# Tru64 UNIX 4.0G and TruCluster Server 1.6

## Patch Summary and Release Notes for Patch Kit-0002

**January 2001**

This manual describes the release notes and contents of Patch Kit-0002. It provides any special instructions for installing individual patches.

For information about installing or removing patches, baselining, and general patch management, see the document called *Patch Kit Installation Instructions*.

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# About This Manual

This manual contains information specific to Patch Kit-0002 for the Tru64™ UNIX 4.0G operating system and TruCluster™ Server 1.6 software products. It provides lists of the patches contained in the kit and describes information you need to know when installing specific patches.

For information about installing or removing patches, baselining, and general patch management, see the *Patch Kit Installation Instructions*.

## Audience

This manual is for the person who installs or removes the patch kit and for anyone who manages patches after they are installed.

## Organization

This manual is organized as follows:

*Chapter 1* Contains the release notes for this patch kit.

*Chapter 2* Summarizes the Tru64 UNIX operating system patches included in the kit.

*Chapter 3* Summarizes the TruCluster software patches included in the kit.

## Related Documentation

In addition to this manual, you should be familiar with the concepts and mechanisms described in the following Tru64 UNIX and TruCluster Server documents:

- Tru64 UNIX and TruCluster *Patch Kit Installation Instructions*
- Tru64 UNIX *Installation Guide*
- Tru64 UNIX *System Administration*
- TruCluster Server *Software Installation*
- TruCluster Server *Administration*
- Release-specific installation documentation

## Reader's Comments

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You can send your comments in the following ways:

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Please include the following information along with your comments:

- The full title of this document.
- The section numbers and page numbers of the information on which you are commenting.
- The version of Tru64 UNIX or TruCluster products that you are using.
- If known, the type of processor that is running the Tru64 UNIX software.

The Tru64 UNIX Publications group cannot respond to system problems or technical support inquiries. Please address technical questions to your local system vendor or to the appropriate Compaq technical support office. Information provided with the software media explains how to send problem reports to Compaq.

# 1

# Release Notes

This chapter provides information that you must be aware of when working with Tru64 UNIX 4.0G and TruCluster Server 1.6 Patch Kit-0002.

## 1.1 Required Storage Space

The following storage space is required to successfully install this patch kit:

### Base Operating System

- Temporary Storage Space

  A total of ~250 MB of storage space is required to `untar` this patch kit. We recommend that this kit not be placed in the `/`, `/usr`, or `/var` file systems because doing so may unduly constrain the available storage space for the patching activity.

- Permanent Storage Space

  Up to ~36 MB of storage space in `/var/adm/patch/backup` is required for archived original files if you choose to install and revert all patches. See the *Patch Kit Installation Instructions* for more information.

  Up to ~37 MB of storage space in `/var/adm/patch` is required for original files if you choose to install and revert all patches. See the *Patch Kit Installation Instructions* for more information.

  Up to ~833 KB of storage space is required in `/var/adm/patch/doc` for patch abstract and README documentation.

  A total of ~152 KB of storage space is needed in `/usr/sbin/dupatch` for the patch management utility.

### TruCluster Server

- Temporary Storage Space

  A total of ~250 MB of storage space is required to untar this patch kit. We recommend that this kit not be placed in the `/`, `/usr`, or `/var` file systems because doing so may unduly constrain the available storage space for the patching activity.

- Permanent Storage Space

  Up to ~36 MB of storage space in `/var/adm/patch/backup` is required for archived original files if you choose to install and revert all patches. See the *Patch Kit Installation Instructions* for more information.

  Up to ~37 MB of storage space in `/var/adm/patch` is required for original files if you choose to install and revert all patches. See the *Patch Kit Installation Instructions* for more information.

  Up to ~504 KB of storage space is required in `/var/adm/patch/doc` for patch abstract and README documentation.

  A total of ~152 KB of storage space is needed in `/usr/sbin/dupatch` for the patch management utility.

## 1.2 New dupatch Features

Beginning with Revision 26–02 of dupatch, this patch tool utility has been enhanced to provide new features, as described in the following sections. For more information, see the *Patch Kit Installation Instructions*.

### 1.2.1 Patch Installation from Multiuser Mode

You can now install patches when a system is in multiuser mode.

There are no restrictions on performing patch selection and preinstallation checking in multiuser mode.

Although you can now install patches in multiuser mode, Compaq recommends that you bring down your system to single-user mode when you install patches that affect the operation of the Tru64 UNIX operating system (or the product you are patching). If your system must remain in multiuser mode, we recommend that you apply the patches when the system is as lightly loaded as possible.

### 1.2.2 Automatic Kernel Build

If the patches that are installed indicate that a kernel build is required, dupatch will initiate the kernel build automatically.

Most times a reboot is required to complete the installation and bring the system to a consistent running environment. Certain file types, such as libraries, are not moved into place until you reboot the system.

When installing patches in multiuser mode, you can take one of three options after the kernel build is complete:

- Reboot the system immediately.
- Reboot the system at a specified time.
- Do not reboot the system.

### 1.2.3 Patch Installation from a Pseudo-Terminal

You can now install patches on the system from a pseudo-terminal (pty) while in single-user mode. To do this, log in to the system as root from a remote location and specify that the patches are to be installed in single-user mode. After all the patch prerequisites are completed, the system goes into single-user mode while it maintains the network connection for the root user. The system then installs the patches.

## 1.3 Release Note for TruCluster Server

If you are installing only TCR patches, you MUST rebuild the kernel and reboot the machine for the changes to take effect. If removing only TCR patches, you MUST also rebuild the kernel and reboot the machine for the changes to take effect.

## 1.4 Release Note for Tru64 UNIX Patch 48.00

If the system configurable parameter lsm:lsm_V_ROUND_enhanced is set (value = 1), the enhanced read round robin policy is activated. This new policy stores the last block accessed by the previous I/O request. When returning for another block in round robin (V_ROUND) mode, that value is compared to the current read. If it is within a predefined, user-configurable value (lsm:lsm_V_ROUND_enhance_proximity) then the same plex is used. Otherwise, the next plex is used as for a normal round robin behavior.

The two new additional tunable parameters are lsm_V_ROUND_enhanced set to 0 by default (V_ROUND_enhanced read is not activated), and lsm_V_ROUND_enhance_proximity is set to 512 by default.

Append tuning changes to the /etc/sysconfigtab file.. Refer to the Tuning notes following for a description of the new lsm_V_ROUND_enhanced and lsm_V_ROUND_enhance_proximity tunable parameters. These tunable parameters are configured in the lsm stanza. For example:

```
lsm:
lsm_V_ROUND_enhanced = 1
lsm_V_ROUND_enhance_proximity = 1024
```

**Note**

If you already have an lsm stanza in your sysconfigtab file, then just add the two lsm_V_ROUND entries.

#### Tuning

The purpose of this patch is to increase performance with sequential reads. This patch introduces a new enhanced round robin mode where the last block read is now compared to the next block to read and a check is added to see if last block number-next block number is less than or equal to lsm_V_ROUND_enhance_proximity. If it is, read from the same plex. This is to attempt to hit the disk cache, and so increase performance.

The relevant tunable parameters are as follows:

sm_V_ROUND_enhanced — This variable activates the new enhanced round robin read policy if it is set to TRUE (1). Otherwise the policy is deactivated. DEFAULT = 0

lsm_V_ROUND_enhance_proximity — This variable indicates the proximity in which the last read and new read must lie in an attempt to read data from the disk's cache by reading from the same plex. The variable can be adjusted from 0 to 4096. DEFAULT = 512

## 1.5 Release Note for Tru64 UNIX Patch 107.00

#### UFS delayed metadata mount option

This new mount option allows for disabling synchronous metadata writes on a specified file system. The new mount option is delayed.

To maintain the file system's consistency, UFS metadata (such as inode, directory, and indirect blocks) is updated synchronously by default.

Metadata updates are typically performed synchronously to prevent file system corruption after a crash. The trade-off for filesystem integrity, however, is performance. In some cases, such as a file system serving as a cache, performance (faster metadata update) is more important than preserving data consistency across a system crash; for example, files under /tmp, or web proxy servers such as Squid.

This has two results. One, multiple updates to one block become only one block write as opposed to multiple writes of the same block with traditional synchronous metadata update. Two, users can experience much better responsiveness when they run metadata-intensive applications because metadata writes will not go out to the disk immediately, while users get their prompt back as soon as the metadata updates are queued.

