Summary of Changes

This is the first edition of the *Softek TDMF™, Open Systems, Installation Guide for HP-UX™ and Solaris™*.

Softek TDMF™, Open Systems Edition Installation Guide for Solaris™ and HP-UX™

Release 1.2

SOFTEK *TDMF* ™ Open Systems Edition

Installation Guide for HP-UX™ and Solaris™

Release 1.2

Revision Notice

This is the first release of this manual. A complete revision history is provided at the end of the manual.

Abstract

The *Softek TDMF, Open Systems Edition, Installation Guide for Solaris and HP-UX, Release 1.2* (ML-144883-001), contains installation instructions. Once you have installed or upgraded the software, refer to the appropriate *Administrator's Guide* for information on starting and configuring the software.

For Further Information

If you wish to obtain further information about the Fujitsu Softek product discussed in this publication, contact your Fujitsu Softek Marketing Representative, or write to Fujitsu Softek Marketing Communications, Mail Stop 315, Sunnyvale, CA 94085.

Ordering Additional Publications

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Restriction On Use

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Preface

Description of the Manual

The *Softek TDMF™*, *Open Systems Edition, Release 1.2, Installation for Solaris™ and HP-UX™*, provides instructions on how to install the Softek TDMF software on Sun Solaris™ and HP-UX™ systems.

After you install the Softek TDMF software, refer to the *Administrator's Guide* for detailed instructions on how to configure, administer, and use the Softek TDMF software.

Audience for this Manual

The information in this guide is intended for system administrators who are responsible for installing software and maintaining business - critical servers and their associated data. Knowledge of the operating system, as well as file systems, shell scripts, and networks is assumed.

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Notation Conventions

This supplement uses the following typographic conventions and symbols to make information easier to access and understand.

Softek TDMF Notations

Convention	Indicates	Example
boldface	Names of DOS or UNIX line commands, daemons, options, programs, or scripts	The **swremove** command removes the Softek TDMF software.
italic in text	Pathnames, filenames, computer names, new terms defined in the Glossary or within the chapter, or emphasized words	Scripts for automating pre- and post-checkpointing procedures should be placed in */etc/opt/SFTKdtc.*
italic in command line	A variable that you need to provide in the command line	**dtccheckpoint -g** **<*logical_group#*> -on**
fixed-width	Examples and information displayed on the screen	Valid DTC Demo License -- expires: Friday December 31 15:30:40 1999
fixed-width, boldface	Commands and options that you must type exactly as shown	**dtcbackfresh -g 101**
<*italic in brackets*>	Variables that appear in messages	Unable to open logical group device <*deviceid*>.
[text	text]	Message variables that can display two different values	License file has keyword that is not [PMD	RMD]_LICENSE.
Menu_Name> Command> Command	A path or an order to follow for making selections in the GUI	**System**>**TCP Settings**>**Listen Port**
Note:	Important information that you must read and follow to ensure successful backup and recovery of your data	☞ **NOTE:** Each mirror device must be at least as large as its corresponding local data device.

Related Documentation

The following publications contain related information.

Softek TDMF™, Open Systems Edition, Administrator's Guide for HP-UX™ and Solaris™, Release 1.2
(ML-144884-001)

Softek TDMF™, Open Systems Edition, Message Guide for HP-UX™ and Solaris™, Release 1.2
(ML-144885-001)

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Installation

This document contains installation instructions for *Softek TDMF*™, Open Systems Edition*, Release 1.2, Solaris® and HP-UX® versions.* Once you have installed or upgraded the software, refer to the appropriate *Administrator's Guide* for information on starting and configuring the software.

System Requirements

Before installing Softek TDMF, verify the following conditions on all primary and secondary servers in the company.

