SOFTEK
Simplifying Storage Management

Softek™ Replicator

Installation Guide for AIX, HP-UX, Linux, and Solaris

Version 2.1

ML–145087–001

www.softek.com

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for AIX, HP-UX, Linux and Solaris
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ML–145087–001 12/03

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 Replicator 2.1 Installation Guide for AIX, HP-UX, Linux and Solaris (ML-145087) contains installation instructions. Once you have installed or upgraded the software, refer to the Softek Replicator 2.1 Administrator's Guide for AIX, HP-UX, Linux and Solaris (ML-145086) for information on starting and configuring Softek Replicator.

FOR FURTHER INFORMATION
If you wish to obtain further information about the Softek Technology Corporation product discussed in this publication, contact your Softek marketing representative, or write to Softek Technology Corporation, Marketing Communications, Mail Stop 215, P.O. Box 3470, Sunnyvale, CA 94088-3470.

TECHNICAL SUPPORT
To obtain technical support on the Softek Technology Corporation product discussed in this publication, please call 1-800-66SOFTEK.

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About This Guide

The *Softek Replicator 2.1 Installation Guide for AIX, HP-UX, Linux and Solaris* provides instructions on how to install Softek Replicator on AIX, HP-UX, Linux and Sun Solaris systems.

After you install Softek Replicator, refer to the *Softek Replicator 2.1 Administrator's Guide for AIX, HP-UX, Linux* and *Solaris (ML-145086)* for detailed instructions on how to configure, administer, and use Softek Replicator.

Audience

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.

Contents of this Manual

Chapter	Description
Chapter 1: Installation	System Requirements, Recommended Operating Parameters, Preparation, Installation procedures and Licensing for AIX, HP-UX, Linux and Solaris
Chapter 2: Installing Softek Replicator Agents	How to install Softek Replicator agents on AIX, HP-UX, Linux and Solaris servers
Chapter 3: Upgrading and Removing Softek Replicator	How to upgrade and remove Softek Replicator on AIX, HP-UX, Linux and Solaris

Contacting Technical Support

At Softek, we work hard to provide products and service that anticipate and solve our customers' increasingly complicated application management challenges. In addition, we try to provide clear and easy-to-use online and printed documentation to enable you to work independently in managing application recovery issues.

If you have a technical issue that you can't answer with the provided resources, please contact Softek Technical Support by Telephone or the Web.

▶ On the Web:

1. Visit http://www.softek.com/en/support/index.html for :
   - Severity 2, 3, or 4 problems and tracking status of calls
   - Problem ownership and management throughout resolution
   - Asking questions
   - Seeking product-specific information via FAQs, user libraries, patches, discussion forums, and to download documentation. License requests should come via your Account Executive.
   - Submit enhancements requests
   - Reviewing and updating your user contact and site location information.
2. Click the **Call Tracking Center** link.

NOTE You must have a User ID and Password to access the Softek Call Tracking and Problems Reporting database pages. To request access, go to the Call Tracking web page: http://www.softek.com/en/support/tracking/newaccount.html.

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Contact Softek Technology Corporation using the following phone number:

- Softek Global Support Center (World-Wide) 800-66SOFTEK (763835)
  - From North America, please dial 1-800-667-6383.
  - From Europe, please dial 00800-66 763835 (country code is not required).
    - From Austria, please dial 0800 200 236, then enter 05, and then 8006676383.
  - During weekends and holidays, you will be asked if you require assistance before the next business day. If so, Softek will respond within stated response time commitments.

NOTE Other phone numbers may be used within European countries where local language capability exists. Contact your local Softek Sales Representative. Major issues can be addressed to Softek management by a request through the Alert Centers.

Notices

The following notices are used throughout this manual.

CAUTION:
Alerts readers to a situation that could damage the software or interrupt operations.

NOTE Gives readers additional significant information about the subject to increase their knowledge or to guide their actions.

TIP Helps users apply the techniques and procedures described in the text to their specific needs.

Related Publications

The following publications contain related information.

Title	Part Number
Softek Replicator 2.1 Administrator's Guide for AIX, HP-UX, Linux and Solaris	ML-145086
Softek Replicator 2.1 Messages Guide for AIX, HP-UX, Linux and Solaris	ML-145088
Softek Replicator 2.1 Administration and User Guide	ML-145090
Softek Replicator 2.1 Installation Guide for Windows	ML-145091

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System Requirements

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

General Requirements for AIX, HP-UX, Linux and Solaris

The following is a list of components required for an operational installation of Softek Replicator on UNIX platforms:

- 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 Replicator 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 Replicator supports up to 10 logical groups (127 for Linux), and a total maximum of 250 dtc devices (127 for Linux) on a system. An effective means of configuring an efficient system is to place affiliated Softek Replicator devices in the same logical group.

NOTE The primary system (on either AIX, HP-UX, Linux or Solaris) must be mounted as a writeable volume (Read/Write enabled).
If the primary is in a Read-Only state, Softek Replicator will fail.

AIX System Requirements

- Primary system(s) and secondary system(s)— Power-based platforms.
- AIX 4.3.3, 5.1 (32 bit/64 bit kernel) or 5.2 (32 bit/64 bit kernel) 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 Replicator for the BAB (32 MB minimum) on the primary system.

HP-UX System Requirements

- Primary system(s) and secondary system(s)
- HP-UX 11.0 or 11i 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 Replicator for the BAB (32 MB minimum) on the primary system.

Linux System Requirements

- Primary system(s) and secondary system(s)--x86 architecture.
- At least 7.5 MB of disk space in `/opt` on both primary and secondary systems, with 500 KB available in `/etc/opt` and at least 500 KB available in `/var/opt`.
- An X-windows environment--for example, XFree86--must be installed to use dtcperftool, dtcconfigtool, or dtcmonitortool.
- Minimum 32 MB available physical memory to be allocated exclusively to Softek Replicator for the BAB on primary systems.
- Linux RedHat 9.0 operating system installed. It is recommended that you install the same operating system version on both primary and secondary systems. Proceed as follows:

  a. Download the RedHat 9.0 installation package from the following URLs:
     - ftp://rpmfind.net/linux/7/redhat/9/en/iso/i386/shrike-i386-disk1.iso
     - ftp://rpmfind.net/linux/7/redhat/9/en/iso/i386/shrike-i386-disk2.iso
     - ftp://rpmfind.net/linux/7/redhat/9/en/iso/i386/shrike-i386-disk3.iso

  b. Install RedHat 9.0 on the primary and secondary systems. The download files are iso images. For Install type, select `Workstation`.