Do not use the `delayed` option on the `/` or `/usr` file systems. Use the `delayed` option only on file systems that do not need to survive across a system crash.

**Usage**

To enable the `delayed` option, run:

```
mount -o delayed <device> <mount point>
```

or

```
mount -u -o delayed <mount point>
```

## 1.6 Release Note for Tru64 UNIX Patch 194.00

This patch provides the X server support for the new 3DLabs Oxygen VX1 PCI graphics card. In order to obtain full support for this graphic card, you must also select Patch 192.00, which is the driver portion of the patch.

A list of supported platforms is available on the following web page:

`http://www.compaq.com/alphaserver/products/options.html`

## 1.7 Release Note for Tru64 UNIX Patch 196.00

This patch contains a solution for the following issue:

Compaq has advised owners of DS10, DS10L, ES40 AlphaServers, and XP900 AlphaStations that Compaq has determined in laboratory testing that there is a theoretical possibility that during read and write operations to the floppy disk on these systems, a single byte of data may be inaccurately read or written without notice to the user or system. The potential for this anomaly exists only if floppy disk read or write operations are attempted while there is extremely heavy traffic on these Alpha systems' internal input/output busses.

Although Compaq has observed the anomaly only in laboratory tests designed to create atypical system stresses, including almost constant use of the floppy disk drive, Compaq has informed owners of the remote possibility that the anomaly could occur so that they may take precautions to prevent it.

Compaq recommends that the solution be installed by all DS10, DS10L, ES40 AlphaServers, and XP900 AlphaStation customers.

The solution to this issue is also available as an individual, manually installed patch kit named `floppy_CSP_v40g.tar.gz`, available from:

`http://ftp1.support.compaq.com/public/unix/v4.0g`

## 1.8 Release Note for Tru64 UNIX Patch 201.00

This patch provides support for new graphics cards.

### 1.8.1 3DLabs Oxygen VXI Graphics Card

This patch provides the driver support for the 3DLabs Oxygen VX1 graphics card. In order to obtain full support for this graphics card, you must also select Patch 194.00, which is the X server portion of the patch.

If you have a system with this new graphics card, you will need to reconfigure and rebuild the kernel after installing this patch.

To reconfigure and rebuild the kernel, follow these steps:

1. Shut down the system:

# **/usr/sbin/shutdown -h now**

2. Boot genvmunix to single-user mode:

   >>> **boot -fi genvmunix -fl s**

3. After the system boots to single-user mode, mount the file systems, run the `update` command, and activate the swap partition:

   # **sbin/bcheckrc**

   # **/sbin/update**

   # **/sbin/update**

4. Run `doconfig` to create a new kernel configuration file and rebuild the kernel:

   # **/usr/sbin/doconfig**

   **Note**

   Do not specify the `-c` option to `doconfig`. If you do, `doconfig` will use the existing kernel configuration file which will not have the appropriate controller entry for the 3DLabs Oxygen VX1 graphics card.

5. Save the old `/vmunix` file and move the new kernel to `/vmunix`.

6. Shut down the system:

   # **/usr/sbin/shutdown -h now**

7. Boot the new kernel:

   >>> **boot**

If you remove this patch from your system after you have rebuilt the kernel to incorporate support for the 3DLabs Oxygen VX1 graphics card as described you will need to rebuild the kernel again to restore generic VGA graphics support. To do this, follow the steps given previously. The `doconfig` utitlity running on the original, unpatched `genvmunix` will not recognize the 3DLabs Oxygen VX1 graphics card and will include generic VGA graphics support in the resulting kernel.

### 1.8.2 DEGPA-TA Gigabit Ethernet Device

This patch provides support for DEGPA-TA (1000BaseT) Gigabit Ethernet device. If you have a system with this new Ethernet device, you will need to reconfigure and rebuild the kernel after installing this patch.

To do this, follow these steps:

1. Shut down the system:

   # **/usr/sbin/shutdown -h now**

2. Boot genvmunix to single-user mode:

   >>> **boot -fi genvmunix -fl s**

3. After the system boots to single-user mode, mount the file systems, run the `update` command, and activate the swap partition:

   # **/sbin/bcheckrc**

   # **/sbin/update**

   # **/sbin/swapon -a**

4. Run `doconfig` to create a new kernel configuration file and rebuild the kernel:

   # **/usr/sbin/doconfig**

**Note**

Do not specify the `-c` option to `doconfig`. If you do, `doconfig` will use the existing kernel configuration file which will not have the appropriate controller entry for the new graphics card.

5. Save the old `/vmunix` file and move the new kernel to `/vmunix`.
6. Shut down the system:

   # **`/usr/sbin/shutdown -h now`**
7. Boot the new kernel:

   >>> **`boot`**

If you remove this patch from your system after you have rebuilt the kernel to incorporate support for the new Ethernet card as described previously, you will need to rebuild the kernel. To do this, follow the steps given previously. The `doconfig` running on the original, unpatched genvmunix will not recognize the new Ethernet driver.

## 1.9 Release Note for DEC 7000 Upgrades to AlphaServer 8400

This release note concerns systems that were upgraded from DEC 7000 to AlphaServer 8400 that have not installed the DWLPA-AA, DWLPB-AA, or the KFTIA. These are the I/O enhancements for the AlphaServer 8400.

Add the following information to the `/sys/conf/SYSTEMNAME` file:

```
bus          tiop0     at tlsb0    vector    tioperror
bus          pci0      at tiop0    slot  0
callout after_c "../bin/mkdata pci"

bus          isp0      at pci0     slot  0 vector    ispintr
controller     scsi0     at isp0     slot  0
```

You must do this on every reconfiguration of the system.

# 2

# Summary of Base Operating System Patches

This chapter summarizes the base operating system patches included in Patch Kit-0002.

Table 2–1 lists patches that have been updated.

Table 2–2 provides a summary of patches.

**Table 2–1: Updated Base Operating System Patches**

| Patch IDs | Change Summary |
|---|---|
| Patches 90.00, 95.00, 99.00, 105.00, 147.00, 112.00, 114.00, 116.00, 118.00, 194.00, 122.00, 124.00, 132.00, 135.00, 137.00, 149.00, 151.00, 153.00, 157.00, 164.00, 169.00, 172.00, 120.00, 174.00, 178.00, 180.00, 196.00, 182.00, 128.00, 184.00, 155.00, 188.00, 190.00 | New |
| Patches 14.00, 81.00, 29.00, 35.00, 91.00 | Superseded by Patch 93.00 |
| Patch 49.00 | Superseded by Patch 97.00 |
| Patches 86.00, 88.00, 165.00 | Superseded by Patch 167.00 |
| Patch 1.00 | Superseded by Patch 101.00 |
| Patches 18.00, 32.00, 41.00, 57.00 | Superseded by Patch 107.00 |
| Patches 15.00, 21.00, 22.00, 30.00, 44.00, 54.00, 66.00, 68.00, 69.00, 108.00 | Superseded by Patch 110.00 |
| Patch 8.00 | Superseded by Patch 126.00 |
| Patches 67.00, 130.00, 192.00 | Superseded by Patch 201.00 |
| Patch 23.00 | Superseded by Patch 161.00 |
| Patch 133.00 | Superseded by Patch 135.00 |
| Patches 79.00, 138.00 | Superseded by Patch 140.00 |
| Patch 83.00 | Superseded by Patch 103.00 |
| Patches 72.00, 74.00, 141.00, 142.00, 143.00 | Superseded by Patch 145.00 |
| Patches 4.00, 5.00, 6.00 | Superseded by Patch 159.00 |
| Patches 27.00, 36.00, 162.00 | Superseded by Patch 164.00 |
| Patches 25.00, 170.00 | Superseded by Patch 172.00 |
| Patches 17.00, 45.00, 71.00, 78.00, 75.00 | Superseded by Patch 176.00 |
| Patch 51.00 | Superseded by Patch 186.00 |
| Patches 82.00, 197.00 | Superseded by Patch 199.00 |