Company Requirements for Solaris and HP-UX

The following is a list of components required for an operational installation of Softek TDMF on both UNIX platforms - Solaris and HP-UX:

- Primary system(s)
- Secondary system(s)
- LAN or WAN IP network(s) between primary and secondary systems
- Local data devices (on primary)
- Physical memory allocated exclusively to Softek TDMF for the Big Asynchronous Buffer (BAB) (on primary)
- Disk partition or volume for pstore (on primary)
- Mirror devices (on secondary)
- Journal file directory (on secondary)

Softek TDMF supports up to 10 logical groups, and a total maximum of 150 dtc devices on a system. An effective means of configuring an efficient system is to place affiliated Softek TDMF devices in the same logical group.

Solaris System Requirements

- SPARC Solaris 2.6, 2.7 and 2.8 operating system installed. It is recommended that you install the same operating system version on both primary and secondary systems.

☞ **NOTE:** Softek TDMF does not support Solaris 2/x86 (Intel platform).

- At least 14.5MB of disk space must be available in */opt* on both primary and secondary systems, with 500KB available in */etc/opt* and at least 1MB available in */var/opt*.
- An X-windows environment—for example, OpenWindows, X11R6, CDE—must be installed to use **dtcperftool, dtcconfigtool, or dtcmonitortool**.
- Enough physical memory available to be allocated exclusively to Softek TDMF for the BAB (32 MB minimum) on primary systems.

HP-UX System Requirements

- Primary system(s) and secondary system(s)— HP9000 Series 800s.

- HP-UX 10.20 or 11.0 operating system installed. It is recommended that you install the same operating system version on both primary and secondary systems.

- At least 14.5MB of disk space must be available on both primary and secondary systems.

- An X-windows environment—for example, CDE—must be installed to use **dtcperftool, dtcconfigtool**, or **dtcmonitortool**.

- Enough physical memory available to be allocated exclusively to Softek TDMF for the BAB (32 MB minimum) on the primary system.

Recommended Operating Parameters

This section describes guidelines for configuring Softek TDMF to run optimally. Refer to the *Administrator's Guide* for more information on configuring the product.

Recommended Softek TDMF configuration

Minimum BAB memory	32MB
Maximum BAB memory	1536MB Solaris /750MB HP-UX
Minimum # devices	1 dtc device
Maximum # devices	150 dtc devices
Minimum # logical groups	1
Maximum # logical groups	10
Minimum pstore size	40MB
Minimum # of pstores	1
Maximum # of pstores	10

Preparing to Install for Solaris and HP-UX

This section describes the steps in planning a Softek TDMF installation.

How to Size the System

Sizing of certain components such as the BAB and **pstore** should be thoroughly thought out before starting the installation. The rules can be helpful when sizing and allocating resources:

- Mirror devices must be at least as large as local data devices. In symmetric environments, they must be identically sized.

- Use tools like **iostat** (or **volstat** and **sar** on Solaris) or commercial systems management performance tools to profile the I/O characteristics and demands of your system.

Look for:

- Peak I/O update activity over time. Don't ignore quarter-end or year-end processing requirements.

- Ratio of "reads" to "writes".

- Number of disk blocks updated over a measurable amount of time. This data is especially useful when determining the appropriate size for the journaling file system on the secondary system(s), and the amount of memory for the BAB.

Factor in the maximum rate for data transfer across the network and how long you can tolerate a network outage without a BAB overflow. A BAB overflow causes Softek TDMF to move into TRACKING MODE and requires a refresh to synchronize the primary and secondary systems.

If possible, perform an iterative implementation of Softek TDMF and monitor operations. Pay attention to incidents when network connection is lost, when the secondary system goes down, or during unanticipated bursts in I/O activity.

How to Size the BAB

It is recommended that additional physical memory be installed on any primary system where Softek TDMF resides for the BAB. The BAB is in physical kernel memory, not virtual memory.

Solaris Minimum and Maximum BAB Sizes

On Solaris, you should allocate a minimum of 32MB to the BAB. To calculate the maximum BAB size, use the following formula:

BAB size = total physical memory - (32MB * number of cpus), not to exceed 1536MB.