NOTE RedHat 9.0 requires 3GB of free disk space.

Solaris System Requirements

- SPARC Solaris 2.6, 7, 8, and 9 operating system installed. It is recommended that you install the same operating system version on both primary and secondary systems.

NOTE Softek Replicator 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 Replicator for the BAB (32 MB minimum) on primary systems.

Recommended Operating Parameters

This section describes guidelines for configuring Softek Replicator to run optimally. Refer to the *Softek Replicator 2.1 Administrator's Guide for AIX, HP-UX, Linux and Solaris (ML-145086)* for more information on configuring the product.

Recommended Softek Replicator configuration

Minimum BAB memory	32MB
Maximum BAB memory	1547MB
Minimum # devices	1 dtc device
Maximum # devices	500 dtc devices (127 for Linux)
Minimum # logical groups	1
Maximum # logical groups	100 (127 for Linux)
Minimum pstore size	40MB
Minimum # of pstores	1
Maximum # of pstores	10 (127 for Linux)

Preparing to Install for AIX, HP-UX, Linux and Solaris

This section describes the steps in planning a Softek Replicator 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 following 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 Replicator to move into TRACKING MODE and requires a refresh to synchronize the primary and secondary systems.

If possible, perform an iterative implementation of Softek Replicator 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 Replicator resides for the BAB. The BAB is in physical kernel memory, not virtual memory.

Minimum and Maximum BAB Sizes (All Operating Systems)

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 1547MB.

NOTE

Exceeding BAB Size Limitations

Exceeding the physical memory limit on AIX, HP-UX, Linux or Solaris can cause a system failure.

Sizing the BAB on AIX (32bit kernel)

On systems running the AIX 32bit kernel, the maximum kernel memory size is 512MB, out of which a maximum of 256MB may be allocated to the BAB. If you allocate more than 256MB of kernel memory to the BAB, and depending on the processes and applications that are running on the system at a given time, you may encounter insufficient memory errors when you attempt to start a new process. If you encounter issues with kernel memory, Softek recommends that you decrease the BAB size.

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 Replicator) 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.

How to Set up Required Libraries for Linux

Certain Softek Replicator commands, such as dtcconfigtool, dtcmonitortool, dtcperftool and others, require the `tcl/itcl/tix/bit` libraries.

▶ To install the required libraries:

1. Locate the following packages:
   - `itcl-3.2-88.i386.rpm`
   - `tix-8.1.4-88.i386.rpm`
   - `tk-8.3.5-88.i386.rpm`
2. To install the libraries, enter:
```
# rpm -ivh tk-8.3.5-88.i386.rpm
# rpm -ivh itcl-3.2-88.i386.rpm
# rpm -ivh tix-8.1.4.88.i386.rpm
```
3. To create link files to the installed libraries, enter:
```
# cd /usr/lib
# ln -s /usr/lib/libtix8.1.8.3.so ./libtix.so.0
# ln -s /usr/lib/libitk3.2.so ./libtk.so.0
# ln -s /usr/lib/libtc18.3.so ./libtcl.so.0
```

How to Install Libraries for BLT in Linux

▶ **To install libraries for BLT (large bit-field copy and move operations):**

1. Go to http://sourceforge.net/projects/blt/
2. Select the source package named BLT2.4z.tar.gz
3. Locate the following packages:
   - freetype-devel-2.1.3-6.i386.rpm
   - fontconfig-devel-2.1-9.i386.rpm
   - XFree86-devel-4.3.0-2.i386.rpm
4. To compile and install the blt project, enter:

```
# rpm -ivh freetype-devel-2.1.3-6.i386.rpm
# rpm -ivh fontconfig-devel-2.1-9.i386.rpm
# rpm -ivh XFree86-devel-4.3.0-2.i386.rpm
# tar zxvf BLT2.4z.tar.gz
# cd blt2.4z
# sh configure
# cd src/shared
# make
# make install
# cd ../../library
# make
# make install
```

5. Once the library installation is completed, create link files using the following commands:

```
# cd /usr/lib
# ln -s /usr/lib/libBLT.so.2 ./libBLT24.so
```

Installing Softek Replicator

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 Replicator. 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 Replicator On AIX

▶ **To install Softek Replicator on AIX:**

1. Login as `root`.
2. Load the Softek Replicator CD-ROM and mount the CD, as follows:

   ```
   mount -r -rv cdrfs /dev/cd0 /cdrom
   ```

3. Enter the correct path for your operating system, as follows:
   - For AIX 5.2, enter:

     ```
     cd /cdrom/Softek/Replicator/AIX/5.2
     ```

   - For AIX 5.1, enter:

     ```
     cd /cdrom/Softek/Replicator/AIX/5.1
     ```

   - For AIX 4.3, enter:

     ```
     cd /cdrom/Softek/Replicator/AIX/4.3.3
     ```

4. Type the following commands:

   ```
   mkdir /var/dtc
   installp -a -V 4 -e /var/dtc/dtc_install.log -d . dtc.rte
   ```