**Table 2–2: Summary of Base Operating System Patches**

| Patch IDs | Abstract |
|---|---|
| Patch 2.00<br>OSF445CDE-002 | **Patch:** Fix for file permission problem<br>**State:** Existing<br>This patch fixes a problem in which file permissions allow any user to write to the /.dt/Trash/.trashinfo file. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 3.00<br>OSF445CDE-003 | **Patch:** CDE does not re-create list of application groups<br>**State:** Existing<br>This patch fixes a problem where the Common Desktop Environment (CDE) Application Manager did not re-create the list of application groups at login. After customizing the application groups, users would see the old groups instead of the new groups. |
| Patch 7.00<br>OSF445X11-001 | **Patch:** ccedilla and Ccedilla characters do not display<br>**State:** Existing<br>This patch fixes the Turkish F keyboard problem, where the characters Ccedilla and ccedilla can not be entered from the keyboard directly. |
| Patch 9.00<br>OSF445X11-003A | **Patch:** Shared library fix for libDXm<br>**State:** Existing<br>This patch fixes a problem in which the svn widget of libDXm.so creates identical backgrounds and foregrounds. |
| Patch 10.00<br>OSF445X11-004 | **Patch:** Provides missing compose definitions<br>**State:** Existing<br>This patch provides missing compose definitions when in ISO8859-15-based locales for the scaron, Scaron, zcaron, and Zcaron characters. |
| Patch 11.00<br>OSF445X11-005A | **Patch:** Fixes problems with X font server<br>**State:** Existing<br>This patch fixes various problems with the X font server and with the X server's interaction with X font servers. |
| Patch 12.00<br>OSF445X11-006 | **Patch:** X server may core dump<br>**State:** Existing<br>This patch fixes a problem where the X server could core dump or get unaligned access errors when clients used the Multi-Buffering extension. |
| Patch 13.00<br>OSF445X11-007 | **Patch:** Fixes for PowerStorm 4D10T graphics card<br>**State:** Existing<br>This patch corrects the following:<br>• Fixes a problem where, on systems with a PowerStorm 4D10T (ELSA Gloria Synergy, SN-PBXGK-BB) graphics card or a PCI To Ethernet/Graphics Combo Adapter (3X-DEPVD-AA), lines and images sometimes are not drawn correctly in scrolled windows.<br>• Fixes synchronization and drawing problems in the X server for the PowerStorm 4D10T (ELSA Gloria Synergy, SN-PBXGK-BB) graphics card. |
| Patch 19.00<br>OSF445-014 | **Patch:** Fixes a problem with the find command<br>**State:** Existing<br>This patch fixes a problem with the find command where find fails to show file names that start with a period. |
| Patch 20.00<br>OSF445-015 | **Patch:** OS only looks in slot 0 for primary CPU<br>**State:** Existing<br>This patch fixes a problem where the operating system only looks in slot 0 for the primary CPU. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 24.00<br>OSF445-019 | **Patch:** Fixes a problem in ksh<br>**State:** Supersedes patch OSF445-011 (16.00)<br>This patch corrects the following:<br>• Fixes a problem in ksh. When the current working directory is / and the command cd .. is entered, the following error message is displayed:<br>ksh: ..: bad directory<br>• Fixes a problem in ksh in which a space after the -p option would cause the command to fail. |
| Patch 26.00<br>OSF445-021 | **Patch:** Fix for restore command failure<br>**State:** Existing<br>This patch fixes a problem in which the restore command can fail with the following error:<br>Cannot malloc space for property list |
| Patch 28.00<br>OSF445-024A | **Patch:** Adds missing prototype for stime function<br>**State:** Existing<br>This patch adds the missing prototype for the stime() function to <sys/time.h>, allowing C++ programs and other software to properly resolve it. |
| Patch 31.00<br>OSF445-028 | **Patch:** Fixes a tftpd problem<br>**State:** Existing<br>This patch fixes a tftpd problem when responding to a broadcast read request and it adds the -b option to control whether to respond to any broadcasts. |
| Patch 33.00<br>OSF445-003 | **Patch:** Panic when running Classical IP over lfa ATM driver<br>**State:** Existing<br>This patch fixes a kernel panic seen when running Classical IP over the lfa ATM driver. This panic would only occur in lockmode 4. If not in lockmode 4, the symptom would be a CPU hang. |
| Patch 34.00<br>OSF445-030 | **Patch:** Security (SSRT0636U)<br>**State:** Existing<br>A potential security vulnerability has been discovered where, under certain circumstances, system integrity may be compromised. This may be in the form of improper file or privilege management. Compaq has corrected this potential vulnerability. |
| Patch 37.00<br>OSF445-033 | **Patch:** quotactl prototype is now POSIX compliant<br>**State:** Existing<br>This patch changes the quotactl prototype in /usr/include/ufs/quota.h to meet POSIX standards. |
| Patch 39.00<br>OSF445-035 | **Patch:** Fixes problem with NetRAIN devices<br>**State:** Existing<br>This patch fixes a problem of NetRAIN devices failing to come up after the rcinet restart command is entered. |
| Patch 40.00<br>OSF445-036 | **Patch:** Corrects problem of invalid messages in daemon file<br>**State:** Existing<br>This patch prevents the "nfscast: select: Invalid argument" message from appearing in the daemon.log when the server is not available. It also changes the "trymany: servers not responding: RPC: Unable to receive" message to an informational versus an error message. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 42.00<br>OSF445-038 | **Patch:** Fixes vrestore problems<br>**State:** Existing<br>This patch corrects the following vrestore problems:<br>• A previous patch caused incomplete restores.<br>• A warning message is displayed when the path for the first file in a group of hardlinks is created without using original protection codes and property lists.<br>• A warning message is displayed and vrestore aborts if it fails to malloc space for a property list.<br>• A message which had been inserted at the end of the message file had the wrong message category (could cause messaging confusion).<br>• An uninitialized variable in the code that restores property lists could cause malloc failures, memory faults, "error setting extended attributes", and infinite loops when using the -l option.<br>• Corrupted property list information could cause an infinite loop. |
| Patch 43.00<br>OSF445-039 | **Patch:** Fixes a kernel memory fault<br>**State:** Existing<br>This patch fixes a kernel memory fault caused by either of the following conditions:<br>• On EV6 platforms, when the debugger is used to view the OT_DEVMAP object mapping memory in I/O space that is mapped to a user process.<br>• When routine pmap_coproc_exit_notify() modifies the pmaps' coproc_tbi function to be 0, a null pointer, while it is being checked by routine pmap_remove_all(). |
| Patch 46.00<br>OSF445-041 | **Patch:** Fix for if.h file<br>**State:** Existing<br>This patch fixes a typo found in the /usr/sys/include/if.h file. |
| Patch 47.00<br>OSF445-042 | **Patch:** Fixes problems in Compaq C compiler<br>**State:** Existing<br>This patch fixes the following problems in the Compaq C compiler:<br>• A “virtual memory exhausted” error when compiling the Open Source encryption library OpenSSL.<br>• An optimizer problem in loop unrolling that caused an incorrect result under certain conditions.<br>• Various compiler crashes under certain conditions. |
| Patch 48.00<br>OSF445-043 | **Patch:** Performance problem for round robin sequential reads<br>**State:** Existing<br>This patch fixes a performance problem for round robin sequential reads on LSM mirrored volumes. |
| Patch 50.00<br>OSF445-045 | **Patch:** Prevents vold from dumping core<br>**State:** Existing<br>This patch prevents /sbin/vold from dumping core during an execution of a volprint or other query command. |
| Patch 52.00<br>OSF445-047 | **Patch:** genvmunix does not boot on system with Atalla AXL200<br>**State:** Existing<br>This patch fixes a problem where genvmunix does not boot on a system with an Atalla AXL200 card installed. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 53.00<br>OSF445-048 | **Patch:** Fixes a kernel memory fault in procfs_get_s5_dir<br>**State:** Existing<br>This patch fixes a kernel memory fault in procfs_get_s5_dir. |
| Patch 56.00<br>OSF445-050 | **Patch:** Fixes panic when deleting a process group<br>**State:** Existing<br>This patch fixes a "lock_terminate: lock held" panic when deleting a process group. |
| Patch 58.00<br>OSF445-053 | **Patch:** Fixes problem with btcreate command<br>**State:** Existing<br>This patch fixes a problem with btcreate command where default restore fails if the disklabel is different. This patch also fixes a btextract character missing problem and extends the robot media changer sleep time for slower media changers. |
| Patch 59.00<br>OSF445-054 | **Patch:** Cursor is displayed incorrectly<br>**State:** Existing<br>This patch fixes a problem where the cursor is displayed incorrectly when the image plane is set to 1 and the mask plane is set to 0. |
| Patch 60.00<br>OSF445-055 | **Patch:** KMF when type of SCSI device dynamically changes<br>**State:** Existing<br>This patch fixes a problem when the type of SCSI device dynamically changes, which can result in a kernel memory fault or memory corruption panic. |
| Patch 61.00<br>OSF445-056 | **Patch:** Fixes a problem with the psiop driver<br>**State:** Existing<br>Fixes a problem with the psiop driver that causes it to fail when vdump is used. The following error is displayed:<br><br>vdump : unable to write to device |
| Patch 62.00<br>OSF445-057 | **Patch:** Provides latest driver for PowerStorm 4D10T card<br>**State:** Existing<br>This patch provides the latest driver for the PowerStorm 4D10T (ELSA Gloria Synergy, SN-PBXGK-BB) graphics card and the latest graphics driver for the PCI To Ethernet/Graphics Combo Adapter (3X-DEPVD-AA). |
| Patch 63.00<br>OSF445-059 | **Patch:** Fixes a hang in shutdown process of system<br>**State:** Existing<br>This patch fixes a hang in the system shutdown process ("shutdown now") when a device has flow control switched off. |
| Patch 64.00<br>OSF445-006 | **Patch:** Fixes a kernel memory fault when using ATM<br>**State:** Existing<br>This patch fixes a kernel memory fault when using ATM. |
| Patch 70.00<br>OSF445-067 | **Patch:** Fix for dbx problems<br>**State:** Existing<br>This patch fixes three problems in dbx:<br>• dbx stack trace is incomplete.<br>• Assignment to a variable would fail after viewing a non-local symbol.<br>• The use of vfork would raise a signal 66. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 73.00<br>OSF445-<br>OSF445-007 | **Patch:** Adds fix to VMAC functionality when used with NetRAIN<br>**State:** Supersedes patch OSF445-005 (55.00)<br>This patch corrects the following:<br>• Fixes a kernel memory fault in VMAC code if_addnewaddr().<br>• Adds a fix to VMAC functionality when used with NetRAIN. |
| Patch 76.00<br>OSF445-078 | **Patch:** Corrects problems with fgrep command<br>**State:** Supersedes patch OSF445-034 (38.00)<br>This patch corrects the following:<br>• Corrects a problem with the fgrep command; when it is used with the -s flag all output is suppressed.<br>• Fixes two problems with fgrep:<br>– The command fgrep -f searchlist causes the following error message when the searchlist is too long:<br>wordlist too large<br>In the test case it was 1500 entries.<br>– The command fgrep -f searchlist displays datafiles verbatim if the searchlist has blank lines. |
| Patch 77.00<br>OSF445-074 | **Patch:** Fixes SCSI problems<br>**State:** Supersedes patch OSF445-060 (65.00)<br>This patch fixes problems with:<br>• Continuous resets when an I/O command is causing the resets<br>• Read capacity recovery failure<br>• Bad block replacement (BBR) processing<br>• A simple lock panic |
| Patch 80.00<br>OSF445-071 | **Patch:** Fix for memx command<br>**State:** Existing<br>This patch fixes a problem with the memx command where it improperly handles memory sizes of 2 GB or greater. |
| Patch 84.00<br>OSF445X11-003B | **Patch:** Static library fix for libDXm<br>**State:** Existing<br>This patch fixes a problem in which the svn widget of libDXm.so creates identical backgrounds and foregrounds. |
| Patch 85.00<br>OSF445X11-005B | **Patch:** Fix for X server interaction with X font server<br>**State:** Existing<br>This patch fixes various problems with the X font server and with the X server's interaction with X font servers. |
| Patch 87.00<br>OSF445-024B | **Patch:** C++ functions do not properly resolve stime function<br>**State:** Existing<br>This patch adds the missing prototype for the stime() function to <sys/time.h>, allowing C++ programs and other software to properly resolve it. |
| Patch 90.00<br>OSF445-087 | **Patch:** Corrects problems in the lat driver<br>**State:** New<br>This patch corrects problems in the lat driver which caused improper processing of the ioctl TCSBRK, as well as the generation of spurious characters when the libc routine tcdrain() was used. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 93.00<br>OSF445-108 | **Patch:** Fix for applications that return zero-filled memory<br>**State:** Supersedes patches OSF445-001 (14.00), OSF445-023 (81.00), OSF445-025 (29.00), OSF445-031 (35.00), OSF445-112A (91.00)<br>This patch corrects the following:<br>• Adds a NULL to the resulting string output of swprintf() calls.<br>• Fixes a problem in libc that affects debugger tracebacks of code containing split procedures.<br>• Fixes a problem where gmtime() was erroneously setting the tzname[0] array.<br>• Increases the length of the user names for rsh and rexec to allow for NT interoperabilty.<br>• Addresses performance and scalability issues for highly contended threaded applications running on EV6 SMP machines.<br>• Fixes a problem for those applications that assume that initial allocations of memory from the C run-time library's malloc() function will return only zero-filled memory. |
| Patch 95.00<br>OSF445-112B | **Patch:** Addresses performance and scalability issues<br>**State:** New<br>This patch addresses performance and scalability issues for highly contended threaded applications running on EV6 SMP machines. |
| Patch 97.00<br>OSF445-118 | **Patch:** Assembler generates incorrect error messages<br>**State:** Supersedes patch OSF445-044 (49.00)<br>This patch corrects the following:<br>• Resolves a problem that caused the assembler to flag any identifiers whose length exceeded 1024 characters with an assembly-time error. With this patch, such identifiers are now accepted.<br>• Corrects a problem whereby the assembler would generate incorrect error messages for source programs, which produces a mix of hand-coded and assembler-generated relocation operands. |