Note that exceeding the physical memory limit on Solaris will degrade system performance.

HP-UX Minimum and Maximum BAB Sizes

On HP-UX, you should allocate a minimum of 32MB to the BAB. To calculate the maximum BAB size, use the following formula:

BAB size = total physical memory - (32MB * number of cpus), not to exceed 750MB.

☞ **NOTE:** Note that exceeding the physical memory limit on HP-UX can cause a system panic.

Other Considerations

Since the BAB stores changes made to the primary data set, the following variables are important in determining the appropriate size:

• Amount of data changed during a measurable period of time (burst of data);

• Speed of network and how fast entries are removed from the BAB;

• How long you can tolerate a network outage.

During configuration with **dtcconfigtool**, if the dtc device driver is unable to allocate all of the requested memory, a message prompts you to reboot the system. The reboot allows the dtc device driver to obtain the requested memory. The amount of memory actually allocated to the BAB is shown when the dtc device driver is added to the system. You can also determine this value with the **dtcinfo -a** command after the driver has been added.

How to Size the Journal File Directories

Journaling on the secondary system allows incoherent data to be transferred over the network without affecting the coherence or recoverability of the data on the mirror devices. Journaling also allows you to *checkpoint* (temporarily stop) mirror devices on the secondary system, while safely accumulating new updates from the primary system(s) until after the checkpoint has been released. At that time, the journaled updates are applied to the appropriate mirror devices. This process ensures that the data on the mirror devices is known during the checkpoint operation, and allows applications (other than Softek TDMF) to access the mirror devices without interrupting operations on the primary system or requiring a refresh.

Note that the secondary journals are not used during a *full refresh*, but only when data is written directly to the mirror device(s) - during a smart refresh, when blocks of changed data are written. The journal file directory should be large enough to handle all changed data from a smart refresh of one or more logical groups, and to accommodate the updates that occur during the checkpoint.

Knowing the rate of changes made to data on the primary system is also useful in estimating the amount of data written to journal files during a checkpoint. For example, the checkpoint allows read-only access to the mirror devices so that you can do a "hot backup".

You can determine the time to complete a backup by simply dividing the total amount of data to be backed up by the transfer speed of the selected backup device. Then, you can determine the average amount of data changed during that time period and make accommodations for data bursts. The journal file directory should be large enough to accommodate this amount of data.

The size of the journal file directory should be 25% of the entire amount of data stored on all local data devices in a *logical group*. (A logical group is a coherent set of devices that ensures time-ordered writing coherence between member devices.) Thus, if logical group 0 has three local data devices totaling 12GB, then the size of the journal file directory should be 3GB for this group. During configuration, you can define a journal file directory for all logical groups or for each one.

Installing Softek TDMF

This section provides installation instructions for each operating system. Note that you must install the product on the primary system before installing it on the secondary system.

How to Protect the System

As with any software and hardware installation, it is strongly recommended that you back up the system fully before connecting new devices or installing Softek TDMF. A backup enables you to recover the original files if needed. If there are irreplacable files on the system, it is imperative that you perform a backup before proceeding to the installation.

How to Install Softek TDMF on Solaris

All Softek TDMF components are installed on both primary and secondary systems - in the directories designated by the package. Softek TDMF is installed with the Solaris **pkgadd** command. To carry out the installation, follow the following steps:

1. Configure your account as root user.

2. Insert and mount the Softek TDMF CD-ROM. If the */usr/sbin/VOLD* process is running, the CD is automatically mounted.

3. Change directories to */cdrom/cdrom0/Softek_TDMF/SOLARIS/5.X* .

4. Type the following command:

   /usr/sbin/pkgadd -d.

   The following message appears:

   ```
   Select package(s) you wish to process (or 'all' to process all
   packages (default:all) [?,??,q}:
   ```

5. Press **Enter** to accept the default of **all packages** to install Softek TDMF:

   1 *SFTKdtc* Softek TDMF (sparc) 1.2 — this is the product package with documentation.

