



Enabling Session-Based Encryption for VOD Services

System Release 2.2/3.2

Please Read

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

Notices

Trademark Acknowledgments

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of cisco trademarks, go to this URL: www.cisco.com/go/trademarks.

CableCARD, M-Card, and OpenCable are trademarks of Cable Television Laboratories, Inc.

Other third party trademarks mentioned are the property of their respective owners.

The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Publication Disclaimer

Cisco Systems, Inc. assumes no responsibility for errors or omissions that may appear in this publication. We reserve the right to change this publication at any time without notice. This document is not to be construed as conferring by implication, estoppel, or otherwise any license or right under any copyright or patent, whether or not the use of any information in this document employs an invention claimed in any existing or later issued patent.

Copyright

© 2000, 2003-2005, 2008 Cisco Systems, Inc. All rights reserved.
Printed in the United States of America.

© 2000, 2003-2005, 2008, 2012 Cisco and/or its affiliates. All rights reserved. *Printed in the United States of America.*

Information in this publication is subject to change without notice. No part of this publication may be reproduced or transmitted in any form, by photocopy, microfilm, xerography, or any other means, or incorporated into any information retrieval system, electronic or mechanical, for any purpose, without the express permission of Cisco Systems, Inc.

Contents

About This Guide	v
Chapter 1 Before You Activate SBE	1
Check Available Database Space	2
Verify that the DIS Flag is Enabled	4
Verify the SBE License Option is Enabled.....	8
Chapter 2 Activate SBE	9
SBE Activation.....	11
SBE Activation Day Two.....	14
SBE Activation Day Five	15
SBE Activation Day Ten.....	17
SBE Activation Last Day (Seventeen).....	19
Chapter 3 Customer Information	22

About This Guide

Introduction

Video-On-Demand (VOD) is an interactive, session-based application that provides video services to subscribers. Session-Based Encryption (SBE) provides an added degree of security for VOD content and prevents QAM tuner-equipped televisions from viewing unpurchased VOD content.

The SBE set-up process for System Release (SR) 2.2/3.2 involves five phases that span seventeen days. During the first phase (Day One), Cisco Services engineers perform the SBE activation phase tasks. The four subsequent SBE set-up phases include procedures the Digital Broadband Delivery System (DBDS) system operator follows for Days Two, Five, Ten, and Seventeen.

Note: Contact the representative who handles your account for information about purchasing the optional SBE software product for your system.

Purpose

This document provides instructions for setting up SBE on systems using SR 2.2/3.2.

Audience

These instructions are written for DBDS system operators, system administrators of the DNCS, field technicians, and personnel responsible for setting up the SBE option.

Related Publications

You may find the following publications useful as resources when you implement the procedures in this document.

- *Correcting QAM, MQAM, GQAM, and GoQAM Modulators With Missing Key Certificates* (part number 745235)
- *DBDS Utilities Version 5.1 Installation Instructions and DNCS Utilities User's Guide* (part number 740020)
- *Setting Up Your Video-On-Demand Service* (part number 4009749)

Document Version

This is the sixth release of this guide. In addition to minor text and graphic changes, the following table provides the technical changes to this guide.

Description	See Topic
Added instructions about special considerations when loading SSC boxes.	<i>Test One - Check Test Group DHCTs</i> (on page 4) <i>Test Two - Check Recently-Staged DHCTs</i> (on page 6)

1

Before You Activate SBE

Introduction

After you purchase the SBE license option for your DNCS, perform the following system checks to determine that your system is ready to have the SBE option enabled.

Important: Before activating the SBE option you *must* perform the following system checks.

- 1 Run a Doctor Report to check and ensure that there is available database space for additional database extents (type 8 EMMs).
- 2 Run tests on two groups of DHCTs to verify that the billing provider is enabling the Digital Interactive Services (DIS) flag on billing transactions sent to the DNCS.
- 3 Run a Doctor Report to verify that VOD SBE is licensed.