| Patch 99.00<br>OSF445-089 | **Patch:** Fix for mailx<br>**State:** New<br>This patch corrects the problem so mailx(1) will work correctly if the -r and -s flags are used together. |
| Patch 101.00<br>OSF445CDE-004A | **Patch:** Desktop applications fail if CDE is not initialized<br>**State:** Supersedes patch OSF445CDE-001A (1.00)<br>This patch corrects the following:<br>• Fixes a problem in which dtfile ICDE COSE tool does not work when TMPDIR is defined as /ldata/disk_local/tmp. The dtfile tool returns the following error:<br>/ldata/disk_local/tmp/sdtdbcache_AAAaadmma: Cross-device link<br>/ldata/disk_local/tmp/sdtdbcache_BAAaadmma: Cross-device link<br>Floating exception (core dumped)<br>• Fixes a problem with the Common Desktop Environment (CDE) in which some desktop applications will fail if CDE is not initialized. The error which appears in the users home .dt/errorlog file is as follows:<br>Desktop Not Initialized: Could not createAction/Datatypes database. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 103.00<br>OSF445CDE-004B | **Patch:** Fix for Desktop Not Initialized error<br>**State:** Supersedes patch OSF445CDE-001B (83.00)<br>This patch corrects the following:<br>• Fixes a problem in which dtfile ICDE COSE tool does not work when TMPDIR is defined as /ldata/disk_local/tmp. The dtfile tool returns the following error:<br>/ldata/disk_local/tmp/sdtdbcache_AAAaadmma: Cross-device link<br>/ldata/disk_local/tmp/sdtdbcache_BAAaadmma: Cross-device link<br>Floating exception (core dumped)<br>• Fixes a problem with the Common Desktop Environment (CDE) in which some desktop applications will fail if CDE is not initialized. The error which appears in the users home .dt/errorlog file is as follows:<br>Desktop Not Initialized: Could not createAction/Datatypes database. |
| Patch 105.00<br>OSF445-098 | **Patch:** Prevents not currently mounted warning messages<br>**State:** New<br>This patch prevents "not currently mounted" warning messages from being displayed for filesystems the user did not request to umount. |
| Patch 107.00<br>OSF445-076 | **Patch:** Fixes a hang in biodone<br>**State:** Supersedes patches OSF445-013 (18.00), OSF445-029 (32.00), OSF445-037 (41.00), OSF445-052 (57.00)<br>This patch corrects the following:<br>• Fixes a problem where a root user was not allowed to check file access on behalf of a user without completely becoming the user. The functionality is needed by the ASU (Advanced Server for UNIX) product.<br>• Fixes a simple_lock time limit exceeded panic due to an SMP race condition in namecache.<br>• Fixes a race condition in the UBC code where a lookup is done on a page being invalidated (freed).<br>• Includes UFS delayed metadata mount option that fixes metadata intensive application performance. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 110.00<br>OSF445-095 | **Patch:** Fix for kernel memory fault<br>**State:** Supersedes patches OSF445-010 (15.00), OSF445-016 (21.00), OSF445-017 (22.00), OSF445-026 (30.00), OSF445-004 (44.00), OSF445-049 (54.00), OSF445-062 (66.00), OSF445-064 (68.00), OSF445-066 (69.00), OSF445-101 (108.00)<br>This patch corrects the following:<br>• Fixes a problem where the following can occur during a system panic<br>– System calls interrupts<br>– mpsleep() returns an EINTR error when the panicstr is non-NULL<br>– An infinite looping at a very high priority<br>• Fixes a bug such that when fuser -k is issued on a dismounted NFS mount point in which some process is running, a hang will occur.<br>• Fixes a problem in which operations on NFS files can hang indefinitely.<br>• Fixes a problem that causes corruption in the floating point registers whereby the flag fields nxm_fp_owned are overwritten with 0s.<br>• Fixes a problem where, if the size of the message queue was increased, writers to the queue that were blocked would not wake up for processing.<br>• Fixes a system panic with panic string:<br>psig: catch not set<br>• Fixes a problem where the system appears to hang. A child process is holding a lock too long and preventing other processes from doing work.<br>• Fixes a problem in which the POSIX interval timer is not resilent to clock slowdown caused either by NTP or by a backwards change of the clock.<br>• Fixes a kernel memory fault seen under certain conditions when setting a thread's priority.<br>• There is a potential for a system panic in routine sbflush() if there is an attempt to flush a socket buffer while it is locked by another thread. This patch corrects the problem.<br>• This patch fixes two panics that have the following error messages:<br>simple_lock: time limit exceeded<br>simple_lock: lock already owned by cpu |
| Patch 112.00<br>OSF445-091 | **Patch:** IDE devices may cause the system to panic or hang<br>**State:** New<br>This patch corrects recognition problems with some models of IDE CD-ROM devices and removable disk devices during system startup. Some IDE devices may cause the system to hang or panic during startup and others may not be recognized. |
| Patch 114.00<br>OSF445-106 | **Patch:** Prevents a possible NFS over TCP hang<br>**State:** New<br>This patch prevents a possible NFS over TCP hang. NFS TCP threads will be blocked in sosbwait() causing the system to appear to hang. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 116.00<br>OSF445-094 | **Patch:** Fix for tar command<br>**State:** New<br>This patch fixes a problem with the tar command. Corruption occurs when restoring a file system that contains more than two hard links to a file. |
| Patch 118.00<br>OSF445X11-009A | **Patch:** Fixes a memory leak in Xt<br>**State:** New<br>This patch fixes a memory leak in the X Window System's X Toolkit library (Xt) that could occur when creating and destroying Motif List, Text, and TextField widgets. |
| Patch 120.00<br>OSF445X11-009B | **Patch:** Memory leak when creating and destroying widgets<br>**State:** New<br>This patch fixes a memory leak in the X Window System's X Toolkit library (Xt) that could occur when creating and destroying Motif List, Text, and TextField widgets. |
| Patch 122.00<br>OSF445-107 | **Patch:** Upgrades sys_check utility to version 119.1<br>**State:** New<br>This patch upgrades sys_check utility to version 119 and provides the following changes:<br>• Fixes the ra200info tool from core dumping.<br>• Utilizes Compaq Analyze when available.<br>• Utilizes storage's new cliscript tool in place of hszterm.<br>• Updates ASU section.<br>• Fixes two NFS problems. |
| Patch 124.00<br>OSF445-117 | **Patch:** Build failure on AlphaServer DS20 and ES40 systems<br>**State:** New<br>This patch fixes a problem that caused a kernel build failure when installing or deleting dupatch. This problem occurred on Compaq AlphaServer DS20 and ES40 systems. |
| Patch 126.00<br>OSF445X11-008A | **Patch:** Memory leak occurs in Xlib<br>**State:** Supersedes patch OSF445X11-002 (8.00)<br>This patch corrects the following:<br>• Fixes a problem in which some 8-bit characters cannot be entered directly from the keyboard when the Caps Lock setting is on.<br>• Fixes two memory leaks in the X Window System's X library (Xlib) that can occur when creating and destroying Motif List, Text, and TextField widgets. |
| Patch 128.00<br>OSF445X11-008B | **Patch:** Fix for X Window library memory leak<br>**State:** New<br>This patch fixes two memory leaks in the X Window System's X library (Xlib) that can occur when creating and destroying Motif List, Text, and TextField widgets. |
| Patch 132.00<br>OSF445CDE-006 | **Patch:** dtlogin core dumps servicing srequests from XDMCP<br>**State:** New<br>This patch fixes a problem where the Common Desktop Environment (CDE) login daemon, dtlogin, core dumps occasionally when servicing requests from XDMCP clients such as X terminals or PCs running X servers. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 135.00<br>OSF445-099 | **Patch:** ATM LAN emulation fails using ATM Meteor 351 board<br>**State:** New. Supersedes patches OSF445-097 (133.00)<br>This patch corrects the following:<br>• When running ATM LAN Emulation, using more than four ATM NetRAIN interfaces can result in recursive calls, causing a "kernel stack not valid" halt.<br>• Fixes a problem of ATM LAN emulation failing to come up when using the ATM Meteor 351 board. |
| Patch 137.00<br>OSF445-081 | **Patch:** Fix for itpsa driver negotiating for ULTRA2 speed<br>**State:** New<br>This patch fixes the itpsa driver negotiating for ULTRA2 speed, although the SCSI bus is single-ended. |
| Patch 140.00<br>OSF445-115 | **Patch:** Printer fixes<br>**State:** Supersedes patches OSF445-072 (79.00), OSF445-082 (138.00)<br>This patch corrects the following:<br>• Fixes a printing problem where lpd reads any data from the printer that has not been read, for local and remote connections. The read-backs for remote connections cause an additional two second timeout which may cause a job-submit failure on the job-number wrap-around.<br>• A user is unable to delete a print job from a remote system with a hostname greater than 32 characters because the hostname was truncated.<br>• When a TCP/IP connection fails, the retry algorithm would take longer to print jobs due to a long retry interval.<br>• A timing hole during lpd last-job completion and shutdown needed to be closed.<br>• It was not possible to print to the lpd queue using Windows 2000.<br>• Corrects a problem in which, under certain conditions, unnecessary error messages are written to the lpr.log file. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 145.00<br>OSF445-058A | **Patch:** NFS writes cause protocol violations<br>**State:** Supersedes patches OSF445-069 (72.00), OSF445-008 (74.00), OSF445-065 (141.00), OSF445-075 (142.00), OSF445-002 (143.00)<br>This patch corrects the following:<br>• Fixes a problem where the following can occur during a system panic:<br>– System calls interrupts.<br>– mpsleep() returns an EINTR error when the panicstr is non-NULL.<br>– An infinite loop at a very high priority.<br>• Fixes a bug that occurs when fuser -k is issued on a dismounted NFS mount point in which some process is running, a hang will occur.<br>• Fixes a problem in which operations on NFS files can hang indefinitely.<br>• Fixes a problem that causes corruption in the floating point registers whereby the flag fields nxm_fp_owned are overwritten with 0s.<br>• Fixes a problem where, if the size of the message queue was increased, writers to the queue that were blocked would not wake up for processing.<br>• Fixes a system panic with panic string:<br>psig: catch not set<br>• Fixes a problem where the system appears to hang. A child process is holding a lock too long and preventing other processes from doing work.<br>• Fixes a problem in which the POSIX interval timer is not resilent to clock slowdown caused either by NTP or by a backwards change of the clock.<br>• Fixes a kernel memory fault seen under certain conditions when setting a thread's priority.<br>• There is a potential for a system panic in routine sbflush() if there is an attempt to flush a socket buffer while it is locked by another thread. This patch corrects the problem.<br>• This patch fixes two panics that have the following error messages:<br>simple_lock: time limit exceeded<br>simple_lock: lock already owned by cpu<br>• Corrects a problem with the incorrect ordering of network interfaces which was resulting in network partitions.<br>• Fixes a panic associated with ASE service failover.<br>• Fixes a panic in in_pcbfree() when NFS is implemented over TCP.<br>• Fixes a problem with relocating an TCR/ASE NFS service when one or many clients have the service mounted over TCP.<br>• Coding change to ip_insertoptions() to correct excessive execution time in routine in_cksum due to invalid message length.<br>• Fixes reply values for NFS writes which were causing protocol violations. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 147.00<br>OSF445-058B | **Patch:** Fixes reply values for NFS writes<br>**State:** New<br>This patch fixes reply values for NFS writes which were causing protocol violations. |
| Patch 149.00<br>OSF445-090 | **Patch:** vdump stores symbolic link files as directories<br>**State:** New<br>This patch fixes a problem where the vdump command will sometimes store symbolic link files as directories in the vdump archive. |
| Patch 151.00<br>OSF445-114 | **Patch:** Fix for collect command<br>**State:** New<br>This patch fixes several problems with the collect command, and it adds sysloging when collect suspends, resumes, or receives a signal. |
| Patch 153.00<br>OSF445X11-010A | **Patch:** Fix for libXm memory leak<br>**State:** New<br>This patch fixes various memory leaks in the Motif library (libXm) that could occur when creating and destroying Motif List, Text, and TextField widgets. |
| Patch 155.00<br>OSF445X11-010B | **Patch:** Memory leak occurs in Motif library<br>**State:** New<br>This patch fixes various memory leaks in the Motif library (libXm) that could occur when creating and destroying Motif List, Text, and TextField widgets. |
| Patch 157.00<br>OSF445-105 | **Patch:** Bootlink fails on Alphastations 600, 600A, 500/400<br>**State:** New<br>This patch fixes a problem in which the bootlink can fail on Alphastations 600, 600A, 500/400. |
| Patch 159.00<br>OSF445DX-004 | **Patch:** Fixes incorrect date and time stamp on new directory<br>**State:** Supersedes patches OSF445DX-001 (4.00), OSF445DX-002 (5.00), OSF445DX-003 (6.00)<br>This patch corrects the following:<br>• Fixes a problem in which the dxaccounts application does not allow users to be added to groups with Group ID lower than the default minimum specified in the General Options dialog.<br>• Fixes the following cli/dxaccounts problems:<br>– The error message displayed when the Account Manager fails to start due to the detection of an Account Manager lock file (/etc/.AM_is_running) is not clear.<br>– The command uermod -D does not display the Expire date when it is set.<br>– Enabling to change root's login/uid through cli/dxaccounts utilities.<br>• Fixes a problem in which dxaccounts does not allow the system manager to add NIS users when the system is running enhanced security.<br>• Fixes a problem where the new home directory for a new user ID is created with the date and time stamp of the /usr/skel directory. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