6. The license agreement appears. Type **y** to proceed with installation when prompted:

    ```
    Do you accept the above license terms? [ y, n, ?]
    ```

7. Accept the default port number - 575 - for the Softek TDMF master daemon to listen on. Otherwise, enter another available port number.

    ```
    Port for Softek TDMF master daemon to listen on? [575] [1-65535, ?]
    ```

☞ **NOTE:** If you specify a port number other than the default of 575, you must also enter that port number in the **Configuration Tool Systems** menu. It is not filled in for you. See the *Administrator's Guide* for more information.

Note that you must make provisions for firewall or proxy setups to allow TCP/IP connections through the selected port.

The following message indicates that the installation completed successfully.

8. **pkgadd** prompts you to install another package; enter **q** to quit.

9. Repeat these steps on each system in the company.

10. Add */opt/SFTKdtc/bin* to the root's PATH environment variable.

11. Enter the license key to activate Softek TDMF, Solaris Version into the */etc/opt/ SFTKdtc/DTC.lic* file that you create for each system. See
.

The following is the Softek TDMF directory structure on Solaris.

```
/

  /etc                      /opt                  /usr            /var

    /opt                    /SFTKdtc              /kernel           /opt
      /SFTKdtc                /bin                  /drv              /SFTKdtc
        DTC.lic                 Binaries of           dtc               performance and
        errors.msg              commands              dtc.conf          error log files
        p###.cfg              /lib                  /sparcv9          /SFTKdtc1.2
        p###.cur                                      /dtc
      /rcS.d                    /dtc1.2               dtc              saved DTC.lic,
        S89SFTKdtc-scan         GUI libraries      /sbin                dtc.conf and .cfg
                              /libexec               dtcstart           files
      /rc3.d                    dtcwish              dtcstop
                              /samples
        S25SFTKdtc-startdaemons p000.cfg
        S24SFTKdtc-chkpt_boot   sample
        script
      /init.d                 /doc
        SFTKdtc-scan
        SFTKdtc-chkpt_boot        /pdf
        SFTKdtc-startdaemons
```

How to Install Softek TDMF on HP-UX

Use the HP-UX **swinstall** command to install Softek TDMF. Follow these instructions on each system of your company:

1. Configure your account as root user.

2. Load and mount the CD-ROM. For example:

   ls /dev/dsk (displays the devices, including the CD-ROM)

   mount /dev/dsk/<*CD-ROM_mount_point*>

3. Type the following command:

   swinstall -s /<*CD-ROM_mount_point*>/Softek_TDMF/HPUX/ [10.20│11.00]

swinstall opens the following dialog box.
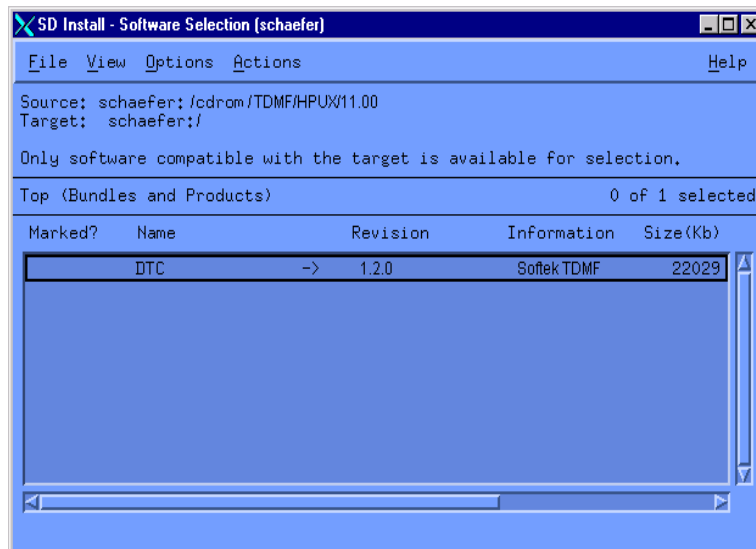
4. Highlight the DTC package from the list. Select **Mark for Install** from the **Action** menu.