   The following text is displayed:

```
------------------------------------------------------------+
                    Pre-installation Verification...
+-----------------------------------------------------------+
Verifying selections...done
Verifying requisites...done
Results...
```

```
SUCCESSES
---------
Filesets listed in this section passed pre-installation verifica-
tion and will be installed.
-- Filesets are listed in the order in which they will be
installed.
-- The reason for installing each fileset is indicated with a key-
word in parentheses and explained by a "Success Key" following
this list.
-- If a fileset has requisites they are listed (indented) beneath
the fileset.

dtc.rte.doc 2.1.0.X (Selected)
Replicator

dtc.rte 2.1.0.X (Selected)
Replicator

Success Key:
Selected    -- Explicitly selected by user for installation.

Maintenance -- Maintenance Level fileset update; being installed
automatically to enable the level of the system to be tracked.

Mandatory   -- Considered to be important to the system; will al-
ways be installed when detected on the installation media.

Requisite   -- Requisite of other filesets being installed.

P_Requisite -- Previously installed fileset's requisite; being in-
stalled automatically now to ensure system's consistency. (Only
installed automatically when "auto-install" (-g flag) is
specified.)

Supersedes  -- Superseding fileset update; not selected, chosen
instead of an older, selected update.  (Only chosen in this fashion
when "auto-install" is specified (-g flag)).

<< End of Success Section >>

FILESET STATISTICS
------------------
2  Selected to be installed, of which:
2  Passed pre-installation verification
----
2   Total to be installed
```

```
+-----------------------------------------------------------------+
                        Installing Software...
+-----------------------------------------------------------------+

installp: APPLYING software for:
        dtc.rte.doc 2.1.0.X

Filesets processed:  1 of 2  (Total time:  1 secs).

installp: APPLYING software for:
        dtc.rte 2.1.0.X

[2003/11/14 19:04:39] dtc: dtc.rte.config: dtc ODM PdDv and CuDv
configs.
0 objects deleted
0 objects deleted
dtc0 /etc/dtc/init.d/dtc-rcedit: driver start hooks not installed
/etc/dtc/init.d/dtc-rcedit: installing driver start hooks
/etc/dtc/init.d/dtc-rcedit: inserting driver start hooks at line
33 of /etc/rc

/etc/dtc/init.d/dtc-rcedit: advice:

     please inspect /etc/rc.

     the following lines have been added between configuration of
     the system swap devices, and before filesystem checks:

# @@@ DTC DRIVER START RC + @@@
# Perform dtc driver start
/etc/dtc/init.d/dtc-startdriver
# @@@ DTC DRIVER START RC - @@@

     the following lines have been added between configuration of
     the system swap devices, and before filesystem checks:

# @@@ DTC DAEMON START RC + @@@
# Perform dtc daemon start
/etc/dtc/init.d/dtc-chkpt_boot
/etc/dtc/init.d/dtc-startdaemons start
# @@@ DTC DAEMON START RC - @@@

/etc/dtc/init.d/dtc-rcedit: /etc/services entry not installed
/etc/dtc/init.d/dtc-rcedit: installing /etc/services entry

/etc/dtc/init.d/dtc-rcedit: advice:

     please inspect /etc/services.

     the following line has been added:

     in.dtc              575/tcp
```

```
Starting Softek Replicator daemons
[2003/11/14 19:04:39] dtc: dtc.rte.config: Driver ODM PdDv and
CuDv defined.
[2003/11/14 19:04:39] dtc: dtc.rte.config: System boot file /etc/
rc customized.
[2003/11/14 19:04:39] dtc: dtc.rte.config: dtc daemons started.
Finished processing all filesets.  (Total time:  17 secs).


+-----------------------------------------------------------------+
                            Summaries:
+-----------------------------------------------------------------+

Installation Summary
--------------------
Name                     Level          Part       Event      Result
-------------------------------------------------------------
dtc.rte.doc              2.1.0.X        USR        APPLY      SUCCESS
dtc.rte                  2.1.0.X        USR        APPLY      SUCCESS
dtc.rte                  2.1.0.X        ROOT       APPLY      SUCCESS
bash-2.05b#
```

5. To verify the installation, type the following command at the prompt:

   `lslpp -l | grep dtc`

   You will get the following output:

```
 dtc.rte        2.1.0.X    COMMITTED  Replicator
 dtc.rte.doc    2.1.0.X    COMMITTED  Replicator
 dtc.rte        2.1.0.X    COMMITTED  Replicator
```

Softek Replicator Directory Structure on AIX

Directory	Contains...
/usr/dtc/bin/ /usr/sbin/dtcstop /usr/sbin/dtcstart	Executable programs
/etc/dtc/lib	Configuration and license files
/var/dtc/	Performance and error logs
/etc/dtc/init.d/dtc-chkpt_boot /etc/dtc/r3.d/S25dtc-startdaemons	Boot Scripts
/lpp/dtc.rte /usr/lpp/dtc.rte* /usr/sys/inst.images/dtc.rte*	Installation files used by `installp` and `lpp`
/usr/lib/drivers/dtc*	Drivers
/usr/dtc/lib/	Libraries
/usr/dtc/samples/chlink	Sample script for changing symbolic links

Softek Replicator Directory Structure on AIX *(Continued)*

Directory	Contains...
/usr/lib/methods/dtc*	Methods

6. Enter the license key in `/etc/dtc/lib/DTC.lic` to activate Softek Replicator on an AIX machine.

How to Install Softek Replicator on HP-UX

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

▶ **To install Softek Replicator on HP-UX:**

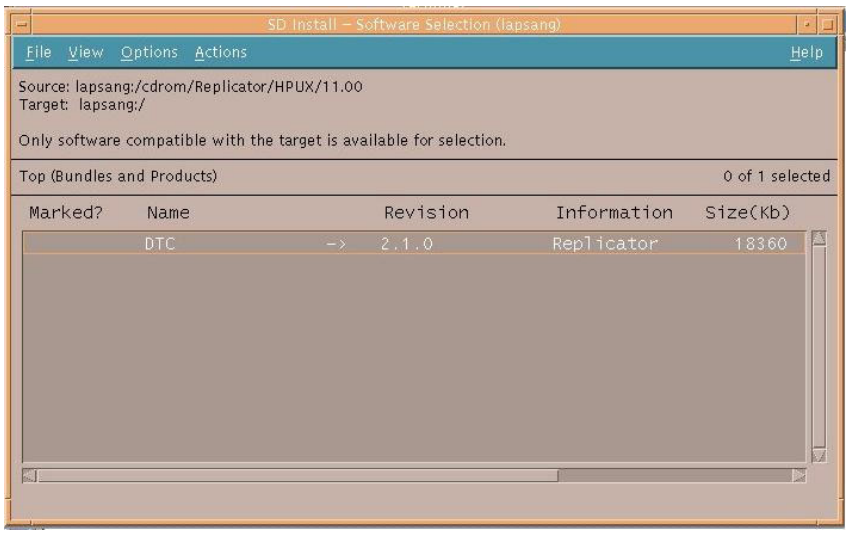
1. Login as root user.
2. Load and mount the CD-ROM. For example:

   ```
   ls /dev/dsk (displays the devices, including the CD-ROM)
   mount dev/dsk/"cd device" /<CD-ROM_mount_point>
   ```

3. Type the following command:

   ```
   swinstall -s /<CD-ROM_mount_point>/Softek/Replicator/HPUX/
   [11|11i]
   ```

   `swinstall` opens the following dialog box:



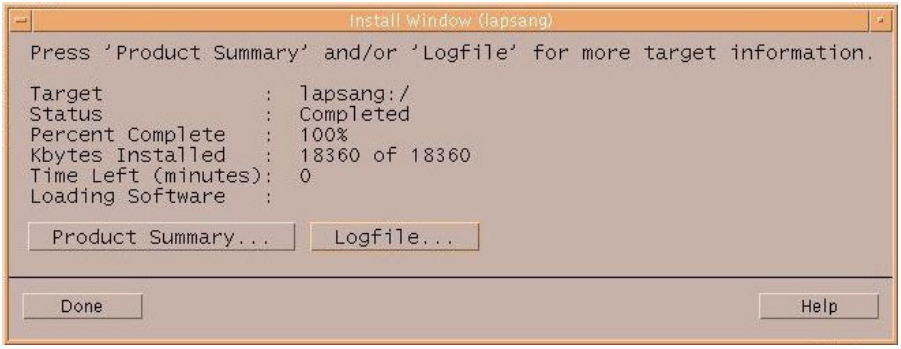
4. Highlight the DTC package from the list. Select **Mark for Install** from the **Action** menu.