In This Chapter

- Check Available Database Space..... 2
- Verify that the DIS Flag is Enabled 4
- Verify the SBE License Option is Enabled..... 8

Check Available Database Space

Overview

Before you enable SBE, run a Doctor Report to ensure there is enough database space for additional type 8 EMMs.

Important: If your system does not have enough database space available for additional type 8 EMMs, you *cannot* proceed with the SBE setup.

Checking Your Available Database Space

Complete the following steps to check the available database space using a Doctor Report.

- 1 Open an xterm window on the DNCS.
- 2 Type `cd /export/home/dnCS/doctor` and press **Enter**. The system accesses the doctor directory and displays a prompt.
Note: You may want to expand the xterm window to be able to see more of the report without having to scroll as much.
- 3 Type `doctor -av` and press **Enter**. The system generates the doctor report. When finished, the system displays the directory where the report is stored.
Example: Output report file is `/export/home/dnCS/doctor/report.040227_1058.doc`
- 4 Type `more <doctor report file path>` and press **Enter**. The system displays the Doctor Report one page at a time.
Example: `more /export/home/dnCS/doctor/report.040227_1058.doc`

- 5 Press **Enter** to scroll through the report until you see the DNCS Database Check section as shown in the following example:

DNCS Database Check

Total temp space = 20520 pages (40.0 M)

Free temp space = 20083 pages (39.2 M)

Database temp space is at 2.2% used capacity.

Total data space = 2097150 pages (4095.9 M)

Free data space = 1919078 pages (3748.1 M)

OK: Database data space is at 8.5% used capacity.

Notes:

- In the preceding example, the last line of data indicates that the database is at 8.5 percent used capacity. The Doctor Report displays an error condition once the database reaches 75 percent used capacity.
 - For each 100,000 DHCTs you will need an additional 461 MB of data space for type 8 EMMs.
- 6 Does your Doctor Report show a data space used capacity of 75% or more?
 - If yes, contact the representative who handles your account for assistance on this issue.

Important: If your site does not have enough database space, you *cannot* proceed.
 - If **no**, continue to step 7.
 - 7 Press **Ctrl-C** to exit the utility.
 - 8 Type **exit** and press **Enter**. The xterm window closes.
 - 9 Go to *Verify that the DIS Flag is Enabled* (on page 4).

Verify that the DIS Flag is Enabled

Overview

After you determine that there is available database space for additional type 8 EMMs, the two tests in this section will verify whether the billing department is enabling the DIS flag on transactions sent to the DNCS.



CAUTION:

You must perform the tests in this section to confirm that the billing computer is setting the DIS enable flag for all DHCTs. Your system DHCTs must receive the DIS enable flag on each transaction from the billing system in order for SBE to be activated.

Test One - Check Test Group DHCTs

Before you contact your billing provider, we recommend that you select three DHCTs for a test group. If the DIS flag is set, disable the DIS enable flag for each DHCT in that test group. After disabling the DHCT DIS flag from the DNCS, you must contact your billing provider and ask them to set the DIS flag to Enable.

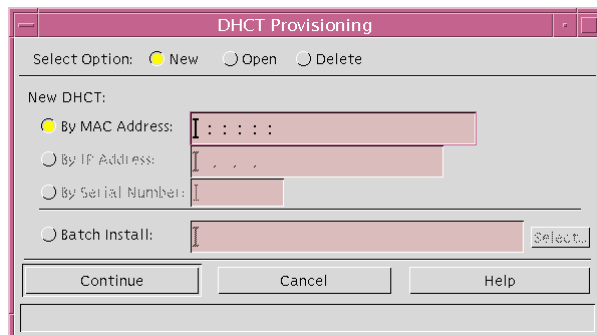


CAUTION:

If you have a Separable Security CableCARD™ (SSC) set-top box, once the SSC set-top is licensed, you will stage the set-top as usual without the DIS flag enabled. After the set-top box is staged and bound, have billing enable DIS by sending a hit to the set-top box.