5. From the **Actions** menu, select **Install (analysis)**. The analysis dialog appears as follows:

After the analysis of the system is complete, select **Ok**.

6. In the Confirmation dialog, select **Yes** to install the product.
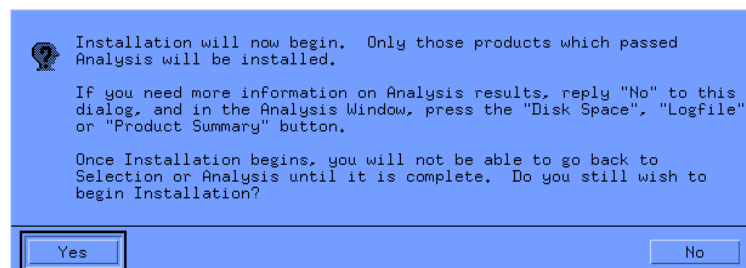
7. In the **Install Window** dialog box, wait until the **Status** indicates **Completed**. Select **Done** to return to the **swinstall** main dialog.

```
Press 'Product Summary' and/or 'Logfile' for more target information.

Target             :  schaefer:/
Status             :  Completed
Percent Complete   :  100%
Kbytes Installed   :  22029 of 22029
Time Left (minutes):  0
Loading Software   :

   Product Summary...      Logfile...


  Done                                              Help
```

Select **Logfile** to see more information about the installation process.

8. Repeat these steps for each primary or secondary system in the company.

9. Add */opt/SFTKdtc/bin* to your PATH environment variable.

10. Enter the license key to activate Softek TDMF, HP-UX Version into the */etc/opt/ SFTKdtc/DTC.lic* file that you create on each system. See
.

The following is the Softek TDMF directory structure on HP-UX.

```
/

/etc              /opt              /sbin                  /var              /usr
                                     dtcstart
   /opt            /SFTKdtc          dtcstop           /opt          /conf
                                                       /SFTKdtc
    /SFTKdtc        /bin             /rc1.d            performance files   /dtc
    DTC.lic          Binaries of utilities   K925SFTKdtc-scan   dtcerror.log
    p###.cfg                                                                mod.o
    dtc.conf        /libexec         /rc3.d            /SFTK dtc1.2         mod32.o
                     DTC executable   -S024SFTKdtc-ckpt-boot               mod64.o
                                      -S025SFTKdtc-startdaemons            master
                     /lib             /init.d                              system
                      DTC libraries   SFTKdtc-scan                         space.h
                     /doc             SFTK-startdaemons
                                      SFTKdtc-chkpt-boot (HP 11.00
                       /pdf           only)

                     /samples
```
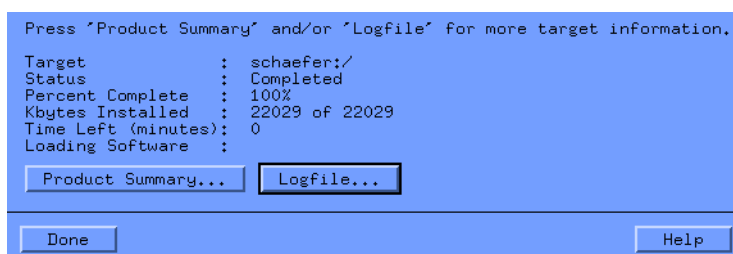
Licensing for Solaris and HP-UX

To run Softek TDMF, you must obtain a license key—24 alphanumeric characters—for each system using Softek TDMF in the company. A single key entered in the *DTC.lic* file on each system allows the operation of all Softek TDMF daemons. In a high availability environment, you may enter multiple license keys into a single, shared *DTC.lic* file.