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.



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 Replicator, HP-UX Version into the `/etc/opt/SFTKdtc/DTC.lic` file that you create on each system. See *How to Enter License Information* on page 19.

Softek Replicator Directory Structure on HP-UX

Directory	Contains...
/etc/opt/SFTKdtc	Licensing files, configuration files, template rc scripts
/opt/SFTKdtc/bin	User Executables
/opt/SFTKdtc/	Supporting libraries
/opt/SFTKdtc/samples/chlink	Sample script for changing symbolic links

Softek Replicator Directory Structure on HP-UX *(Continued)*

Directory	Contains...
/sbin /sbin/init.d /sbin/rc3.d	Startup scripts
/usr/conf	Driver Files
/usr/local/bin	Symbolic links to User Executables
/var/opt/SFTKdtc	`dtcerror.log`, performance logs, configuration files from previous version

How to Install Softek Replicator on Linux

All Softek Replicator components are installed on both primary and secondary systems--in the directories designated by the package. Softek Replicator is installed with the RedHat Linux `rpm` command.

▶ **To install Softek Replicator on Linux:**

1. Configure your account as root user.
2. Insert the Softek Replicator CD-ROM and mount the CD, as follows:
   `# mount -t iso9660 /dev/cdrom /mnt/cdrom`
3. Change to the directory that contains the `Replicator-2.1.0p14-Linux.i386.rpm` file.
4. Enter the following command:
   `# rpm -ivh Replicator-Linux-2.1.0-X.i386.rpm`

   The following message indicates that the installation completed successfully:

```
Preparing...         ########################################### [100%]
1: Replicator-Linux ########################################### [100%]
Post install script
Creating Symbolic Links in /usr/local/bin
 find and create entry of in.dtc in /etc/services
Restore license file and shell script files from past revs
see if Previous Softek Replicator Installation saves exist
Saving current /etc/rc.d/rc.sysinit to /etc/rc.d/rc.sysinit.newDTC
Installing Softek Replicator loadable kernel module
modprobe: Can't locate module dtc
Starting Softek Replicator daemons
```

5. Add `/opt/SFTKdtc/bin` to the root's PATH environment variable.
6. In the `/etc/opt/SFTKdtc/DTC.lic` file, enter the license key to activate Softek Replicator on Linux.. (See *How to Enter License Information* on page 19.)

Softek Replicator Directory Structure on Linux

Directory	Contains...
/etc/opt/SFTKdtc	Licensing files, configuration files, template rc scripts
/opt/SFTKdtc/bin	User Executables
/opt/SFTKdtc/	Supporting libraries
/etc/init.d /etc/rc0.d /etc/rc1.d /etc/rc2.d /etc/rc3.d /etc/rc4.d /etc/rc5.d /etc/rc6.d /usr/sbin	Startup/Shutdown scripts
/usr/local/bin	Symbolic links to User Executables
/opt/SFTKdtc/doc	User Manuals
/opt/SFTKdtc/driver	Softek Replicator module
/var/opt/SFTKdtc	dtcerror.log, performance logs, configuration files from previous version

How to Install Softek Replicator on Solaris

All Softek Replicator components are installed on both primary and secondary systems - in the directories designated by the package. Softek Replicator is installed with the Solaris `pkgadd` command.

▶ **To install Softek Replicator on Solaris:**

1. Login as root user.
2. Insert and mount the Softek Replicator CD-ROM. If the /usr/sbin/VOLD process is running, the CD is automatically mounted.
3. Change directories to `/cdrom/cdrom0/Softek/Replicator/Solaris/[2.6|7|8|9]`.
4. Type the following command:

   ```
   pkgadd -d .
   ```

   The following message appears:

   ```
   The following packages are available:
     1  SFTKdtc     Replicator
                    (sparc) 2.1.0

   Select package(s) you wish to process (or 'all' to process
   ```

```
all packages). (default: all) [?,??,q]:
```

5. Press **1** to install Softek Replicator.
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 Replicator master daemon to listen on. Otherwise, enter another available port number.
   `Port for Softek Replicator 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 *Softek Replicator 2.1 Administrator's Guide for AIX, HP-UX, Linux and Solaris (ML-145086)* for more information. Further, you must make provisions for firewall or proxy setups to allow TCP/IP connections through the selected port.

8. Wait while the system processes the package information, until the following line appears:
   `Do you want to continue with the installation of <SFTKdtc> [y,n,?]`
   Enter `y` to continue.
9. Wait while the system installs Softek Replicator as <SFTKdtc>. At the end of the installation, the following message appears:
   `Installation of <SFTKdtc> was successful.`
10. `pkgadd` prompts you to install another package; enter `q` to quit.
11. Repeat these steps on each system in the company.
12. Add `/opt/SFTKdtc/bin` to the root's PATH environment variable.
13. Enter the license key to activate Softek Replicator, Solaris Version into the `/etc/opt/SFTKdtc/DTC.lic` file that you create for each system. See *How to Enter License Information* on page 19.

Softek Replicator Directory Structure on Solaris

Directory	Contains...
/etc/opt/SFTKdtc	Licensing files, configuration files, template rc scripts
/opt/SFTKdtc/bin	User Executables
/opt/SFTKdtc/	Supporting libraries
/opt/SFTKdtc/samples/chlink	Sample script for changing symbolic links
/etc/init.d /etc/rc3.d /etc/rcS.d /usr/sbin	Startup/Shutdown scripts
/usr/local/bin	Symbolic links to User Executables

Softek Replicator Directory Structure on Solaris *(Continued)*

Directory	Contains...
/var/opt/SFTKdtc	`dtcerror.log`, performance logs, configuration files from previous version

Licensing for AIX, HP-UX, Linux and Solaris

To run Softek Replicator, you must obtain a license key—24 alphanumeric characters—for each system using Softek Replicator in the company. A single key entered in the `DTC.lic` file on each system allows the operation of all Softek Replicator 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 Replicator 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 `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 Replicator 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.