Complete the following steps to perform Test One on three DHCTs.

- 1 Select three DHCTs for your test group.
- 2 On the DNCS Administrative Console, click the **DNCS** tab. Click **Element Provisioning**.
- 3 Click **DHCT**. The DHCT Provisioning window appears.



- 4 In the Select Option area, click the **Open** option if it is not already selected.

- 5 Do you know the MAC address for the DHCT you want to check?
 - If **yes**, click the **By MAC Address** option, then click in the corresponding field, and type the MAC address for the DHCT you want to check.
 - If **no**, click the **By Serial Number** option, then click in the corresponding field, and type the serial number for the DHCT you want to check.
- 6 Click **Continue**. The Set Up DHCT window opens for the DHCT you want to check.
- 7 Click the **Secure Services** tab.

The screenshot shows the 'Set Up DHCT' window with the 'Secure Services' tab selected. The 'Key Certificate' section displays a certificate name: 'O=US, O=Scientific-Atlanta, OU=Scientific-Atlanta, Mexico, CN=PK0001a678792e'. The 'Packages' section shows a list of available packages on the left and selected packages (BRICK, RTE, STARZ, VIEWERCHOICE) on the right. In the 'Options' section, the 'DIS Enable' checkbox is checked, and the 'IPPV Credit Limit' is set to 100 and 'Max. IPPV Events' is set to 10. At the bottom, there are 'Save', 'Cancel', and 'Help' buttons, along with a 'Poll DHCT for IPPV Data' button.

- 8 Does a check mark appear in the DIS Enable field?
 - If **yes**, click the **DIS Enable** option to turn the DIS enable flag off, then click **Save**.
 - If **no**, then the DIS Enable option is already off. Click **Cancel** to exit the Secure Services tab.
- 9 Repeat steps 4 through 9 on the other two DHCTs in your test group to ensure that the DIS Enable flag is turned off.
- 10 Contact your billing provider and ask them to enable the DIS flag on billing transactions being sent to the DNCS. After billing enables the DIS flag on transactions, repeat steps 3 through 9 on a test group DHCT to verify that billing has enabled the DIS flag.

- 11 Does a check mark appear in the DIS Enable field?
 - If **yes**, then the billing system is setting the DIS enable flag.
 - If **no**, you *must* contact your billing provider to have them enable the DIS flag on billing transactions being sent to the DNCS.
- 12 Repeat steps 9 and 10 on the other two DHCTs in your test group to verify that the DIS Enable flag is being set.
- 13 Click **Cancel** to close the Set Up DHCT window and return to the DHCT Provisioning window.
- 14 Click **Cancel** to close the DHCT Provisioning window and return to the DNCS Administrative Console.
- 15 Go to *Test Two - Check Recently-Staged DHCTs* (on page 6).

Test Two - Check Recently-Staged DHCTs

After you verify that your billing provider is enabling the DIS flag on billing transactions to the DNCS, you need to run another test on a few recently staged DHCTs to ensure that the DIS Enable flag is being received.

Important: Setting the DIS flag to **enabled** when loading SSC CableCARD set-top boxes will cause binding and staging problems. Instead, stage them without special flags enabled, enable DIS after staging is complete, and send a Hit in order to obtain Type 8 EMMs.



WARNING:

- Do not enable DIS in billing on SSC CableCARD set-top boxes.
- Do not use CableCARD set-top boxes for DIS flag testing purposes.

Complete the following steps on a few recently-staged DHCTs to perform the second test, which ensures the DIS flag is enabled.

- 1 On the DNCS Administrative Console, click the **DNCS** tab.
- 2 Click the click **Element Provisioning** tab.
- 3 Click **DHCT**. The DHCT Provisioning window appears.
- 4 In the Select Option area, click the **Open** option, if it is not already selected.
- 5 Do you know the MAC address for the DHCT you want to check?
 - If **yes**, click the **By MAC Address** option, then click in the corresponding field, and type the MAC address for the DHCT you want to check.
 - If **no**, click the **By Serial Number** option, then click in the corresponding field, and type the serial number for the DHCT you want to check.
- 6 Click **Continue**. The Set Up DHCT window opens for the DHCT you want to check.

