



# Upgrading the TED Using the Universal TED Updater

## Technical Reference

### Overview

#### Introduction

The Universal TED Updater includes TED application software and firmware for all TED platforms. This includes:

- TED 4 on a UCS2xx-M server with an nCipher HSM card
- TED 3 on a Netra 4200X server with a Sun/Oracle SCA6000 HSM card
- TED F/X with a Rainbow CryptoSwift CryptoGraphic Accelerator card

After installing Release 1.x.y of the Universal TED Updater onto the RCAS, DNCS, EC, or any system with a directly connected TED, you must then push the application to the TED server. This document provides all of the necessary procedures.

#### Purpose

This document describes the installation and operation of the Universal TED Updater. The Universal TED Updater (SAIUniTedUpd) is a maintenance utility to be installed on an RCAS, DNCS, EC, or any system with a directly connected TED. SAIUniTedUpd is a replacement for the old TED updater package (SAITedUpd).

**Important:** The Universal TED Updater can be installed if and only if the old TED updater package (SAITedUpd) is removed.

If the old TED updater package (SAITedUpd) is installed on the current system, SAIUniTedUpd will not install, and subsequently will instruct the operator to remove the SAITedUpd package.

Once installed, execution of the Universal TED Updater allows the operator to remotely update the connected TED. It should be noted, that if an old TED updater is executed prior to the Universal TED Updater execution, the latter could refuse to upgrade the TED. More importantly, however, this type of exception does not compromise system integrity or functionality whatsoever. In fact, this behavior is provided to protect against such system defects.

## **Installing the Universal TED Updater**

If an operator inadvertently executes the old TED Updater prior to executing the Universal TED Updater, the Universal TED Updater will refuse to upgrade the TED, as described in the previous paragraph. Should this situation occur, contact Cisco services to resolve the issue.

## **Audience**

This document is written for network system administrators, system operators, and headend engineers responsible for installing the TED server. System administrators should have extensive working experience within their network architecture and with using UNIX-based text editors.

## **Document Version**

This is the third formal release of this document. In addition to minor changes, this document updates the UCS server model that supports TED software.

## Installing the Universal TED Updater

### Remove the SAITedUpd Package from the DNCS

Because the Universal TED Updater package is a new and unique SAI package, the existing TED Updater package is no longer needed. Before installing the new Universal TED Updater (SAIUniTedUpd) package, you must remove the existing TED Updater (SAITedUpd) package from the DNCS.

Complete the following steps to remove the SAITedUpd package from the DNCS.

- 1 If necessary, open an xterm window on the DNCS.
- 2 Complete the following steps to log on to the xterm window as the **root** user.
  - a Type **su -** and press **Enter**. The password prompt appears.
  - b Type the root password and press **Enter**.

- 3 Type **pkginfo -l SAITedUpd | grep VER** and press **Enter** to verify that the SAITedUpd package is installed on the DNCS.

**Note:** In some cases, the SAITedUpd package may not exist on your DNCS. If it does not exist, you can skip the rest of this procedure.

**Result:** The package version is displayed.

**Example:**

```
# pkginfo -l SAITedUpd | grep VER
VERSION: 3.1.0.8
```

- 4 Type **pkgrm SAITedUpd** and press **Enter**.

**Result:** You are prompted to confirm the removal of the package.

- 5 Type **y** and press **Enter**.

**Result:** When the script completes, you should see the following message:

```
Removal of <SAITedUpd> was successful.
```

- 6 Repeat Step 3 to confirm the package removal.

**Result:** The following message should appear:

```
# pkginfo -l SAITedUpd | grep VER
ERROR: information for "SAITedUpd" was not found.
```

### Install the Universal TED Updater on the DNCS

Complete the following steps to install the Universal TED Updater (SAIUniTedUpd) package on the DNCS.

- 1 Open an xterm window on the DNCS and log in as the **root** user.
- 2 Type **./dvs/dnscs/bin/dnscsSetup** and press **Enter** to source-in the environment variables.
 

**Important:** Be sure to type the period followed by a space before typing **/dvs**.
- 3 Insert the Universal TED Updater CD (SAIUniTedUpd) into the CD drive of the DNCS.
- 4 Once the CD has mounted, type **cd /cdrom/cdrom0** and press **Enter**.

## Installing the Universal TED Updater

- 5 Type **install\_pkg** and press **Enter** to install the SAIUniTedUpd package.

**Result:** You are prompted to confirm the installation of the package.

```
# install_pkg
checking the system, please wait...
*****
This script will install the following packages on "conanv880":
SAIUniTedUpd   Universal TED Update 11-17-11
                1.0.0
*****
Are you SURE you want to continue? [y,n,?,q]
```

- 6 Type **y** and press **Enter**.