NOTE For AIX create the `DTC.lic` file in the `/etc/dtc/lib` 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 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 *Softek Replicator 2.1 Administrator's Guide for AIX, HP-UX, Linux and Solaris (ML-145086)* for information on configuring Softek Replicator.

2

Installing Softek Replicator Agents

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Overview

Softek Replicator allows you to configure and manage your replication environment, regardless of operating system and platform, from a single console. This is made possible by Softek Replicator Agents that you install on your UNIX replication servers. Softek Replicator Agents connect to the *Softek Replicator Data Collector and Database* machine, installed on a Windows system, and allow you to manage your UNIX replication environemt from the *Softek Replicator Common Console*, also installed on a Windows system. For more information on the Softek Replicator Data Collector and Database and the Softek Replicator Common Console, please refer to the *Softek Replicator 2.1 Administration and User Guide (ML-145090)*.

This chapter explains how to install Softek Replicator Agents on your UNIX replication servers.

NOTE Softek Replicator Agents can only be installed after you have installed the Softek Replicator softare, as described in *Chapter 1: Installation.*
You must be logged in as `root` to install Softek Replicator Agents.

Installing the Softek Replicator Agent on AIX

The following sections describe the necessary steps to install a Softek Replicator Agent on AIX:

- Installing the AIX Agent
- Setting Up the AIX Agent Environment

Installing the AIX Agent

CAUTION:
You must install `SFTKdtc` prior to installing `SFTKdua`. Even though the installation procedure allows you to continue, the installation process fails if you did not install `SFTKdtc` first.

▶ To install the AIX Agent

- Follow the steps outlined in the example below:

```
 # installp -l -d .
 +-----------------------------------------------------------------+
   Fileset Name             Level                 I/U Q Content
=====================================================================
    dua.rte                2.1.0.X                  I  N usr
 # Replicator Agent
 +-----------------------------------------------------------------+
 # installp -a -V 4 -e ./log -d . dua.rte
 +-----------------------------------------------------------------+
 +-----------------------------------------------------------------+
 Pre-installation Verification...
 +-----------------------------------------------------------------+
```

```
Verifying selections...done
Verifying requisites...done
Results...
```

Setting Up the AIX Agent Environment

Following installation, you need to edit the AIX Agent configuration file, `dtcAgent.cfg`, created during installation.

The configuration file is located in:
`/etc/dua/lib/`

Modify the following parameters in the `dtcAgent.cfg` file according to your environment:

- Set the Broadcast address by entering the appropriate value next to the **mask** parameter.
- Set the Softek Data Collector amd Database machine's IP address by entering the appropriate value next to the **CollectorIP** parameter.
- If the default port number of 576 has been changed during installation of the Collector, the **CollectorPort** parameter also needs to be changed.
- Specify the initial value of the BAB, by enetering the desired value next to the **BabSize** parameter. This value is a megabyte unit. If you are building the BAB for the first time, the AIX Agent refers to the value entered here. However, the AIX Agent does not refer to this value if the BAB already exists.

For example:

```
# vi /etc/dua/lib/dtcAgent.cfg
       +-----------------------------------------------------------+
         mask:172.255.255.255
         CollectorIP:171.22.33.44
         CollectorPort:576
         BabSize:32
    +-------------------------------------------------------------+
```

Following this, you must edit the services file:
`/etc/services`

The AIX Agent needs the following definition:

```
# vi /etc/services
   +-------------------------------------------------------------+
     dtcListner     10112/udp       # FIX port addr
     dtcAgent       577/tcp         # Arbitrary port number
   +-------------------------------------------------------------+
```

NOTE If you do not change the values for `dtcListener` and `dtcAgent`, the AIX Agent uses the following default values:

- **dtcListner:** 10112
- **dtcAgent:** 577

Uninstalling the AIX Agent

▶ **To uninstall the AIX Agent**

- Type the following command:

```
# installp -u dua
```

Installing the Softek Replicator Agent on HP-UX

The following sections describe the steps to install a Softek Replicator Agent on HP-UX:

- Installing the HP-UX Agent
- Setting Up the HP-UX Agent Environment

> **CAUTION:**
> You must install `SFTKdtc` prior to installing `SFTKdua`. Even though the installation procedure allows you to continue, the installation process fails if you did not install `SFTKdtc` first.

Installing the HP-UX Agent

▶ **To install the HP-UX Agent**

1. Follow the steps outlined in the example below:

   ```
   # swinstall -s /<CD-ROM_mount_point>/DUA.depot
   ```

   The **swinstall** dialog box opens.

2. Highlight the **DUA** package from the list. Select **Mark for Install** from the **Actions** menu.

3. From the **Actions** menu, select **Install (analysis)**; a warning appears:

   ```
   +-----------------------------------------------------------------+
   The software "DUA,r=1.0.0,a=HP-UX_B.xx.xx_800,v=SFTK" was
   successfully marked, but it depends on the following software items
   which could not be found in the source. However, these items may
   already be in the target. This will be checked during the Analysis
   Phase: DTC
   + ----------------------------------------------------------------+
   ```

   Following the package check, select **OK**. The **Analysis** dialog box appears.

4. After the analysis of the system is complete, select **OK**.

5. In the **Confirmation** dialog box, select **Yes** to install the product.

6. In the **Install Window** dialog box, wait until the **Status** indicates **Completed**. Select **Done** to return to the **swinstall** dialog box.

7. For more information on the installation process, select **Logfile**.

8. Add `/opt/SFTKdua/bin` to your **PATH** environment variable.

Setting up an HP-UX Agent Environment

Following installation, you need to edit the HP-UX Agent configuration file, `dtcAgent.cfg`, created during installation.

The configuration file is located in:
`/etc/opt/SFTKdua/`

Modify the following parameters in the `dtcAgent.cfg` file according to your environment:

- Set the Broadcast address by entering the appropriate value next to the **mask** parameter.
- Set the Softek Data Collector amd Database machine's IP address by entering the appropriate value next to the **CollectorIP** parameter.
- If the default port number of 576 has been changed during installation of the Collector, the **CollectorPort** parameter also needs to be changed.
- Specify the initial value of the BAB, by enetering the desired value next to the **BabSize** parameter. This value is a megabyte unit. If you are building the BAB for the first time, the HP-UX Agent refers to the value entered here. However, the HP-UX Agent does not refer to this value if the BAB already exists.