7 Click the **Secure Services** tab.

Set Up DHCT

MAC Address: 00:01:A6:54:68:42

Communications | **Secure Services**

Secure Element Serial Number: 00:01:A6:78:79:2E

Key Certificate

Name: C=US, O=Scientific-Atlanta, OU=Scientific-Atlanta, Mexico, CN=PK0001a678792e

Clear Load from batch CD..

Packages

Available	Selected
ClassicGames	BRICK
DoNotUse-DoubleEMM	RTE
PVR_Access	STARZ
SAIKOD	VIEWERCHOICE
nascarrest	

Add >> << Remove

Options

IPPV Enable

IPPV Credit Limit: 100

Max. IPPV Events: 10

DMS Enable DIS Enable Analog Enable

Fast Refresh Enable

Location X: 0 Y: 0

DHCT Instant Hit Poll DHCT for IPPV Data

Save Cancel Help

8 Does a check mark appear in the DIS Enable field?

- If **yes**, then the billing system is setting the DIS enable flag.
- If **no**, you *must* contact your billing provider to have them enable the DIS flag on billing transactions being sent to the DNCS.

9 Repeat steps 4 through 8 on a few recently-staged DHCTs to verify that the DIS enable flag is being set.

10 Click **Cancel** to close the Set Up DHCT window and return to the DHCT Provisioning window.11 Click **Cancel** to close the DHCT Provisioning window and return to the DNCS Administrative Console.12 Go to *Test Three - Verifying your SBE License Option* (on page 8).

Verify the SBE License Option is Enabled

Overview

After you determine that there is available database space for additional type 8 EMMs and after you verify that billing is enabling the DIS flag on billing transactions sent to the DNCS, you must ensure that VOD SBE is licensed.

Test Three - Verifying your SBE License Option

Complete the following steps to verify that VOD SBE is licensed.

- 1 Open an xterm window on the DNCS.
- 2 Type **cd /export/home/dncs/doctor** and press **Enter**. The system accesses the doctor directory and displays a prompt.
Note: You may want to expand the xterm window to be able to see more of the report without having to scroll as much.
- 3 Type **doctor -av** and press **Enter**. The system generates the doctor report. When finished, the system displays the directory where the report is stored.
Example: Output report file is **/export/home/dncs/doctor/report.040227_1058.doc**
- 4 Type **more <doctor report file path>** and press **Enter**. The system displays the Doctor Report one page at a time.
Example: **more /export/home/dncs/doctor/report.040227_1058.doc**
- 5 Press **Enter** to scroll through the report until you see the DNCS License Check section as shown in the following example.

DNCS License Check

EAS FIPS Code Filtering	licensed
DOCSIS DHCT Support	not_licensed
Enhanced VOD Session Throughput	licensed
VOD Session Encryption	licensed

- If VOD Session Encryption is licensed, contact the representative who handles your account to schedule SBE activation.
 - If VOD Session Encryption is not licensed, contact the representative who handles your account to schedule SBE activation and have VOD session encryption licensed.
- 6 Press **Ctrl-C** to exit the utility.
 - 7 Type **exit** and press **Enter**. The xterm window closes.

2

Activate SBE

Introduction

The Session-Based Encryption (SBE) activation process involves five phases that span seventeen days.

On Day One, Cisco Services engineers perform the SBE activation phase tasks. The four additional SBE set-up phases include procedures you perform on Days Two, Five, Ten, and Seventeen. The length of time between each phase lets you measure the system database progress to ensure that type 8 EMMs are being generated.

Note: The actual amount of time needed to complete each process within a phase will vary depending on the size of the site and the complexity of the system.