**Result:** The installation of the package begins. When the installation completes, the following message appears:

```
Installation of <SAIUniTedUpd> was successful.
For more SAIUniTedUpd package installation messages refer to:
/var/sadm/system/logs/SAIUniTedUpd_1.0.0_install.log
```

- 7 Access the `/var/sadm/system/logs/SAIUniTedUpd_x.x.x_install.log` and check for any errors. Did any errors occur?

- If **yes**, contact Cisco Services for assistance.
- If **no**, continue with Step 8.

- 8 Type **pkginfo -l SAIUniTedUpd** and press **Enter** to verify that the SAIUniTedUpd package installed successfully and that the correct version is installed.

**Example:**

```
# pkginfo -l SAIUniTedUpd
PKGINST: SAIUniTedUpd
NAME: Universal TED Update 11-17-11
CATEGORY: application
ARCH: SunOS_sparc
VERSION: 1.0.0
BASEDIR: /dvs
VENDOR: Cisco Systems, Inc
DESC: Universal TED Update 11-17-11
PSTAMP: flash20111117152733
INSTDATE: Nov 18 2011 11:25
STATUS: completely installed
FILES: 42 installed pathnames
        1 shared pathnames
        6 directories
        31 executables
        174202 blocks used (approx)
```

- 9 Type **cd** and press **Enter** to make the root directory the working directory.
- 10 Type **eject cd** and press **Enter** to eject the CD from the DNCS.

## Push the TED Application from the DNCS to the TED

Complete the following steps to push (install) the appropriate TED application to the TED server.

**Important:** These steps should be performed during a maintenance window.

- 1 From a dncs xterm window, type **dncsStop** and press **Enter**.

**Result:** You are prompted to confirm stopping the DNCS processes.

- 2 Type **y** and press **Enter**.
- 3 Type **dncsKill** and press **Enter**.

- Return to the root xterm window, type `/dvs/dncls/TED/update/updateTED`, and press **Enter**.

**Result:** The upgrade process begins and you are prompted to enter the host name for the site that you want to add to the known hosts.

**Note:** The first time that you run the updater, you are asked to add the host name and the IP address of the TED server. This process adds the TED server as a known host and creates a public/private key that is used for identification when the SSH protocol is invoked.

- Type the host name for the TED server, such as `dncsted`, and press **Enter**.

**Result:** You are prompted for the IP address for the host.

- Type the IP address for the host name you added, such as `192.168.1.2`, and press **Enter**.

**Result:** The information that you entered in Steps 5 through 6 appears and you are prompted to continue the installation.

**Example:**

```
Determining the encryption server version...
Enter the host name of the site you are adding: dncsted
Enter the IP address of the site you are adding: 192.168.1.2

    The following line will be added to /etc/hosts:
    192.168.1.2          dncsted

Do you want to continue? [y,n,q] ,
```

- Type **y** and press **Enter**.

**Result:** You are prompted for the root password to the site that you are adding.

- Type the **root** password for the TED and press **Enter**.

**Result:** A set of specific keys is created for the exclusive use of this TED and the current status of the TED server appears. You are prompted to continue with the installation.

**Example:**

```
root@dncsted's password:
generickey.pub      100% |*****| 603      00:00
ok.
Generating root public/private keys...
Generating public/private dsa key pair.
Your identification has been saved in /.ssh/sitekey.
Your public key has been saved in /.ssh/sitekey.pub.
The key fingerprint is:
cb:9f:06:a1:80:76:99:3b:03:ed:ba:15:f6:2e:76:32 root@conanv880
Done.
When you are asked, provide the hostname, ip and root password for the TED.
currently installed TED status:
  Architecture: TED3
    Platform: Sun Microsystems : Netra X4200 M2
    Encryption Device: sca6000
    Firmware version: 1.1.8
    Platform OS version: 2.6.18-53.e15
    Platform installation version: 1.0.5
    Software version: 3.1.0.10
Update package status:
  Firmware version: 1.1.8
  Software version: 3.1.0.11

NOTE: The TED server needs to be updated.
Continue with the update? [y,n]
```

## Installing the Universal TED Updater

- 9 Type **y** and press **Enter**.

**Result:** The package files are pushed from the DNCS to the TED server. When the installation completes, the current status of the TED server appears and the TED server reboots.