For example:

```
# vi /etc/opt/SFTKdua/dtcAgent.cfg
      +-----------------------------------------------------------+
         mask:172.255.255.255
         CollectorIP:171.22.33.44
         CollectorPort:576
         BabSize:32
      +-----------------------------------------------------------+
```

Following this, you must edit the services file:
`/etc/services`

The HP-UX Agent needs the following definition:

```
# vi /etc/services
      +-----------------------------------------------------------+
         dtcListner     10112/udp       # FIX port addr
         dtcAgent       577/tcp         # Arbitrary port number
      +-----------------------------------------------------------+
```

NOTE If you do not change the values for `dtcListener` and `dtcAgent`, the HP-UX Agent uses the following default values:

- **dtcListner:** 10112
- **dtcAgent:** 577

Uninstalling the HP-UX Agent

▶ **To uninstall the HP-UX Agent**

- Type the following command:

```
# swremove DUA
```

Installing the Softek Replicator Agent on Linux

The following sections describe the steps to install a Softek Replicator Agent on Linux:

- Installing the Linux Agent
- Setting Up the Linux Agent Environment

Installing the Linux Agent

> **CAUTION:**
> You must install `SFTKdtc` prior to installing `SFTKdua`. Even though the installation procedure allows you to continue, the installation process fails if you did not install `SFTKdtc` first.

▶ **To install the Linux Agent**

- Enter the following command:

```
# rpm -ivh ./SFTKdua-Linux-2.1.0-xxx.1386.rpm
```

The following text displays:

```
 +-------------------------------------------------------------+
   Preparing...     ############################## [100%]
   1:SFTKdua-Linux  ############################## [100%]
 +-------------------------------------------------------------+
```

Setting Up the Linux Agent Environment

Following installation, you need to edit the Linux Agent configuration file, `dtcAgent.cfg`, created during installation.

The configuration file is located at:
`/etc/opt/SFTKdua/`

Modify the following parameters in the `dtcAgent.cfg` file according to your environment:

- Set the Broadcast address by entering the appropriate value next to the **mask** parameter.
- Set the Softek Data Collector amd Database machine's IP address by entering the appropriate value next to the **CollectorIP** parameter.
- If the default port number of 576 has been changed during installation of the Collector, the **CollectorPort** parameter also needs to be changed.

- Specify the initial value of the BAB, by enetering the desired value next to the **BabSize** parameter. This value is a megabyte unit. If you are building the BAB for the first time, the HP-UX Agent refers to the value entered here. However, the HP-UX Agent does not refer to this value if the BAB already exists.

For example:

```
# vi /etc/opt/SFTKdua/dtcAgent.cfg
      +-----------------------------------------------------------+
         mask:172.255.255.255
         CollectorIP:171.22.33.44
         CollectorPort:576
         BabSize:32
      +-----------------------------------------------------------+
```

Following this, you must edit the services file:
`/etc/services`

The Linux Agent needs the following definition:

```
# vi /etc/services
   +-------------------------------------------------------------+
      dtcListner     10112/udp       # FIX port addr
      dtcAgent       577/tcp         # Arbitrary port number
   +-------------------------------------------------------------+
```

NOTE If you do not change the values for `dtcListener` and `dtcAgent`, the Linux Agent uses the following default values:
- **dtcListner:** 10112
- **dtcAgent:** 577

Uninstalling the Linux Agent

▶ To uninstall the Linux Agent

- Type the following command:

```
# rpm -e SFTKdua-Linux-2.1.0-002
```

Installing the Softek Replicator Agent on Solaris

The following sections describe the steps to install a Softek Replicator Agent on Solaris:

- Installing the Solaris Agent
- Setting Up the Solaris Agent Environment

Installing the Solaris Agent

CAUTION:
You must install `SFTKdtc` prior to installing `SFTKdua`. Even though the installation procedure allows you to continue, the installation process fails if you did not install `SFTKdtc` first.

▶ To install the Solaris Agent

- Follow the steps outlined in the example below:

```
# pkgadd -d ./SFTKdua.pkg
  +-----------------------------------------------------------+
    The following packages are available:
      1  SFTKdua     Replicator  Agent
                     (sparc) 2.1.0 Build 00x
    Select package(s) you wish to process (or 'all' to process all
    packages). (default: all) [?,??,q]: 1
    Processing package instance <SFTKdua> from </tmp/SFTKdua.pkg>
    Replicator Agent
    (sparc) 2.1.0 Build 00x
   Copyright (C) Softek Technology Corporation. 2002, 2003.
    All Rights Reserved.
    Using </> as the package base directory.
    ## Processing package information.
    ## Processing system information.
       11 package pathnames are already properly installed.
    ## Verifying package dependencies.
        ## Verifying disk space requirements.
    ## Checking for conflicts with packages already installed.
    ## Checking for setuid/setgid programs.
  This package contains scripts that will be executed with super-user
    permission during the process of installing this package.
  Do you want to continue with the installation of <SFTKdua> [y,n,?]
    Installing Replicator Dtc Unix Agent as <SFTKdua>
    ## Executing preinstall script.
  +-----------------------------------------------------------+
```

Setting up the Solaris Agent Environment

Following installation, you need to edit the Solaris Agent configuration file, `dtcAgent.cfg`, created during installation.

The configuration file is located at:
`/etc/opt/SFTKdua/`

Modify the following parameters in the `dtcAgent.cfg` file according to your environment:

- Set the Broadcast address by entering the appropriate value next to the **mask** parameter.
- Set the Softek Data Collector amd Database machine's IP address by entering the appropriate value next to the **CollectorIP** parameter.
- If the default port number of 576 has been changed during installation of the Collector, the **CollectorPort** parameter also needs to be changed.
- Specify the initial value of the BAB, by enetering the desired value next to the **BabSize** parameter. This value is a megabyte unit. If you are building the BAB for the first time, the HP-UX Agent refers to the value entered here. However, the HP-UX Agent does not refer to this value if the BAB already exists.

For example:

```
# vi /etc/opt/SFTKdua/dtcAgent.cfg
      +-------------------------------------------------------+
         mask:172.255.255.255
         CollectorIP:171.22.33.44
         CollectorPort:576
         BabSize:32
      +-------------------------------------------------------+
```

Following this, you must edit the services file:
`/etc/services`

The Solaris Agent needs the following definition:

```
# vi /etc/services
    +-------------------------------------------------------------+
       dtcListner     10112/udp       # FIX port addr
       dtcAgent       577/tcp         # Arbitrary port number
    +-------------------------------------------------------------+
```

NOTE If you do not change the values for `dtcListener` and `dtcAgent`, the Solaris Agent uses the following default values:

- **dtcListner:** 10112
- **dtcAgent:** 577

Uninstalling the Solaris Agent

▶ **To uninstall the Solaris Agent**

- Type the following command:

```
# pkgrm SFTKdua
```

■ ■

3

Upgrading and Removing Softek Replicator

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Upgrading Softek Replicator

How to Upgrade Softek Replicator on AIX

When you upgrade Softek Replicator on AIX, you must remove the current product version before upgrading. For more information, see *How to Remove Softek Replicator on AIX* on page 39.