This chapter details the procedures that must be completed to activate SBE on your system.

Before You Begin

On the last day (seventeen), you must use the VOD Information diagnostic screen to verify that a DHCT has received type 8 EMMs. This step cannot be performed on DHCTs that do not support the SA Resident Application (SARA).

Important: If your DHCTs are supported by a resident application other than SARA, contact your vendor to see if there is a similar verification procedure to determine that the DHCTs have received type 8 EMMs.

In This Chapter

- SBE Activation..... 11
- SBE Activation Day Two 14
- SBE Activation Day Five..... 15
- SBE Activation Day Ten..... 17
- SBE Activation Last Day (Seventeen) 19

SBE Activation

Overview

After you perform system checks to determine that your system is ready for SBE activation, Cisco Services engineers perform the series of tasks necessary to begin activating SBE on your system; essentially, these tasks cause the creation of type 8 EMMs. It is the presence of type 8 EMMs and enabling of VOD encryption that allows SBE to occur.

Important: Cisco Services engineers perform the Day One tasks to activate SBE. You must follow the steps for Days Two, Five, Ten, and Seventeen to complete the SBE activation process.

What to Expect During Day One

After the representative who handles your account receives notification from your Program Manager, we will begin the process of activating SBE for your system.

Important: The following tasks detailed in *Overview of Day One Tasks* (on page 12) will impact your system.

Task 1: Bouncing the DNCS

If VOD session encryption was not previously licensed for your system, then we must bounce (stop and then restart) the DNCS when licensing is complete.

Note: Bouncing the DNCS should not affect the creation of type 8 EMMs or the remaining Day One tasks.

Task 6: Bouncing the camAuditor process

If VOD session encryption is licensed for your system, then we must bounce the camAm and camAuditor processes on your system.

Important: Bouncing the camAuditor process does not impact the operation of the DNCS. However, bouncing the camAm process does prevent billing and staging transactions (hits) from being received by DHCTs. The time needed to bounce the camAm process is minimal (approximately 2 minutes or less). It is not necessary to schedule this activity during a maintenance window if you and the engineer are aware of the resulting processing delay. No transactions will be lost.

Task 9: De-provision all OOS and in-service DHCTs

Staging should be suspended while we reset the configuration of all out-of-service (OOS) and in-service DHCTs that do not have any packages. This process may range from 15 minutes to over an hour, depending on the size of your site and the complexity of your system.

Note: Resetting the configuration of a DHCT is sometimes referred to as de-provisioning the DHCT.

Overview of Day One Tasks

Cisco Services engineers will perform the following tasks to activate SBE on your system.

- 1 Verify that your DNCS is licensed for session encryption, and activate the license, if necessary.
Important: Before licensing is complete, Cisco Services engineers must bounce the DNCS before this change will take effect.
- 2 Install the SBEutils.tar file on the DNCS, and then verify that the deletesm utility is version 2.0 or later.
- 3 Verify standard EMM expiration and creation information using the smMix process.
- 4 Run a Doctor Report to verify that enough database space is available for additional type 8 EMMs.
- 5 Set the CAM_DIS_STAGING_CUTOFF_DATE to 20 days in the future, and tell the customer when the CAM_DIS_STAGING_CUTOFF_DATE will expire.
- 6 Source the variable and bounce the camAm and camAuditor processes.
Note: DHCTs will not receive billing hits while the camAm and camAuditor processes are down. Billing hits will resume after the processes have recovered. Services will not be affected during this task.
- 7 Verify that the DIS enable flag is being transmitted to DHCTs by the billing system.
Important: System DHCTs must receive the DIS enable flag on each transaction from the billing system in order for SBE to be activated.
- 8 Manually set DIS enable on all DHCTs in the DNCS database.
- 9 De-provision all OOS and in-service DHCTs that do not have any packages. These DHCTs will be restaged when they are provisioned, or prepared, with packages.
Important: Staging should be suspended while this step is being completed.
- 10 Confirm that type 8 EMMs are being created.

