173461

105247-02 : SunOS 2.6: cnft bug fixes
4071287 4089735 4085898

(continued)

105248-02 : SunOS 2.6: cpqncr bug fixes
4071285

105305-03 : SunOS 5.6_x86: /kernel/drv driver patch
4073076 4077624 4076914

105339-05 : CDE 1.2_x86: dtmail patch
4064109 4067469 4073484 4065579 4084829 4080866 4083194 4080866 4075562 4091161

105380-03 : SunOS 5.6_x86: /kernel/misc/nfssrv patch
4066034 4067949 4071076 4072666

105394-02 : SunOS 5.6_x86: /usr/bin/at patch
4063161 4099944

105398-02 : SunOS 5.6_x86: /usr/sbin/passmgmt patch
4059628 4077704

105402-09 : SunOS 5.6_x86: libnsl and NIS+ commands patch
1168376 1189481 1225430 4062999 4075462 4076999 4080264 4082712 4085394 4098943 4103308 4111288

105404-01 : SunOS 5.6_x86: /usr/lib/netshvc/yp/ypbind patch
1225430 4080264

105406-01 : SunOS 5.6_x86: libcurses.a & libcurses.so.1 patch
4058714

105408-01 : SunOS 5.6_x86: /usr/bin/volrmmount patch
4074650

105417-01 : SunOS 5.6_x86: /usr/lib/acct/acctdisk patch
4076557

105422-01 : SunOS 5.6_x86: /etc/init.d/asppp patch
4067655

105423-04 : SunOS 5.6_x86: /platform/i86pc/boot/solaris/boot.bin patch
1227374 1262801 4060205 4061541 4074749 4077603 4089054 4090467 4098598 4101295 4106114

105427-01 : SunOS 5.6_x86: /usr/lib/libtnfprobe.so.1 patch
4063963

105461-01 : SunOS 5.6_x86: /platform/i86pc/kernel/drv/eisa patch
4062307

105473-02 : SunOS 5.6_x86: /usr/lib/autofs/automountd patch
4076901 4089254

105487-02 : SunOS 5.6_x86: /kernel/fs/hsfs patch
4079732 4101513 4101516

105491-04 : SunOS 5.6_x86: linker patch

(continued)

1182346 4008477 4044285 4050759 4058928 4062757 4064724 4066815 4067926 4068108 4074398 4075643
 4079003 4079633 4081897 4084466 4085036 4085734 4088306 4092335 4092511 4093064 4095156 4095586 4096079
 4096995 4097806 4099127 4099713 4100002 4102130 4102797 4104963 4107525 4108699 4108808 4112585 4126405

105498-01 : OpenWindows 3.6_x86: printtool patch
 4071779

105505-02 : SunOS 5.6_x86: /kernel/drv/st.conf patch
 4077046 4095719 4098879

105517-01 : SunOS 5.6_x86: /usr/lib/fs/ufs/fsck patch
 4079241

105519-01 : SunOS 5.6_x86: /usr/bin/vacation patch
 4072035

105530-01 : SunOS 5.6_x86: /kernel/drv/tcp patch
 4060583

105553-02 : SunOS 5.6_x86: /usr/sbin/rpc.nisd_resolv patch
 4069684 4098331

105559-01 : CDE 1.2_x86: "su user dtpad" edits other user's files
 1199005

105563-01 : SunOS 5.6_x86: chkey and keylogin patch
 1168376

105565-02 : SunOS 5.6_x86: /kernel/misc/rpcsec patch
 1168376 4080713

105567-01 : CDE 1.2_x86: calendar manager patch
 4062516 4075925 4068406

105569-05 : SunOS 5.6_x86: /usr/lib/libthread.so.1 patch
 4068431 4079302 4088215 4100047 4104703 4110026

105573-03 : SunOS 5.6_x86: /kernel/fs/ufs patch
 4073391 4083720 4096789

105584-09 : Various devconf boot bug fixes needed to support ITU.:
 4107170 4097136 4095689 4101070 4086821 4086879 4089025 4089964 4091293 4092844 4093804 4094495
 4094505 4095845 4096085 4096086 4096498 4096883 4097078 4098119 4099935 4099946 4100383 4100908 4101099
 4101105 1180907 1226565 1226684 1233910 1252123 1258209 1260628 1266558 3002515 4005051 4009203 4018981
 4022634 4032917 4033000 4034434 4035475 4041580 4043277 4045847 4046009 4059183 4083132 4094495 4100908
 4029610 4083059 4100580 4077610 1196659 4045667 4077606 4101329 4101330 4101331 4090516 4098173 4098295
 4098588 4095391 4096152 4093448 4090714 4090731 4091127 4092478 4114471 4113323 4121459