You can obtain licenses from your Softek TDMF reseller or support organization. You must provide the host ID of the systems where the software will be installed. You can obtain a system's host ID with the **/opt/SFTKdtc/bin/dtchostinfo** command.

☞ **NOTE:** The **dtclicinfo** command provides information about any license entered on a system. For example, the command reports whether the installed license key is a permanent or demo one, and its expiration date.

How to Enter License Information

After you have installed Softek TDMF on both systems, follow these steps to establish key files and enter the appropriate license numbers.

1. On primary and secondary systems, create the *DTC.lic* file in the */etc/opt/SFTKdtc* directory.

Sample DTC.lic file

G8A9 G5PG N9G1 NBC4 F2B5 FAB7

2. Using a standard text editor, enter the 24 alphanumeric characters making up the license key into the *DTC.lic* file for that system (as determined by the system's host ID).

Note that the product license is tied to the host ID of the machine it is installed on. Therefore, you need a license key for each machine on which you install the product. You do not need, however, a new license key when you upgrade the product on a system.

See the *Administrator's Guide* for information on configuring Softek TDMF.

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Upgrading and Removing Softek TDMF Software

Upgrading Softek TDMF Software

How to Upgrade Softek TDMF on Solaris

Upgrading Softek TDMF, Open Systems Edition, Solaris Version, requires that the current installation be removed prior to performing the upgrade. For more information, see *Removing Softek TDMF Software* on page 19. To perform the upgrade, follow these steps:

1. Uninstall all dtc devices and remove any relevant entries from */etc/vfstab*.

2. On the primary system, type **killpmds** to stop the PMD; type **dtcstop -a** to stop all logical groups.

3. On both primary and secondary systems, type **killdtcmaster** to shut down all network daemon processes.

4. If you want to preserve tunable parameter settings, copy the files from */etc/opt/ SFTKdtc* to a temporary directory.

5. Remove the driver as follows:

    ```
    cd /
    /usr/sbin/rem_drv dtc
    ```
    If the driver is in use, the **rem_drv** command fails.

6. Use the **pkgrm** command to remove the installed Softek TDMF package and documentation. This command preserves configuration and license files in a directory under */var/opt/SFTKdtc1.2*.

    When you run the configuration tool after an upgrade, it prompts you to migrate the earliest configuration files from this directory. To ensure that you migrate the correct files, you should remove unwanted directories from */var/opt/SFTKdtc/ SFTKdtc* before upgrading. To ensure that you preserve your configuration files, copy them to a temporary directory before the upgrade.

    If you are not migrating files, set the **pstore** to 0 and remove the files as described in *How to Remove Softek TDMF on Solaris* on page 19.

7. To install the upgrade, follow the steps described in *How to Install Softek TDMF on Solaris* on page 7.

8. When you run the configuration tool (**dtcconfigtool**), you are prompted to migrate saved configuration files and scripts into the current environment. If you are migrating files, verify them before moving forward with the upgrade.

9. Perform configuration as normal. When the configuration tool prompts you to migrate your configuration files, select **Yes**.

10. Repeat the upgrade procedure on each server in the configuration.

11. Add */opt/SFTKdtc/bin* to the PATH environment variable.

How to Upgrade Softek TDMF on HP-UX

When you upgrade Softek TDMF, Open Systems Edition, HP-UX Version, you must remove the current product version before upgrading. For more information, see *Removing Softek TDMF Software* on page 19.

To perform the upgrade, follow these steps:

1. Uninstall all dtc devices and remove relevant entries from */etc/fstab.*

2. On the primary system, type **killpmds -a** to stop the PMD; type **dtcstop -a** to stop all logical groups.

3. On both primary and secondary systems, type **killdtcmaster** to shut down all network daemon processes.

4. If you want to preserve tunable parameter settings, copy the files from */etc/opt/ SFTKdtc* into a temporary directory.