| | |
|---|---|
| Patch 161.00<br>OSF445-088 | **Patch:** Fix for bcache problem<br>**State:** Supersedes patch OSF445-018 (23.00)<br>This patch corrects the following:<br>• Corrects a problem in which the perrmask register on Tsunami systems can be overwritten.<br>• Fixes a problem that caused an incorrect bcache size to be returned to the kernel from the HWRPB. This problem occurred on Professional Workstation 900 and 1000 systems and AlphaServer DS10, DS20, DS20E, ES40, GS80, GS160, and GS320 systems. |
| Patch 164.00<br>OSF445-093A | **Patch:** Maximum Login Interval field ignored<br>**State:** New. Supersedes patches OSF445-022A (27.00), OSF445-032A (36.00), OSF445-084A (162.00)<br>This patch corrects the following:<br>• Corrects a problem of the rsh command displaying a warning message instead of the rsh command output when C2 security is configured.<br>• Fixes a problem with logins in a DCE/C2 environment. The user could encounter an error "Bad priority setting" if there is a u_priority setting used in /etc/auth/system/default file.<br>• Fixes a problem when a system is configured with DECnet, C2, and NIS. When invoking edauth(8) <user_name>, the error “Must be on NIS master server to update entry for <user_name>” is returned.<br>• Fixes a problem for Enhanced Security configurations, where the Maximum Login Interval (u_max_login_intvl) field was being ignored for account templates. |
| Patch 167.00<br>OSF445-093B | **Patch:** Fix for Enhanced Security problem<br>**State:** Supersedes patches OSF445-022B (86.00), OSF445-032B (88.00), OSF445-084B (165.00)<br>This patch corrects the following:<br>• Corrects a problem of the rsh command displaying a warning message instead of the rsh command output when C2 security is configured.<br>• Fixes a problem with logins in a DCE/C2 environment. The user could encounter an error "Bad priority setting" if there is a u_priority setting used in the /etc/auth/system/default file.<br>• Fixes a problem when a system is configured with DECnet, C2 and NIS. When invoking edauth(8) <user_name>, the error “Must be on NIS master server to update entry for <user_name>” is returned.<br>• Fixes a problem for Enhanced Security configurations, where the Maximum Login Interval (u_max_login_intvl) field was being ignored for account templates. |
| Patch 169.00<br>OSF445-061 | **Patch:** Fixes a problem with advscan<br>**State:** New<br>This patch fixes a problem where advscan -a -g does not display bootable partitions properly. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