105594-02 : SunOS 5.6_x86: Multiple bugs fixes plus new card support
 4087832 4061356 4089158 4019246 4034043 4063498 4063842 4087833 4109752

105596-01 : hang when installing Solaris 2.6:
 4090189 4090192 4090292

(continued)

105599-09 : SunOS 2.6: adp bug fixes.
 4079482 4096724 4100884 4101113 4101216 4099726 4101115 4106389 4106387 4083130 4106499 4102945
 4107629 4107256 4107622 4116982 4116980 4116969 4111560 4111692 4111519 4120324 4120372 4120668 4124523
 4124102 4123864

105601-01 : SunOS 5.6_x86: /kernel/misc/gld patch
 4079415 4090300

105611-02 : SunOS 5.6: support for SMC EtherPower II 10/100 PCI (9432) adapters
 4091573 4094921

105616-03 : SunOS 5.6_x86: /usr/lib/nfs/mountd patch
 4076760 4094336 4096655

105617-02 : SunOS 5.6_x86: asy driver patch
 4091133 1153149 4077038 4124820

105620-01 : OpenWindows 3.6_x86: Xsun Patch
 4086671

105622-02 : SunOS 5.6_x86: libbsm patch
 1243241 4087559

105631-01 : CDE 1.2_x86: libDtWidget patch
 4062940

105639-02 : SunOS 5.6_x86: /platform/i86pc/kernel/misc/pdwa patch
 4092560

105656-02 : pcscsi: does not handle reuse of packets correctly adapters
 4081602

105670-02 : CDE 1.2_x86: libDtSvc Patch
 4057875 4095426 4101096 4099389

105674-03 : SunOS 5.6_x86: add support for 3Com 3C905 PCI Etherlink XL adapters
 4096295 4098304 4098996 4092167 4103795 1249411 4116469

105687-02 : SunOS 5.6_x86: /usr/sbin/auditreduce patch
 4091316 4094608

105694-03 : SunOS 5.6_x86: /kernel/fs/cacheofs patch
 1235055 1254308 1260827 1261839 4022851 4054794 4057251 4057254 4059759 4089083 4104645 4104673
 4116501

105704-03 : CDE 1.2_x86: dtlogin patch
 4093449 4091713 4093361

105719-02 : SunOS 5.6_x86: /usr/bin/su patch
 1224537

105721-03 : SunOS 5.6_x86: /kernel/fs/nfs patch

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4034003 4063668 4113636

105723-01 : SunOS 5.6_x86: /usr/lib/fs/ufs/ufsdump patch
4090210

105725-01 : SunOS 5.6_x86: /usr/lib/fs/ufs/ufsrestore patch
4095387

105728-07 : Added support for DAC960PG & DAC960PG PCI-SCSI RAID Controllers:
4099019 4077088 4085305 4091623 4110963 4107170 4086821 4086879 4089025 4089964 4094505 4096085
4096498 4097078 4099946 4101099 4101329 4101330 4101331 1196659 4045667 4077606 4096086 4096883 4098119
4101105 4095845 4029610 4117957 4130402 4129483

105737-01 : SunOS 5.6_x86: /usr/lib/mail.local patch
4087808

105744-01 : SunOS 5.6_x86: /usr/lib/libxfs.so.2 patch
4059233

105747-01 : SunOS 5.6_x86: /usr/bin/cpio patch
4072520

105752-01 : AnswerBook2 1.0 (Japanese): Table widths too narrow in Japanese AB2
4074065

105756-03 : SunOS 5.6_x86: in.named & libresolv patch
1266187 4056997 4071167 4089702