▶ **To perform the upgrade, do the following:**

1. Unmount all dtc devices and remove relevant entries from `/etc/filesystems`
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/dtc/lib` into a temporary directory.
5. To remove the core software and documentation, type:
   `# installp -u dtc.rte`

   The `installp` command preserves configuration files, license files and checkpoint scripts in a directory under `/var/dtc`.

   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/dtc/SFTKdtc` before upgrading.

   To ensure that you preserve your configuration files, copy them to a temporary directory before the upgrade.

How to Upgrade Replicator on HP-UX

When you upgrade Softek Replicator, HP-UX Version, you must remove the current product version before upgrading. For more information, see *How to Remove Softek Replicator on HP-UX* on page 42.

NOTE 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/dtc.02.01.0000.0000` before upgrading. To ensure that you preserve your configuration files, copy them to a temporary directory before the upgrade.

▶ **To perform the upgrade, do the following:**

1. Unmount 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 -x mount_all_filesystems=false DTC
   ```
   The `swremove` command preserves configuration files, license files and checkpoint scripts in a directory under:

   `/var/opt/SFTKdtc/SFTKdtc2.1.0` (for HP-UX 11.00)

   `/var/opt/SFTKdtc/SFTKdtc2.1.0-1` (for HP-UX 11i)

   If you are not migrating files, set the **pstore** to 0 and remove the files as described in *How to Remove Softek Replicator on HP-UX* on page 42.

6. If you are upgrading from Softek TDMF 1.2.9 to Softek Replicator 2.1.0, you must reboot the system with the following command:
   ```
   # shutdown -r
   ```

7. Refer to *How to Install Softek Replicator on HP-UX* on page 14 for instructions on installing the upgrade.

8. 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.

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

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

How to Upgrade Replicator on Linux

When you upgrade Softek Replicator, Linux Version, you must remove the current product version before upgrading. For more information, see *How to Remove Softek Replicator on Linux* on page 44.

NOTE 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/dtc.02.01.0000.0000` before upgrading. To ensure that you preserve your configuration files, copy them to a temporary directory before the upgrade. Verify migrated files before proceeding with the upgrade.
If you are not migrating files, set the **pstore** to 0 and remove the files as described in *How to Remove Softek Replicator on Linux* on page 44.

▶ **To perform the upgrade, do the following:**

1. Unmount all dtc devices and remove relevant entries from `/etc/fstab`.
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:
   `/sbin/rmmod sftkdtc`

NOTE If the driver is in use, the `rmmod` command fails.

6. To remove the core software and documentation, type:
   `rpm -e Replicator-Linux-2.1.0-X`

   The `rpm -e` command preserves configuration and license files in a directory under `/var/opt/SFTKdtc/SFTKdtc2.1.0.`

   If you are not migrating files, set the **pstore** to 0 and remove the files as described in *How to Remove Softek Replicator on Linux* on page 44.
7. If you are upgrading from Softek TDMF 1.2.9 to Softek Replicator 2.1.0, you must reboot the system with the following command:

   ```
   # shutdown -r
   ```
8. To install the upgrade, follow the steps under *How to Install Softek Replicator on Linux* on page 16.
9. Repeat the upgrade procedure on each server in the company.
10. Perform the configuration as normal. When the configuration tool prompts you to migrate your configuration files, select `Yes`.

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

How to Upgrade Softek Replicator on Solaris

Upgrading Softek Replicator Solaris Version requires that the current installation be removed prior to performing the upgrade. For more information, see *How to Remove Softek Replicator on Solaris* on page 46.

▶ **To perform the upgrade, do the following:**

1. Unmount 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 Replicator package and documentation. This command preserves configuration and license files in a directory under `/var/opt/SFTKdtc/SFTKdtc2.1.0`.

   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.
7. To install the upgrade, follow the steps described in *How to Install Softek Replicator on Solaris* on page 17.
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.

Removing Softek Replicator

How to Remove Softek Replicator on AIX

▶ **To remove Softek Replicator on AIX, do the following:**

NOTE Softek Replicator can be removed with the `installp -u` command.

1. Make sure that no dtc devices are currently installed or in use.
   Use the `mount` command to display all devices that have file systems installed.
2. Unmount all dtc devices and remove relevant entries from `/etc/filesystems`.
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: `#installp -u dtc.rte`

The following is displayed:

```
+-----------------------------------------------------------+
                   Pre-deinstall Verification...
+-----------------------------------------------------------+
Verifying selections...done
Verifying requisites...done
Results...

SUCCESSES
---------
  Filesets listed in this section passed pre-deinstall
verification
  and will be removed.

  Selected Filesets
  -----------------
  dtc.rte 2.1.0.0 # Replicator
  dtc.rte.doc 2.1.0.0 # Replicator

  << End of Success Section >>

FILESET STATISTICS
------------------
    2  Selected to be deinstalled, of which:
        2  Passed pre-deinstall verification
  ----
    2  Total to be deinstalled
+-----------------------------------------------------------+
                          Deinstalling Software...
+-----------------------------------------------------------+

installp:  DEINSTALLING software for:
        dtc.rte 2.1.0.0

No Replicator PMD daemons were running.
No Replicator PMD daemons were running.
in .dtc master Replicator daemon is not running
throtd Replicator throttle daemon is not running
[2003/09/22 10:53:30] dtc: ./dtc.rte.unconfig_d: dtc ODM PdDv and
CuDv configs.
1 objects deleted.
1 objects deleted.
Successfully read the ipl record for '/dev/ipldevice'
```

```
Both normal and service are same BLV
Normal BLV name is /dev/hd5
265 CuDv objects to be saved
575 CuAt objects to be saved
223 CuDep objects to be saved
26 CuVPD objects to be saved
598 CuDvDr objects to be saved
Number of bytes of data to save = 68820
Compressing data
Compressed data size is = 18880
Normal boot image:
        start = block 4352, length = 7785 blocks
        save area start = block 11908, length = 256 blocks
Wrote 18884 bytes
savebase : successful completion
/etc/dtc/init.d/dtc-rcedit: driver start hooks deinstalled
Moving dtc License files to /var/dtc/dtc.02.01.0000.0000
Moving the dtc.conf file to/var/dtc/dtc.02.01.0000.0000
[2003/09/22 10:53:30] dtc: ./dtc.rte.unconfig_d: Driver ODM PdDv
and CuDv undefine succeeded.
Filesets processed:  1 of 2  (Total time:  11 secs).

installp:  DEINSTALLING software for:
        dtc.rte.doc 2.1.0.0

Finished processing all filesets.  (Total time:  12 secs).