**Note:** This step can take as long as 5 minutes to complete.

**Example:**

```
Pushing over required package files...
Running the install script on the TED: Please be patient..

Checking the version on the TED...
Currently installed TED status:
  Architecture: TED3
    Platform: Sun Microsystems : Netra X4200 M2
    Encryption Device: sca6000
    Firmware version: 1.1.8
  Platform OS version: 2.6.18-53.e15
  Platform installation version: 1.0.5
  Software version: 3.1.0.11
Update package status:
  Firmware version: 1.1.8
  Software version: 3.1.0.11

NOTE: The installed version is current.

The TED server is rebooting and it will be a few minutes until it is ready.
TED updated.
Update finished.
#
```

- 10 From a **dncs** xterm window, type **ping -s dnccstcd** and press **Enter**.

**Note:** When the TED can be pinged, it is back online.

- 11 From the **dncc** xterm window, type **dnccStart** and press **Enter** to restart the DNCS processes.
- 12 Type **admincon** and press **Enter** to launch the Administrative Console.
- 13 Launch the DNCS process tree from either the Administrative Console (SR4.3/SR4.2) or from the Process Status tab (SR 5.0 or later). All processes should be green.

## Install the Universal TED Updater on the EC

Complete the following steps to install the Universal TED Updater (SAIUniTedUpd) package on the EC:

- 1 Mount the SR 6.0 DVD ISO image on the EC using the procedure in *Mount the ISO Image* (on page 10).
- 2 Type **df -k /cdrom/cdrom** and press **Enter** to verify that the DVD is mounted as /cdrom/cdrom.

**Example:**

```
bash-3.2# df -k /cdrom/cdrom
Filesystem          kbytes  used  avail capacity Mounted on
/vol/dev/dsk/c0t0d0/cdrom
2059022 2059022      0  100%   /cdrom/cdrom
```

- 3 Type **sux - root** to become the root user.

**Example:**

```
bash-3.00$ sux - root
password
bash-3.00#
```

- 4 Type `cd /mnt/sai/INSTALL/dnscapp_iset/packages/` to change to the packages directory.

**Example:**

```
bash-3.00# cd /mnt/sai/INSTALL/dnscapp_iset/packages/
```

- 5 Type `install_pkg SAIUniTedUpd` to install the package.

**Example:**

```
bash-3.00# install_pkg SAIUniTedUpd
```

- 6 Select `y` when asked to continue:

**Example:**

```
bash-3.00# install_pkg SAIUniTedUpd

Checking the system, please wait...

*****

This script will install the following packages on "a1rcas1":

SAIUniTedUpd   Universal TED Update 10-15-13
                1.2.2

*****

Are you SURE you want to continue? [y,n,?,q] y
```

- 7 Type `cd` and then press **Enter** to change out of the mounted directory.

- 8 Type `eject` to eject the cdrom.

**Example:**

```
bash-3.2# eject
```

```
bash-3.2#
```

## Push the TED Application from the EC to the TED

Complete the following steps to push (install) the appropriate TED application to the TED server.

**Important:** These steps should be performed during a maintenance window.

- 1 From a dnscs xterm window, type `dnscsStop` and press **Enter**.

**Result:** You are prompted to confirm stopping the DNCS processes.

- 2 Type `y` and press **Enter**.

- 3 Type `dnscsKill` and press **Enter**.

- 4 Return to the root xterm window, type `/dvs/dnscs/TED/update/updateTED`, and press **Enter**.

**Result:** The upgrade process begins and you are prompted to enter the host name for the site that you want to add to the known hosts.

**Note:** The first time that you run the updater, you are asked to add the host name and the IP address of the TED server. This process adds the TED server as a known host and creates a public/private key that is used for identification when the SSH protocol is invoked.

## Installing the Universal TED Updater

- 5 Type the host name for the TED server (for example, dncsted), and press **Enter**.  
**Result:** You are prompted for the IP address for the host.

- 6 Type the IP address for the host name that you added, such as 192.168.1.2, and press **Enter**.

**Result:** The information that you entered in Steps 5 through 6 appears and you are prompted to continue the installation.

### Example:

```
Determining the encryption server version...
Enter the host name of the site you are adding: dncsted
Enter the IP address of the site you are adding: 192.168.1.2

    The following line will be added to /etc/hosts:

    192.168.1.2          dncsted

Do you want to continue? [y,n,q]
```

- 7 Type **y** and press **Enter**.

**Result:** You are prompted for the root password to the site you are adding.

- 8 Type the root password for the TED and press **Enter**.

**Result:** A set of specific keys is created for the exclusive use of this TED and the current status of the TED server appears. You are prompted to continue with the installation.