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|---|---|
| Patch 172.00<br>OSF445-096 | **Patch:** Fix for mv command<br>**State:** New. Supersedes patches OSF445-020 (25.00), OSF445-104 (170.00)<br>This patch corrects the following problems with the mv command:<br>• An invalid error message when attempting to move files in which the source name is the same as the destination name.<br>• When using mv -i to rename a symlink pointing to a file on a different filesystem owned by a different user, this results in the prompt:<br>Ownership of y will change. Continue?<br>• When moving a file from one file system to another, the mv command will copy the file rather than using the rename() system call, which can result in file loss.<br>• Corrects the problem with the mv(1) command deleting files in the directory when the user moves a directory to itself. |
| Patch 174.00<br>OSF445-051 | **Patch:** Fix for salvage utility<br>**State:** New<br>This patch corrects the following problems:<br>• Fixes two infinite loops that could make salvage run forever.<br>• Removes garbage characters from symlink recovery in salvage. |
| Patch 176.00<br>OSF445-083 | **Patch:** Fixes a problem with AdvFS<br>**State:** Supersedes patches OSF445-012 (17.00), OSF445-040 (45.00), OSF445-068 (71.00), OSF445-073 (78.00), OSF445-079 (75.00)<br>This patch corrects the following:<br>• Fixes a problem with verify. When verify is run on a brand new domain, NFS warnings are displayed even though no NFS related activity is being done.<br>• Fixes a system hang that could last up to a few minutes with large files when performing synchronous IO requests and a flushing loop.<br>• Fixes a problem where, in the output of a ps command, the PAGEIN column reports 0 for all processes.<br>• Patch turns off AdvFS assert which, when turned on, a performance degradation in AdvFS occurs.<br>• A kernel memory fault can occur on an smp machine when one thread is extending a clone frags file and another thread does a stat system call on a file with a frag.<br>• Fixes a problem with AdvFS. An AdvFS domain becomes inaccessible when using the mount -d option. |
| Patch 178.00<br>OSF445-102 | **Patch:** Fix for what command<br>**State:** New<br>This patch fixes a problem in the what command, where it was unable to process more than one input file at once. |
| Patch 180.00<br>OSF445CDE-005 | **Patch:** Fixes a dtmail problem<br>**State:** New<br>This patch fixes a dtmail problem in which a From line with quotes in it incorrectly finds the date of the mail message. This error is displayed on the main screen under the header Date and Time and shows up as Dec. 31 or as a blank field. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

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|---|---|
| Patch 182.00<br>OSF445-086 | **Patch:** Incorrect encoding for SysV Open call audit parameter<br>**State:** New<br>This patch fixes a problem where encoding for the SysV Open call audit parameter was incorrect. This could cause a system panic. |
| Patch 184.00<br>OSF445CDE-007 | **Patch:** dtwm hangs on system with multiple displays<br>**State:** New<br>This patch fixes a problem in which the Window Manager (dtwm) intermittently hangs on a system which uses multiple displays. |
| Patch 186.00<br>OSF445-085 | **Patch:** Fix for cron problems<br>**State:** Supersedes patch OSF445-046 (51.00)<br>This patch corrects the following:<br>• Fixes a problem where some crontab jobs would run multiple times in the same minute.<br>• The cron daemon does intensive logging and fills up the disk.<br>• Multiple cron daemons continue to run and consume system resources due to the fact that, after a user is deleted from the system, there are still jobs running on the user's behalf. |
| Patch 188.00<br>OSF445-092 | **Patch:** Fixes several problems in the tapex utility<br>**State:** New<br>This patch fixes the following problems:<br>• Accuracy of performance tests has been improved.<br>• The tapex exit status has been corrected.<br>• The tapex utility was fixed to determine eom status in Command Timeout Test and exit with non-0 status to indicate failure. |
| Patch 190.00<br>OSF445DX-005 | **Patch:** Fix for diskconfig startup error message<br>**State:** New<br>This patch fixes a problem that was causing diskconfig to issue the error message "can't read tminor: no such variable" upon startup. |
| Patch 194.00<br>OSF445X11-011 | **Patch:** Xserver support for OXYGEN VX1 PCI card<br>**State:** New<br>This patch provides the Xserver library for the new 3DLabs OXYGEN VX1 PCI graphics card. |
| Patch 196.00<br>OSF445-135 | **Patch:** Fix for floppy disk<br>**State:** New<br>Compaq has determined in laboratory testing that there is a theoretical possibility that during read and write operations to the floppy disk on DS10, DS10L and ES40 AlphaServers and VS10 and XP900 AlphaStations, a single byte of data may be inaccurately read or written without notice to the user or system. The potential for this anomaly exists only if floppy data read and write operations are attempted while there is extremely heavy traffic on these Alpha systems' internal input/output busses. Although Compaq has observed the anomaly only in laboratory tests designed to create atypical system stresses, including almost constant use of the floppy disk drive, we are supplying this patch to address this potential issue. |