5. To remove the core software and documentation, type:

   # cd /

   # swremove DTC

   The **swremove** command preserves configuration files, license files and checkpoint scripts in a directory under */var/opt/SFTKdtc1.2.*

   When you run the configuration tool after an upgrade, it prompts you to migrate the earliest configuration files from this directory. To ensure that you migrate the correct files, you should remove unwanted directories from */var/opt/SFTKdtc/ SFTKdtc* before upgrading. To ensure that you preserve your configuration files, copy them to a temporary directory before the upgrade.

   If you are not migrating files, set the **pstore** to 0 and remove the files as described in *How to Remove Softek TDMF on HP-UX* on page 21.

6. On the HP-UX 10.20 primary system only, rebuild the kernel without the Softek TDMF driver, then copy and move the kernel as follows. (On HP-UX 11.00, the **swremove** command performs these steps for you.)

   # cd /stand/build

   # /etc/config /stand/system

   # cd /stand

   # cp vmunix vmunix.bak

   # mv build/vmunix_test ./vmunix

7. Reboot the system with the following command:

   # shutdown -r

8. Refer to *How to Install Softek TDMF on HP-UX* on page 9 for instructions on installing the upgrade.

9. When you run the configuration tool (**dtcconfigtool**), you are prompted to migrate saved configuration files and scripts into the current environment. If files are migrated, they should be verified before moving forward with the upgrade.

10. Repeat the upgrade procedure on each server in the company.

11. Perform the configuration as normal. When the configuration tool prompts you to migrate your configuration files, select **Yes**.

Removing Softek TDMF Software

How to Remove Softek TDMF on Solaris

To remove Softek TDMF, follow these steps:

1. Make sure that no dtc device is currently installed or in use.

   Use **/usr/sbin/mount** to display all devices that are installed.

2. Uninstall all dtc devices and remove any relevant entries from */etc/vfstab*.

3. On the primary system, type **killpmds** to stop the PMD; type **dtcstop -a** to stop all logical groups.

4. On both primary and secondary systems, type **killdtcmaster** to shut down all network daemon processes.

5. Remove the dtc device driver by entering:

   cd /

   /usr/sbin/rem_drv dtc

   If the driver is in use, the **rem_drv** command fails.

6. Type **pkgrm SFTKdtc**. This removes the Softek TDMF package with the following output. The **pkgrm** command preserves configuration and license files in a directory under */var/opt/SFTKdtc*.

```
The following package is currently installed:
SFTKdtc Softek TDMF
           (sparc)
Do you want to remove this package?
## Removing installed package instance <SFTKdtc>

This package contains scripts which will be executed with super-user
permission during the process of removing this package.

Do you want to continue with the removal of this package [y,n,?,q]
## Verifying package dependencies.
## Processing package information.
## Executing preremove script.
no Softek TDMF PMD Daemons currently running
no Softek TDMF RMD Daemons currently running
no dtcrefresh daemons currently running
Moving the dtc.conf file to /var/opt/SFTKdtc/SFTKdtc
## Removing pathnames in class <none>
/usr/kernel/drv/dtc.conf
/usr/kernel/drv/dtc
/opt/SFTKdtc/samples/dtc.conf
. . .
/opt/SFTKdtc/bin/launchrmds
/opt/SFTKdtc/bin/launchrefresh
/opt/SFTKdtc/bin/launchpmds
/opt/SFTKdtc/bin/killrmds
. . .
## Updating system information.

Removal of <SFTKdtc> was successful.
```

7. Type the following commands to completely remove cached configuration files, checkpoint shell scripts, and license files:

    dd if=/dev/zero of=<*raw_path_to_pstore*> bs=8192 count=1

    Note that the purpose of the **dd** command is to set the **pstore** to 0.

    The *<block_path_to_pstore>* is located in the configuration file. The configuration file - *p###.cfg* - is located in */var/opt/SFTKdtc /SFTKdtc1.2.*

    rm -rf /var/opt/SFTKdtc

    rm -rf /etc/opt/SFTKdtc

    rm -rf /opt/SFTKdtc

How to Remove Softek TDMF on HP-UX

☞ **NOTE:** The removal procedure is the same on both primary and secondary systems, except that primary systems require rebuilding of the kernel and system reboot, while secondary systems do not.