What's Next?

After completing the Day One tasks, the representative who handles your account will contact you to let you know they have finished the initial activation tasks. At this time, the representative will give you the type 8 EMM count for Day One, and tell you when the CAM_DIS_STAGING_CUTOFF_DATE will expire.

Record the database count results on a sheet of paper. Refer to this paper when you measure your database progress on Day Two.

Wait 24 hours, and then go to *SBE Activation Day Two* (on page 14).

SBE Activation Day Two

On Day Two you will verify that DIS is Enabled using the checkDIS.ksh utility to confirm all DHCTs are showing the DIS enable flag. Then you will check database counts to ensure the type 8 EMMs count is increasing.

- 1 Are you logged into the DNCS as **dncs user** in the `/dvs/dncs/bin` directory?
 - If **yes**, go to step 5.
 - If **no**, go to step 2.

- 2 Log on as **dncs user**. The password prompt appears.

- 3 Type the dncs user password and press **Enter**.

- 4 Type `cd /dvs/dncs/bin` and press **Enter**.

- 5 Run the **checkDIS.ksh** command to see if any DHCTs have DIS disabled.

Important: All DHCTs in your system should have DIS enabled. If you see any DHCTs with DIS disabled, then your billing system could be sending DIS disabled flags and you *must* contact the representative who handles your account.

- 6 Run the **checkDIS.ksh -c** command to obtain two counts from the database.

Note: It may take several minutes to receive count results.

- 7 Record the database count results on a sheet of paper.

Note: The desired result of these tasks is to have the two database counts match or for the first number to be larger than the second number by Day Five. You *must* contact the representative who handles your account if you do not notice progress from the last counts recorded on Day One.

Important: Once you have completed this procedure, wait 3 days and then go to *SBE Activation Day Five* (on page 15).

SBE Activation Day Five

Important: Ensure you have waited 3 days since completing Day Two activities before you begin Day Five activities.

On Day Five complete the following steps to check your DHCTs and database counts.

- 1 Are you logged into the DNCS as **dncs user** in the `/dvs/dncs/bin` directory?
 - If **yes**, go to step 5.
 - If **no**, go to step 2.
- 2 Log on as **dncs user**. The password prompt appears.
- 3 Type the dncs user password and press **Enter**.
- 4 Type `cd /dvs/dncs/bin` and press **Enter**.
- 5 Run the **checkDIS.ksh** command to see if any DHCTs have DIS disabled.

Important: All DHCTs in your system should have DIS enabled. If you see any DHCTs with DIS disabled, then your billing system may be sending DIS disabled flags. You *must* contact the representative who handles your account for assistance.

- 6 Run the Doctor Report. In the report section titled **Database Table Extents**, check to see if the number of extents on the EMM table is increasing.

Example: The following example shows typical Database Table Extents output.

Database Table	Extents
atm_connection	7
displaychannels	2
elementary_stream	5
elementtable	5
elementsource	3
emm	1
filemoduleinfo	6
hct_profile	3

Result: It is normal if the EMM extents are not listed, or if the number is 5 or less. If the number of extents on the EMM table is greater than 5, you *must* contact the representative who handles your account for assistance.

- 7 Run the following command while staging is not being done:

delete-sm ..OOS.. > /dvs/DNCS/tmp/deprovisioned5.out

Important: There must be a space before the first double dot (.), following the second double dot (.), and before and after the > character.

Note: When staged, DHCTs are provisioned with packages to provide different levels of service. The delete-sm command de-provisions all OOS DHCTs so they will be restaged when they are reprovisioned with packages.

- 8 Run the **checkDIS.ksh -c** command to obtain two counts from the database.

Note: It may take several minutes to receive count results.

- 9 Record the database count results on a sheet of paper.

