SoftMux Common Download Solution

Application Guide

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.

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About This Guide

Introduction

The Digital Broadband Delivery System (DBDS) is designed to support the use of the OpenCable® Common Download method for data delivery on the Digital Network Control System (DNCS). Common Download is part of the OpenCable initiative and allows for a common method for signaling and delivery of firmware images to OpenCable Host devices, including retail devices. The Common Download function for the DNCS is provided by the OpenCable Application Platform (OCAP™) Common Download Manager (ocdlManager) process.

This guide provides procedures for configuring and performing a SoftMux Common Download on the DNCS.

System Impact

Important: The OCAP software license option must be enabled on your system to perform the procedures in this guide. Contact the representative who handles your account for information about purchasing the OCAP software license for your system.

If your DNCS is not already licensed for the OCAP service, the instructions will require you to stop and restart the DNCS before you can proceed with preparing the DNCS for the SoftMux download process. Due to the system impact of stopping and restarting the DNCS, we recommend that you perform the SoftMux Common Download process during a maintenance window if your DNCS is *not* licensed for OCAP service.

If your DNCS is licensed for the OCAP service, you may perform the SoftMux Common Download at any time.

Important: You must work from a DNCS console when performing these procedures. Do not log in remotely to the DNCS through a laptop. (There is no host sentry for the DNCS on a laptop. Using a laptop and being on the same network can produce undesirable results.)

Note: The Common Download method is only supported by the CAQAM and MQAM devices at the present time.

Scope

The procedures in this guide are restricted to those sites operating with System Release 4.0 Service Pack 1 (SR 4.0 SP 1) and later.

Audience

System operators and engineers who perform the SoftMux Common Download process need advanced knowledge of the UNIX vi editor. You will need to use the UNIX vi editor to modify the parameters of some files. The UNIX vi editor is not intuitive. The instructions provided in this document are no substitute for an advanced working knowledge of vi.

The person responsible for completing the procedures in this guide must also have the following capabilities:

- Familiarity with system administration using the Solaris operating system (OS)

- Privileges as a **root** user

- Knowledge of TSBroadcaster

Related Publications

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

- *Changing the QAM Modulator Configuration* (part number 4011343)

- *DBDS Backup and Restore Procedures For SR 2.2 Through 4.2* (part number 4013779 Revision A)

- *OCAP Architecture Guide* (part number 738184)

- *OCAP Installation and Upgrade Instructions* (part number 732578)

- *System Release 4.0 Release Notes* (part number 4001703)

- *TSBroadcaster User's Guide Cisco's OCAP Object Carousel Solution* (part number 4011043)

Document Version

This is the third 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 MQAM configuration information	Throughout document
Updated procedural steps for loading a new image file on the TSBroadcaster computer	*Load a New Image File on the TSBroadcaster Computer* (on page 26)

1

Introducing the Common Download SoftMux Solution

Introduction

Common Download is part of the OpenCable initiative that allows for a common method for signaling and delivery of firmware images to OpenCable Host devices, including retail devices. We provide support for Common Download and OCAP in SR 4.0 SP 1 and later.

The DNCS will implement Common Download through the OCAP Common Download Manager application (ocdlManager). The ocdlManager will service Common Download requests from the OCAP Common Download GUI and CableCARD™ Manager application.

Our solution for the OCAP Object Carousel incorporates the TSBroadcaster product from Strategy & Technology Limited (S&T).

The TSBroadcaster provides management, scheduling, and playout facilities for the OCAP application. The OCAP Object Carousel provides scheduled playout of the applications in fully formed transport streams that conform to OCAP standards.

This chapter provides an overview of the Common Download SoftMux solution.

In This Chapter

Common Download and Object Carousel on TSBroadcaster

Overview

Currently, the ocdlManager gives the ASI card a Program Map Table Packet Identifier (PMT PID) value on which to build the download stream. The ASI card then builds the download stream with a PMT PID of the value given and an elementary stream with the PMT PID into the Common Download version table (CDVT). The host expects that the PID value in the CDVT is the actual value of the elementary PID, not the PMT PID. Therefore, the host cannot find the download image data.