### Example:

```
root@dncsted's password:
generickey.pub      100% |*****| 603      00:00
ok.
Generating root public/private keys...
Generating public/private dsa key pair.
Your identification has been saved in /.ssh/sitekey.
Your public key has been saved in /.ssh/sitekey.pub.
The key fingerprint is:
cb:9f:06:a1:80:76:99:3b:03:ed:ba:15:f6:2e:76:32 root@conanv880
Done.
When you are asked, provide the hostname, ip and root password for the TED.
Currently installed TED status:
  Architecture: TED3
    Platform: Sun Microsystems : Netra X4200 M2
    Encryption Device: sca6000
    Firmware version: 1.1.8
  Platform OS version: 2.6.18-53.e15
  Platform installation version: 1.0.5
  Software version: 3.1.0.10
Update package status:
  Firmware version: 1.1.8
  Software version: 3.1.0.11

NOTE: The TED server needs to be updated.
Continue with the update? [y,n]
```

- 9 Type **y** and press **Enter**.

**Result:** The package files are pushed from the DNCS to the TED server. When the installation completes, the current status of the TED server appears and the TED server reboots.

**Note:** This step can take as long as 5 minutes to complete.

```

Pushing over required package files...
Running the install script on the TED: Please be patient..
Checking the version on the TED...
Currently installed TED status:
  Architecture: TED3
    Platform: Sun Microsystems : Netra X4200 M2
    Encryption Device: sca6000
    Firmware version: 1.1.8
  Platform OS version: 2.6.18-53.el5
  Platform installation version: 1.0.5
  Software version: 3.1.0.11
Update package status:
  Firmware version: 1.1.8
  Software version: 3.1.0.11

NOTE: The installed version is current.
The TED server is rebooting and it will be a few minutes until it is ready.
TED updated.
Update finished.
#

```

- 10 From a dncs xterm window, type **ping -s dncsted** and press **Enter**.  
**Note:** When the TED can be pinged, it is back online.
- 11 From the dncs xterm window, type **dncsStart** and press **Enter** to restart the DNCS processes.
- 12 Log into the EC Administrative Console and ensure that all processes have started.

## Install the Universal TED Updater on the RCAS

Complete the following steps to install the Universal TED Updater (SAIUniTedUpd) package on the RCAS.

- 1 Log on to the RCAS server as the root user.
- 2 Mount the Universal TED Updater CD on the RCAS using the procedure in *Mount the ISO Image* (on page 10).
- 3 Type **df -k /cdrom/cdrom** and press **Enter** to verify that the CD is mounted as /cdrom/cdrom.

**Example:**

```

bash-3.2# df -k /cdrom/cdrom
Filesystem          kbytes    used  avail capacity  Mounted on
/vol/dev/dsk/c0t0d0/cdrom
                    2059022 2059022      0   100%   /cdrom/cdrom

```

- 4 Type **cd /cdrom/cdrom** to change to the packages directory.
- 5 Type **install\_pkg SAIUniTedUpd** to install the package.

## Installing the Universal TED Updater

- 6 Type **y** to continue.

**Example:**

```
bash-3.00# install_pkg SAIUniTedUpd
Checking the system, please wait...

*****
This script will install the following packages on "a1rcas1":
SAIUniTedUpd   Universal TED Update 10-15-13
                1.2.2
*****

Are you SURE you want to continue? [y,n,?,q] y
```

- 7 Type **cd** and then press **Enter** to change out of the mounted directory.
- 8 Type **eject** to un-mount and eject the CD from the system.

## Push the TED Application from the RCAS to the TED

- 1 Type **ls/mnt** to ensure that the ISO is no longer mounted.
- 2 Type **sux - rcas** to change to the rcas user.
- 3 Stop the RCAS processes.

**Example:**

```
bash-3.00$ rcasStop
bash-3.00$ rcasKill
```

- 4 Become the root user.

**Example:**

```
bash-3.00$ exit
bash-3.00#
```

- 5 Type **/dvs/dnacs/TED/update/updateTED** to run the TED updater script.

- 6 Change to the rcas user.

**Example:** `bash-3.00# sux - rcas`

- 7 Start the RCAS processes.

**Example:** `bash-3.00$ rcasStart`

## Mount the ISO Image

- 1 Right-click **VM** and select **Edit Settings**.
- 2 From the Hardware tab, select **CD/DVD drive 1**.
- 3 At Power On, select **Connected and Connect**.
- 4 From the Device Type section, click **Datastore ISO File** and then click **Browse** to navigate to the ISO image.
- 5 Select the ISO image and click **OK**.
- 6 Click **OK** again to exit the Edit Settings screen.
- 7 Type **df -k** and press **Enter** to verify that `/cdrom/cdrom` is mounted.





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