To remove Softek TDMF on the primary system, follow the following steps. Softek TDMF can be removed with the **swremove** command.

1. Make sure that no dtc devices are currently installed or in use.

   Use the command **/usr/sbin/mount** to display all devices that have file systems installed.

2. Uninstall all dtc devices and remove relevant entries from */etc/fstab.*

3. On the primary system, type **killpmds** to stop the PMD; type the **dtcstop -a** command to stop all logical groups.

4. On the primary and secondary systems, type the **killdtcmaster** command to shut down all network daemon processes.

5. To remove the core software and documentation on both primary and secondary systems, type:

   # cd /

   # swremove DTC

   swremove output appears as follows:

```
# swremove DTC

=======  06/13/00 13:47:06 MDT  BEGIN swremove SESSION
         (non-interactive)

    * Session started for user "root@schaefer".

    * Beginning Selection
    * Target connection succeeded for "schaefer:/".
    * Software selections:
            DTC.Documentation,l= /etc/opt/SFTKdtc,r=1.2.0,a=HP-UX_B.11.00_800
            DTC.Programs,l= /etc/opt/SFTKdtc,r=1.2.0,a=HP-UX_B.11.00_800
    * Selection succeeded.

    * Beginning Analysis
    * Session selections have been saved in the file
      "/.sw/sessions/swremove.last".
    * The analysis phase succeeded for "schaefer:/".
    * Analysis succeeded.

    * Beginning Execution
    * The execution phase succeeded for "schaefer:/".
    * Execution succeeded.

NOTE:    More information may be found in the agent logfile (location
         is schaefer:/var/adm/sw/swagent.log).

=======  06/13/00 13:48:50 MDT  END swremove SESSION (non-interactive)
```

6. To rebuild the kernel without the Softek TDMF driver, enter:

   `# cd /stand/build`

   `# /etc/config /stand/system`

7. On HP-UX 10.20 only, save the current kernel with the Softek TDMF driver and move the new kernel as follows. (On HP-UX 11.00, the **swremove** command performs these steps for you.)

   `# cd /stand`

   `# mv vmunix vmunix.prev`

   `# mv build/vmunix_test ./vmunix`

8. Reboot the system by entering:

   `# shutdown -r`

☞ **NOTE:** You only need to reboot a secondary system if the dtc device driver was installed on that system.

The **swremove** command preserves configuration files, license files and checkpoint scripts in a directory under */var/opt/SFTKdtc1.2*.

9. To completely remove cached configuration files, checkpoint shell scripts, license files, and empty directories, type the following commands.

☞ **NOTE:** If you are upgrading, do not enter these commands since they will erase the **pstore** and your configuration files.

   `# dd if=/stand/vmunix of=<`_`path_to_pstore`_**`> bs=8192 count=1`**

   `# rm -rf /var/opt/SFTKdtc`

   `# rm -rf /etc/opt/SFTKdtc`

   `# rm -rf /opt/SFTKdtc`

If you are reinstalling Softek TDMF, you should reboot the system to ensure that the driver is initialized correctly.

■ ■
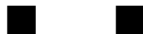
Revision History

This revision history lists all revisions of this publication and their effective dates.

Revision Level	Change Summary
ML-144883-001 July 2001	First release of the Softek TDMF™, Open Systems Edition, Installation Guide for HP-UX™ and Solaris™.

■ ■

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Publication No.   **ML-144883-001**   Publication Date   **July 2001**

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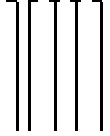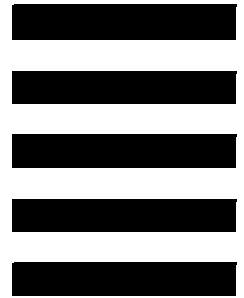
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