105758-01 : SunOS 5.6_x86: /usr/bin/echo patch
1260581

105779-01 : SunOS 5.6_x86: /kernel/fs/specfs patch
4090929

105781-01 : SunOS 5.6_x86: /kernel/fs/fifofs patch
4090929

105787-02 : SunOS 5.6_x86: /kernel/drv/ip patch
4069630 4098152

105793-02 : SunOS 5.6_x86: /usr/sbin/tar patch
4064315 4074640 4107828

105801-01 : usermgr subtracts 1 day from exp date for each modification done:
1152466

105803-03 : OpenWindows 3.6_x86: tooltalk patch
1234927 4100289 4115735

105838-02 : CDE 1.2_x86: dtappgather Patch
4097549 4107453

105846-01 : SunOS 5.6_x86: /etc/security/audit_event patch

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4053536

105857-01 : SunOS 5.6_x86: /usr/kernel/fs/s5fs patch
4089434

105858-03 : SunOS 5.6_x86: AnswerBook2 1.0
4091561 4064749 4C72794 4074070

105868-01 : SunOS 5.6_x86: /usr/sbin/tapes patch
4100165

105875-01 : SunOS 5.6_x86: libspmisoft.so.1 patch for upgrade
4030965

105927-01 : SunOS 5.6_x86: /usr/sbin/static/tar patch
4089406

105954-01 : SunOS 5.6_x86: /usr/bin/xargs patch
4094859

105960-01 : SunOS 5.6_x86: /usr/kernel/strmod/ppp patch
4090117

105961-01 : SunOS 5.6_x86: /platform/i86pc/kernel/drv/pci patch
4102877

105989-01 : SunOS 5.6_x86: /usr/sbin/rwall patch
4098657

105991-01 : SunOS 5.6_x86: vi/ex/edit/view/vedit patch
4066281

106026-01 : CDE 1.2_x86 sdtfprop: patch for group permissions
4083715

106028-01 : CDE 1.2 dtssession: patch for screenlock
4104035

106032-01 : SunOS 5.6_x86: adb & kadb patch
4105822

106034-01 : SunOS 5.6_x86: /usr/sbin/cron patch
4106673

106036-01 : SunOS 5.6_x86: /usr/bin/getopt patch
1087872

106041-03 : SunOS 5.6_x86: dtwm dumps core under s998 due to problems in remote IM
4080186 4097754 4109758

106045-01 : SunOS 5.6_x86: /usr/lib/nss_nisplus.so.1 patch
4101392

(continued)

106050-01 : SunOS 5.6_x86: /usr/sbin/in.telnetd patch
4082063

106059-01 : Solaris2.6: Olwm dosen't accept XtNtitle resource properly in ja locale.
4096940 4081320

106061-02 : SunOS 5.6_x86: Manual Pages Patch
4109955

106065-01 : SunOS 5.6_x86: /usr/sbin/rpc.rexd patch
4100414

106076-01 : SunOS 5.6_x86: allocate, deallocate and list_devices patch
4095152

106085-01 : XIL 1.3_x86 Patch:
4098786

106113-01 : CDE 1.2_x86: dtfile patch
1236640

106124-01 : SunOS 5.6_x86: sgml patch
4109955

106126-02 : SunOS 5.6_x86: Patch for patchadd and patchrm
4107568 4092154 4104959 4113647 4116095

106136-01 : SunOS 2.6: kd bug fixes.
4108334

106139-01 : OpenWindows 3.6_x86: mp fails to set correct A4 paper size information
4114795

106142-01 : SunOS 5.6_x86: /usr/bin/mkdir patch
1237009 4073684

106151-01 : SunOS 5.6_x86: /usr/lib/inet/in.dhcpd patch
4064489

106153-01 : SunOS 5.6_x86: Jumpstart install fails searching for profile() on 2.6
4097356

106180-01 : OpenWindows 3.6: XIM XI18N jumbo patch for ja_JP.PCK locale
4108971

106194-01 : SunOS 5.6_x86: NIS locale ordering fails to be read by sysidnet
4098639

106203-01 : SunOS 2.6: chanmux bug fixes.
4108334

106248-01 : OpenWindows 3.6_x86: Xsun patch
4066985 4060341 4108134

(continued)

106306-01 : SunOS 5.6_x86: ttyinstall aborts with 'caught signal 11' on 2.6
4121361

106318-01 : SunOS 5.6_x86: upgrade_script terminated abnormally during upgrade
4010183

106324-01 : SunOS 5.6_x86: /etc/inet/services patch
4124095