**Table 2–2: Summary of Base Operating System Patches (cont.)**

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|---|---|
| Patch 199.00<br>OSF445-127 | **Patch:** Provides enhancements for GS-series platforms<br>**State:** Supersedes patches OSF445-080 (82.00), OSF445-129 (197.00)<br>This patch corrects the following:<br>• Provides enhancements for the GS-series platforms. The header information in Hierarchical Switch machine checks was incorrect. The early revisions of PCA hardware do not allow Window 3 DAC for DMA.<br>• Fixes a problem on AlphaServer GS80, GS160, and GS320 systems where under specific set of unlikely circumstances it is possible for revision 4 PCA hardware to falsely report PCI hung bus errors. This will cause a uncorrectable hardware machine check and operating system panic. This patch must be installed if the hardware configuration includes any revision 4 PCA (IOP to PCI bus) adpaters.<br>• Fixes a problem on the Alphaserver GS80, GS160, and GS320 platforms where the system will issue an environmental warning and shut itself down when it reaches a critical temperature, even though this temperature is safe for the power supply. |
| Patch 201.00<br>OSF445-109 | **Patch:** Driver support for OXYGEN VX1 PCI card<br>**State:** Supersedes patches OSF445-063 (67.00), OSF445-111 (130.00), OSF445-113 (192.00)<br>This patch corrects the following:<br>• Updates the emx Fiber Channel driver to Revision 1.22, correcting a successive command timeout problem. This error would cause degraded performance.<br>• This patch fixes the following DE600/DE602 10/100 Ethernet adapters problems:<br>– The primary CPU may appear hung on networks where switches send "Flow Control Pause" frames if they become overloaded.<br>– Transmit timeout messages appear in the console log due to the driver timing out a frame.<br>• Provides the device driver support for 3DLabs Oxygen VX1 graphics adapter.<br>• Provides support for the DEGPA-TA (1000BaseT) Gigabit Ethernet device. |

# 3

# Summary of TruCluster Software Patches

This chapter summarizes the TruCluster software patches included in Patch Kit-0002.

Table 3–1 lists patches that have been updated.

Table 3–2 provides a summary of patches..

**Table 3–1: Updated TruCluster Software Patches**

| Patch IDs | Change Summary |
|---|---|
| Patches 67.00, 72.00, 76.00 | New |
| Patches 2.00, 9.00, 10.00, 5.00, 13.00, 16.00, 17.00, 14.00, 29.00, 31.00, 38.00, 39.00, 47.00, 21.00, 49.00, 32.00, 43.00, 27.00, 48.00, 52.00, 53.00, 54.00, 55.00, 56.00, 57.00 | Superseded by Patch 59.00 |
| Patches 22.00, 23.00, 24.00, 25.00, 50.00, 51.00 | Superseded by Patch 61.00 |
| Patches 20.00, 46.00 | Superseded by Patch 63.00 |
| Patch 3.00 | Superseded byPatch 65.00 |
| Patches 11.00, 19.00, 26.00, 68.00 | Superseded by Patch 70.00 |
| Patches 41.00, 44.00, 45.00 | Superseded by Patch 74.00 |

**Table 3–2: Summary of TruCluster Patches**

| Patch IDs | Abstract |
|---|---|
| Patch 4.00<br>TCR160-004 | **Patch:** Fix for Kernel Memory Fault On DRD Client Nodes<br>**State:** Existing<br>This patch fixes a kernel memory fault on the DRD client nodes just as or after the DRD server node has initiated MC2 hub failover. |
| Patch 7.00<br>TCR160-010 | **Patch:** Fix for Reliable Datagram API<br>**State:** Supersedes patch TCR160-001 (1.00)<br>This patch corrects the following:<br>• Reliable Datagram (RDG) messaging support.<br>• RDG: bug fix to the completion queue synchronization protocol. |
| Patch 8.00<br>TCR160-011 | **Patch:** doconfig may hang when running in TruCluster environment<br>**State:** Existing<br>This patch fixes two problems that could cause doconfig to appear to hang when running in a TruCluster environment. |
| Patch 12.00<br>TCR160-018 | **Patch:** Fixes problem with Networker displaying characters<br>**State:** Existing<br>This patch corrects a problem with Networker displaying garbage characters following service names. It occurs when the service name is 8 characters or greater. |
| Patch 30.00<br>TCR160-034 | **Patch:** Fix for boot failure on a cluster<br>**State:** Existing<br>This patch fixes a problem which caused a boot failure on a cluster with a large number of shared SCSI buses. |

**Table 3–2: Summary of TruCluster Patches (cont.)**

| | |
|---|---|
| Patch 33.00<br>TCR160-037 | **Patch:** Fix for drdadmin problems<br>**State:** Existing<br>This patch fixes various problems with drdadmin to be user friendly. |
| Patch 34.00<br>TCR160-038 | **Patch:** Fixes a limitation in ase_reconfig_bus<br>**State:** Existing<br>This patch fixes a limitation in ase_reconfig_bus. Now up to 99 buses can be reconfigured with this command. |
| Patch 35.00<br>TCR160-039 | **Patch:** LSM disk information not updated in ASE database<br>**State:** Supersedes patch TCR160-030 (28.00)<br>This patch corrects the following:<br>• Fixes a problem that would cause an error from awk(1) when modifying an ASE service that contained a large number of LSM volumes. The error would prevent the service from being properly modified.<br>• Fixes a problem where LSM disk information was not properly updated in the ASE database when volumes were removed from a disk service. |
| Patch 36.00<br>TCR160-040 | **Patch:** Fix for asedirector hang<br>**State:** Existing<br>This patch fixes a problem that could cause an NFS or Disk Service that has a hyphen (-) in the service name to end up unassigned after a disk failure. A side effect of the problem was that the asedirector would hang after the disk failure was corrected. |
| Patch 37.00<br>TCR160-041 | **Patch:** clu_ivp does not recognize Emulex adapter<br>**State:** Existing<br>This patch fixes a problem where the Emulex Fibre Channel adapter was not recognized by clu_ivp. |
| Patch 42.00<br>TCR160-046 | **Patch:** Processes may get referenced several times<br>**State:** Supersedes patches TCR160-008 (6.00), TCR160-023 (15.00), TCR160-044 (40.00)<br>This patch corrects the following:<br>• Fixes a problem in which a cluster node can panic with the panic string "convert_lock: bad lock state".<br>• Corrects a problem in which a failure in the session layer can cause DLM messages to become corrupt resulting in random DLM panic on the receiving member.<br>• Fixes a problem that can cause a TruCluster member to panic during shutdown.<br>• Fixes a bug where sometimes a certain shared sequence number will not be freed after use. It also fixes a problem where certain processes could get referenced several times. |