+-----------------------------------------------------------------+
                                Summaries:
+-----------------------------------------------------------------+

Installation Summary
--------------------
Name                        Level Part        Event       Result
-------------------------------------------------------------------
dtc.rte                   2.1.0.0 ROOT       DEINSTALL   SUCCESS
dtc.rte                   2.1.0.0 USR        DEINSTALL   SUCCESS
dtc.rte.doc               2.1.0.0 USR        DEINSTALL   SUCCESS
```

6. After the above message is displayed, type the following:
   `lsvg -o | lsvg -i -l`

   Use the appropriate `rmlv` command to remove unused volumes.

NOTE Using the `rmlv` command will not work on the pstore until after rebooting the system.

7. To completely remove cached configuration files, checkpoint shell scripts, license files, and empty directories, type the following command:
   `rm -r /etc/dtc /usr/dtc /var/dtc`

NOTE If you are upgrading, do not enter this command since it will erase the **pstore** and your configuration files.

How to Remove Softek Replicator 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.

Softek Replicator can be removed with the `swremove` command.

▶ **To remove Softek Replicator on the primary system:**

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. Unmount 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 -x mount_all_filesystems=false DTC
   ```

   The following text is displayed:

```
       =======  09/24/03 10:21:29 JST  BEGIN swremove SESSION
                (non-interactive)

              * Session started for user "root@lapsang".

              * Beginning Selection
              * Target connection succeeded for "lapsang:/".
              * Software selections:
                   DTC.Documentation,l=/etc/opt/SFT-
       Kdtc,r=2.1.0,a=HP-UX_B.11.00_800
                  DTC.Programs,l=/etc/opt/SFTKdtc,r=2.1.0,a=HP-
       UX_B.11.00_800
              * Selection succeeded.


              * Beginning Analysis
              * Session selections have been saved in the file
                "/.sw/sessions/swremove.last".
              * "lapsang:/":  There will be no attempt to mount
       filesystems
                that appear in the filesystem table.
              * Analysis succeeded.


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


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

       =======  09/24/03 10:21:39 JST  END swremove SESSION (non-
       interactive)
```

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

   ```
   # cd /stand/build
   # /etc/config /stand/system
   ```

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

> **CAUTION:**
> 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
```

How to Remove Softek Replicator on Linux

▶ **To remove Softek Replicator on Linux, follow the steps below:**

1. Use the `/bin/mount` command to display all devices that are installed. Make sure that no dtc device is currently installed or in use.
2. Uninstall all dtc devices and remove any relevant entries from `/etc/fstab`.
3. On the primary system, type `killpmds` to stop the PMD; enter `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 driver by entering:
   `/sbin/rmmod sftkdtc`

NOTE If the driver is in use, the `rmmod` command fails.

6. Enter:
   `# rpm -e Replicator-Linux-2.1.0-X`

This removes the Softek Replicator package from the system with the output shown below. This command preserves configuration and license files in a directory under `/var/opt/SFTKdtc`.

```
No Replicator PMD daemons were running.
No Replicator RMD daemons were running.
in.dtc master Replicator daemon is not running
throtd Replicator throttle daemon is not running
rmmod: module sftkdtc is not loaded

****************************************************************
Warning: There are references to dtc devices in /etc/fstab.
These should be removed before the next reboot.  There may be
references to dtc devices in other files created by a system
administrator that need to be removed.
****************************************************************

Moving SFTKdtc Config files to /var/opt/SFTKdtc/SFTKdtc2.1.0
Moving SFTKdtc Shell files to /var/opt/SFTKdtc/SFTKdtc2.1.0
Moving SFTKdtc License files to /var/opt/SFTKdtc/SFTKdtc2.1.0
Moving SFTKdtc device list file to /var/opt/SFTKdtc/SFTKdtc2.1.0
Moving the dtc.conf file to /var/opt/SFTKdtc/SFTKdtc2.1.0
Removing Replicator Symbolic Links from /usr/local/bin
Removing Replicator device tree: /dev/dtc
Removing temporary files from /var/opt/SFTKdtc
Removing Replicator master daemon from /etc/services
Saving current /etc/modules.conf to /etc/modules.conf.pre_dtc_remove
Removing Replicator modifications from /etc/modules.conf
Saving current /etc/rc.d/rc.sysinit to /etc/rc.d/rc.sysinit.pre_dtc_remove
Removing Replicator modifications from /etc/rc.d/rc.sysinit
```

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

```
dd if=/dev/zero of=<block_path_to_pstore> bs=8192 count=1
rm -rf /var/opt/SFTKdtc
rm -rf /etc/opt/SFTKdtc
rm -rf /opt/SFTKdtc
```

NOTE 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 `-p###.cfg` configuration file is located in `/var/opt/SFTKdtc/SFTKdtc2.1.0`.

How to Remove Softek Replicator on Solaris

▶ **To remove Softek Replicator, follow the steps below:**

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. Unmount 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 Replicator package with the following output. The `pkgrm` command preserves configuration and license files in a directory under `/var/opt/SFTKdtc`.

   See figure: *Output from the Softek Replicator Removal on Solaris* on page 47.

Output from the Softek Replicator Removal on Solaris

```
The following package is currently installed:
SFTKdtc Replicator
                   (sparc) 2.1.0
Do you want to remove this package? y
## 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] y
## Verifying package dependencies.
## Processing package information.
## Executing preremove script.
no Replicator PMD Daemons currently running
no Replicator RMD Daemons currently running
in.dtc master Replicator daemon has been shutdown
throtd Replicator throttle daemon has been shutdown
Driver (dtc) not installed.
Moving SFTKdtc Shell files to /var/opt/SFTKdtc/SFTKdtc2.1.0
Moving SFTKdtc License files to /var/opt/SFTKdtc/
SFTKdtc2.1.0
Moving the dtc.conf file to /var/opt/SFTKdtc/SFTKdtc2.1.0
## 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 The purpose of the `dd` command is to set the **pstore** to 0.

The `<raw_path_to_pstore>` is located in the configuration file. The configuration file `- p###.cfg -` is located in `/var/opt/SFTKdtc/SFTKdtc2.1.0`.

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

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Revision History

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

Revision Level	Change Summary
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