Note: The desired result of these tasks is to have the two database counts match or for the first number to be larger than the second number by Day Ten. You *must* contact the representative who handles your account if you do not notice progress from the last counts recorded on Day Two.

Important: Once you have completed this procedure, wait 5 days and then go to *SBE Activation Day Ten* (on page 17).

SBE Activation Day Ten

Important: Ensure you have waited 5 days since completing Day Five activities before you begin Day Ten activities.

On Day Ten complete the following steps to check your DHCTs and database counts again.

1 Are you logged into the DNCS as **dncs user** in the `/dvs/dncs/bin` directory?

- If **yes**, go to step 5.
- If **no**, go to step 2.

2 Log on as **dncs user**. The password prompt appears.

3 Type the dncs user password and press **Enter**.

4 Type `cd /dvs/dncs/bin` and press **Enter**.

5 Run the **checkDIS.ksh** command to see if any DHCTs have DIS disabled:

Important: All DHCTs in your system should have DIS enabled. If you see any DHCTs with DIS disabled, then your billing system may be sending DIS disabled flags. You *must* contact the representative who handles your account for assistance.

6 Run the Doctor Report. In the report section titled **Database Table Extents**, check to see if the number of extents on the EMM table is increasing.

Example: The following example shows typical Database Table Extents output.

Database Table	Extents
atm_connection	7
displaychannels	2
elementary_stream	5
elementtable	5
elementsource	3
emm	1
filemoduleinfo	6
hct_profile	3

Result: It is normal if the EMM extents are not listed, or if the number is 10 or less. If necessary, contact the representative who handles your account for assistance.

- 7 Run the **delete-sm** command while staging is *not* being done:

```
..OOS.. > /dvs/dnccs/tmp/deprovisioned10.out
```

Important: There must be a space before the first double dot (.), following the second double dot (..), and before and after the > character.

Note: When staged, DHCTs are provisioned with packages to provide different levels of service. The delete-sm command de-provisions all OOS DHCTs so they will be restaged when they are reprovisioned with packages.

- 8 Run the **checkDIS.ksh -c** command to obtain two counts from the database.

Note: It may take several minutes to receive count results.

- 9 Record the database count results on a sheet of paper.

Note: The desired result of these tasks is to have the two database counts match or for the first number to be larger than the second number. You *must* contact the representative who handles your account if this result has not occurred.

Important: Once you have completed this procedure, wait 7 days and then go to *SBE Activation Last Day (Seventeen)* (on page 19).

SBE Activation Last Day (Seventeen)

Important: Ensure you have waited 7 full days since completing Day Ten activities before you begin Day Seventeen activities.

On Day Seventeen complete the following steps to verify that DIS is enabled on your system DHCTs and check your system integrity to complete the SBE Setup Process.

1 Are you logged into the DNCS as **dncs user** in the `/dvs/dncs/bin` directory?

- If **yes**, go to step 5.
- If **no**, go to step 2.

2 Log on as the **dncs user**. The password prompt appears.

3 Type the dncs user password and press **Enter**.

4 Type `cd /dvs/dncs/bin` and press **Enter**.

5 Run the **checkDIS.ksh** command to see if any DHCTs have DIS disabled:

Important: All DHCTs in your system should have DIS enabled. If you see any DHCTs with DIS disabled, then your billing system may be sending DIS disabled flags. You *must* contact the representative who handles your account for assistance.

6 Run the Doctor Report. In the report section titled **Database Table Extents**, check to see if the number of extents on the EMM table is increasing.

Example: The following example shows typical Database Table Extents output.

Database Table	Extents
atm_connection	7
displaychannels	2
elementary_stream	5
elementtable	5
elementsource	3
emm	1
filemoduleinfo	6
hct_profile	3

Result: It is normal if the EMM extents are not listed, or if the number is 10 or less. If necessary, contact the representative who handles your account for assistance.

- 7 Run the **delete-sm** command while staging is not being done:

```
..OOS.. > /dvs/dnacs/tmp/deprovisioned17.out
```

Important: There must be a space before the first double dot (.), following the second double dot (..), and before and after the > character.