**Table 3–2: Summary of TruCluster Patches (cont.)**

| | |
|---|---|
| Patch 59.00<br>TCR160-059 | **Patch:** Fixes a problem that causes asedirector to core dump<br>**State:** Supersedes patches TCR160-002 (2.00), TCR160-009A (9.00), TCR160-016 (10.00), TCR160-007 (5.00), TCR160-021A (13.00), TCR160-024 (16.00), TCR160-025 (17.00), TCR160-022A (14.00), TCR160-033 (29.00), TCR160-035 (31.00), TCR160-042 (38.00), TCR160-043 (39.00), TCR160-051 (47.00), TCR160-031A (21.00), TCR160-053 (49.00), TCR160-036A (32.00), TCR160-047A (43.00), TCR160-028 (27.00), TCR160-052 (48.00), TCR160-065 (52.00), TCR160-066 (53.00), TCR160-058 (54.00), TCR160-060 (55.00), TCR160-054A (56.00), TCR160-057 (57.00)<br>This patch corrects the following<br>• Fixes two problems in the asedirector:<br>– An ASE command timeout problem encountered by large ASE services.<br>– An incorrect decision made by the asedirector as a result of a failed inquire services command.<br>• This is a performance improvement in the startup of start scripts. It will reduce the necessary system calls to start the scripts.<br>• Fixes a problem where the Host Status Monitor (asehsm) incorrectly reports a network down (HSM_NI_STATUS DOWN) if the counters for the network interface get zeroed.<br>• Fixes an ASE problem where, under certain circumstances, the service scripts could cause the ASE agent to loop during a start or stop service.<br>• Corrects a problem with member add in a large environment.<br>• Corrects a problem with TruCluster Available Server or Production Server cluster in which services have been started with elevated priority and scheduling algorithm. Under significant load this could lead to intermittent network and cluster problems.<br>• Fixes a problem which caused a service not to start when there was a short network failure. This was seen only with long running stop scripts and special network configurations.<br>• Corrects a problem which causes asemgr to core dump when modifying a single drd service to add more than 200 devices.<br>• Fixes a problem that caused aseagent or asehsm to core dump when starting NFS and Disk Services that contain several LSM volumes.<br>• Fixes a problem where the asemgr will hang as it continuously create and kill multiple directors.<br>• Corrects a problem that causes the ASE director to core dump during initialization.<br>• Corrects a problem where modifying a service with a large number of DRDs will fail and a "could not malloc" message is seen in the daemon.log file.<br>• Fixes a problem where the MEMBER_STATE variable always is shown as BOOTING instead of RUNNING. After first installing TCR, there is no way to have scripts know the MEMBER_STATE. This problem is cleared on a reboot.<br>• Corrects a problem in which a network cable failure that corrects within 7 seconds of the failure can leave the services in a bad state.<br>• Fixes a problem that caused the asemgr to get a memory fault when adding multiple services in a row.<br>• Fixes a problem with extraneous compiler warnings about strdup() function calls from ASE. |

**Table 3–2: Summary of TruCluster Patches (cont.)**

| | |
|---|---|
| Patch 59.00 continued | • Fixes a problem that caused the asemgr utility to not run when called from a program that is owned by root and has the setuid bit turned on.<br>• Fixes a problem that can cause the Cluster MIB daemon (cnxmibd) to core dump in Available Server environments.<br>• Fixes a problem which caused an error message to be logged for the cnxmibd even though no error had occurred.<br>• Fixes two issues with clusters:<br>– When a cluster is brought up with ASE off, other members report it as UP and RUNNING instead of UP and UNKNOWN.<br>– When a restricted service is running on a member, and asemember stop or aseam stop is executed, the service status is still reported as the member name, instead of Unassigned.<br>• Fixes a problem where timeout values of greater than 30 seconds in /etc/hsm.conf would cause ASE agent to fail at start up.<br>• Fixes a bug where the aseagent will occasionally core dump on a SCSI bus hang.<br>• Fixes a problem that caused the asemgr to report the wrong status for a service.<br>• This patch fixes the following problems with the clu_ivp script:<br>The script now checks to be sure that the cluster members are listed in the /etc/hosts file, and it no longer copies /var/adm/messages to /tmp. Copying the messages file to /tmp could result in the filesystem becoming full, and clu_ivp exiting with an error. The clu_ivp script now also checks the /var/adm/messages file for shared busses if none are listed in the configuration file.<br>• Fixes a problem that could cause the asedirector to core dump.<br>• Fixes a problem that caused the asemgr to report that a disk, or mount point, was in multiple services when modifying a service name. |

**Table 3–2: Summary of TruCluster Patches (cont.)**

| | |
|---|---|
| Patch 61.00<br>TCR160-054B | **Patch:** Fixes problems with the clu_ivp script<br>**State:** TCR160-009B (22.00), TCR160-021B (23.00), TCR160-022B (24.00), TCR160-031B (25.00), TCR160-036B (50.00), TCR160-047B (51.00)<br>This patch corrects the following:<br>• This is a performance improvement in the startup of start scripts. It will reduce the necessary system calls to start the scripts.<br>• Corrects a problem with member add in a large environment.<br>• Corrects a problem which causes asemgr to core dump when modifying a single drd service to add more than 200 devices.<br>• Fixes a problem that caused aseagent or asehsm to core dump when starting NFS and Disk Services that contain several LSM volumes.<br>• Fixes a problem with extraneous compiler warnings about strdup() function calls from ASE.<br>• Fixes a problem that caused the asemgr utility to not run when called from a program that is owned by root and has the setuid bit turned on.<br>• This patch fixes the following problems with the clu_ivp script:<br>The script now checks to be sure that the cluster members are listed in the /etc/hosts file, and it no longer copies /var/adm/messages to /tmp. Copying the messages file to /tmp could result in the filesystem becoming full, and clu_ivp exiting with an error. The clu_ivp script now also checks the /var/adm/messages file for shared busses if none are listed in the configuration file. |
| Patch 63.00<br>TCR160-064 | **Patch:** Node crashes when holding an mc-api lock<br>**State:** Supersedes patches TCR160-029 (20.00), TCR160-050 (46.00)<br>This patch corrects the following:<br>• Fixes a hang problem in a cluster when two nodes communicate using the mc-api and a third node, not involved in the calculation, is rebooted.<br>• Fixes a problem that can cause a panic in mcs_wait_cluster_event() when using the Memory Channel API.<br>• Fixes a problem with the Memory Channel API whereby a node crashes holding an mc-api lock. Under certain circumstances the lock will not be released after the node crashes. |
| Patch 65.00<br>TCR160-063 | **Patch:** Unable to remove LSM volumes from DRD service<br>**State:** Supersedes patch TCR160-003 (3.00)<br>This patch corrects the following:<br>• Fixes a problem where DRD permissions could be lost if a service is modified more than once.<br>• Fixes a problem that prevented the removal of LSM volumes from a DRD service. The problem occurs when there are multiple LSM diskgroups in the service, and all of the volumes from one diskgroup were removed. |

**Table 3–2: Summary of TruCluster Patches (cont.)**

| | |
|---|---|
| Patch 67.00<br>TCR160-054C | **Patch:** clu_ivp script enhancements<br>**State:** New<br>This patch fixes the following problems with the clu_ivp script:<br>The script now checks to be sure that the cluster members are listed in the /etc/hosts file, and it no longer copies /var/adm/messages to /tmp. Copying the messages file to /tmp could result in the filesystem becoming full, and clu_ivp exiting with an error. The clu_ivp script now also checks the /var/adm/messages file for shared busses if none are listed in the con- figuration file. |
| Patch 70.00<br>TCR160-056 | **Patch:** TruCluster Production server hangs during boot<br>**State:** Supersedes patches TCR160-017 (11.00), TCR160-027 (19.00), TCR160-032 (26.00), TCR160-062 (68.00)<br>This patch corrects the following:<br>• Fixes a problem where both nodes in a cluster will panic at the same time with a simple_lock timeout panic.<br>panic (cpu 0): rm_update_single_lock_miss: time limit exceeded<br>• Fixes a problem that could cause an error to be returned when the Cluster software should wait until a global lock is freed.<br>• Fixes a problem that could cause a TruCluster Production server member to hang during boot, and can cause a "simple lock time limit exceeded" panic. |
| Patch 72.00<br>TCR160-067 | **Patch:** Error msg if system contained unsupported controllers<br>**State:** New<br>This patch fixes a problem that caused an error message to be printed if the system contained unsupported controllers. The error message will now only be printed when running the command in verbose mode. |
| Patch 74.00<br>TCR160-061 | **Patch:** Access mode for a directory not set to default<br>**State:** Supersedes patches TCR160-045 (41.00), TCR160-048 (44.00), TCR160-049 (45.00)<br>This patch corrects the following:<br>• Fixes a problem that caused the setting of the "force unmount" option to be incorrectly displayed by the asemgr utility.<br>• Fixes a problem that caused shell errors if an invalid mount option was specified via the asemgr menu.<br>• Fixes a problem that caused the device name for a Unix File System (UFS) to not be displayed when modifying the "force unmount" option via the asemgr utility.<br>• Fixes a problem that caused the access mode for a directory to not get set to the default after modifying them via asemgr. |
| Patch 76.00<br>TCR160-055 | **Patch:** Problem causes mountd to exit without error<br>**State:** New<br>This patch fixes a problem that could cause mountd to exit without error during boot. |