Note: When staged, DHCTs are provisioned with packages to provide different levels of service. The delete-sm command de-provisions all OOS DHCTs so they will be restaged when they are reprovisioned with packages.

- 8 Check the DNCS for missing QAM key certificates using the *Correcting QAM, MQAM, GQAM, and GoQAM Modulators With Missing Key Certificates* (part number 745235) document. This document contains procedures to determine whether or not QAM key certificates are stored on the DNCS, including instructions to correct this condition.

Important: A QAM with a missing key certificate will cause encrypted VOD purchases on that QAM to fail.

- 9 For any DHCTs, use the VOD Information diagnostic screen to check the VOD cells field to verify that the DHCT has received type 8 EMMs.

Notes:

- This step cannot be performed on DHCTs that do not support SARA.
- If your DHCTs are supported by a resident application other than SARA, contact your vendor to see if there is a similar verification procedure to determine that the DHCTs have received type 8 EMMs.
- For more information, refer to the *Understanding Diagnostic Screens for the Explorer Digital Home Communications Terminals Application Guide* (part number 749244).

Results:

The VOD cells field shows the bit map representation of the number of non-volatile storage cells available for VOD events, as follows:

- If the VOD cells field shows **FC000000**, then the DHCT has received the type 8 EMMs needed for encryption.
- If the VOD cells field shows **00000000**, then the DHCT has not received the type 8 EMMs needed for encryption. Contact the representative who handles your account for assistance.

The following image illustrates the VOD Information diagnostic screen.

```

VOD INFORMATION
Service Group: Unavailable      SI Received: OOB

Int: dms ana dis ippv eaid
     IPPV cells: FFFFFFFF      VOD cells: FC000000
Ext: DMS ANA DIS IPPV EAIID:142775564
     IPPV cells: 00000000      VOD cells: 00000000

State  Session  Entitlement  Stat  Activated
-----
Inactive 0x00000000 1 0 0x00000000 0x00 211230@190000
Inactive 0x00000000 1 0 0x00000000 0x00 211230@190000
Inactive 0x00000000 1 0 0x00000000 0x00 211230@190000
Inactive 0x00000000 1 0 0x00000000 0x00 211230@190000
Inactive 0x00000000 1 0 0x00000000 0x00 211230@190000
Inactive 0x00000000 1 0 0x00000000 0x00 211230@190000

11:48:08. Ref 30 - Pg 11/31 - [Exit] or [Diamond]

```

- 10 Open an xterm window on the DNCS.
- 11 Type `env | grep CUTOFF` and press **Enter** to display the `CAM_DIS_STAGING_CUTOFF_DATE`.

Note: Typically, the cutoff date expires after 20 days. This value is set during Day One activation tasks.
- 12 When the `CAM_DIS_STAGING_CUTOFF_DATE` has expired, repeat step 9 to verify that the correct type 8 EMM count is still displayed for the newly staged DHCTs.

Note: If the VOD cells field of the VOD Information diagnostic screen is showing 00000000, then the DHCT has *not* received the type 8 EMMs needed for encryption. You *must* contact the representative who handles your account for assistance.

- 13 You have finished the database and DHCT initialization. SBE preparation for your system is now complete.

Important: If you have problems completing the initialization, contact the representative who handles your account.

3

Customer Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.



Cisco Systems, Inc.
5030 Sugarloaf Parkway, Box 465447
Lawrenceville, GA 30042

678 277-1120
800 722-2009
www.cisco.com

This document includes various trademarks of Cisco Systems, Inc. Please see the Notices section of this document for a list of the Cisco Systems, Inc. trademarks used in this document.

Product and service availability are subject to change without notice.

© 2000, 2003-2005, 2008, 2012 Cisco and/or its affiliates. All rights reserved.

August 2012 Printed in USA

Part Number 740223 Rev F