In the short term, the workaround involves setting the PMT PID for ocdlManager to 150 or another available value on the TSBroadcaster. The new setting causes the ASI card to build a PMT with PID 150 and an elementary stream with a PID value of 151. The ocdlMgr inserts the PID value 150 into the CDVT. The MUX can then be configured to remap PIDS 150 and 151 down to 149 and 150. So, the CDVT value appears to point to the download image elementary stream. The SoftMux solution corrects this issue.
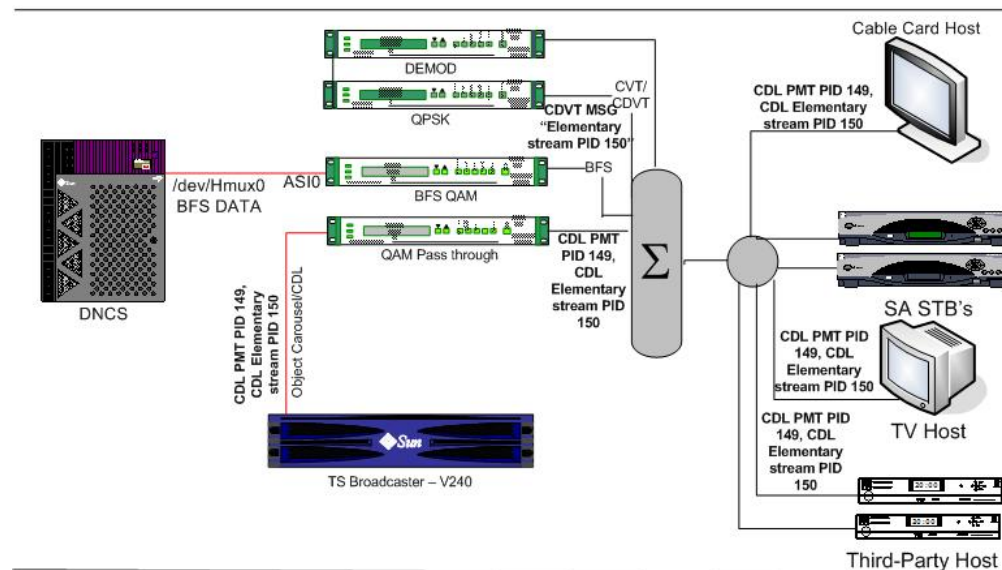
Notes:

■ Use CAQAM software version 2.5.1 or later, or MQAM software version 2.6.10 or later. (QAM version 2.4.0 will not save the pass-through mode in the NVMRAM. If, for any reason, the QAM reboots, pass-through will need to be re-enabled through the craft port.)

■ The ocdlManager issues are resolved in DNCS software version 4.0 SP1 or later (including all related software patches). In versions earlier than DNCS 4.0 SP1, the ocdlManager process has a dependency for an active session before pumping any data out of the ASI card. If the ocdlManager process is restarted, the QAM needs to be taken out of pass-through mode in order for an active session to come up on the DNCS.

TSBroadcaster with OCAP Object Carousel and Common Download

In the following drawing, both the OCAP Object Carousel and the Common Download Carousel are on the TSBroadcaster. The objective of this scenario is to ensure that the Common Download and Object Carousel are unaffected when combined and transmitted through a pass-through QAM.

Example of Common Download and Object Carousel on the TSBroadcaster (Transmitting on a QAM)

Bandwidth and Hardware Allocations

- Common Download and Object Carousel are on the TSBroadcaster
- TSBroadcaster defines what PIDs can be used

Requirements

- TSBroadcaster Release 1.0.0.10 or later

  Notes:

  - You can find the TSBroadcaster release number on any TSBroadcaster user interface (UI) page. The number will be listed below the copyright statement within the "This copy of TSBroadcaster [release number-CD] licensed to [user name]" statement.

  - TSBroadcaster release number 1.03.01-CD-01 is the same as release number 1.0.0.10.

2

Preparing the DNCS for a SoftMux Common Download

Introduction

Before performing a SoftMux Common Download, refer to the instructions in this chapter to perform the following stages to prepare the DNCS for the download process:

- Run a Doctor Report to verify that the OCAP service is licensed

- Verify that your DNCS supports non-SA source sessions

- Find your TSBroadcaster session and gather the session data

- Disable the Common Download ASI card on the DNCS

- Tear down your standard CF session (only if you are not using the TSBroadcaster OCAP Navigator)

- Rebuild the OCAP session as a non-SA source session

- Place the CAQAM or MQAM in pass-through mode

System Impact

If your DNCS is not already licensed for the OCAP service, you will be required to stop and restart the DNCS before you can proceed with preparing the DNCS for the SoftMux download process. Due to the system impact of stopping and restarting the DNCS, we recommend that you perform the SoftMux Common Download process during a maintenance window if your DNCS is not licensed for OCAP service.

Note: If your DNCS is licensed for the OCAP service, you may perform the SoftMux Common Download at any time.

Important: You must work from a DNCS console when performing these procedures. Do not log in remotely to the DNCS through a laptop. (There is no host sentry for the DNCS on a laptop. Using a laptop and being on the same network can produce undesirable results.)

In This Chapter

Site Requirements

Before performing the Common Download on your system, your system must meet the following requirements:

- SR 4.0 SP 1, or later (including all related software patches)

- OCAP license enabled on DNCS

- QAM software version

  - CAQAM - software version 2.5.1 or later

  - MQAM - software version 2.6.10 or later

- Non-SA source definitions license enabled on DNCS

- TSBroadcaster software version 1.0.0.10 or later

  Note: TSBroadcaster release number 1.03.01-CD-01 is the same as release number 1.0.0.10.

Verify That OCAP and Non-SA Source Definitions are Licensed on Your System

Verifying That OCAP is Licensed on Your System

This section provides instructions to verify that your DNCS is licensed for the OCAP service. If your DNCS is not already licensed for the OCAP service, you will be required to stop and restart the DNCS before you can proceed with preparing the DNCS for the SoftMux download process. Due to the system impact of stopping and restarting the DNCS,we recommend that you perform the SoftMux Common Download process during a maintenance window if your DNCS is not licensed for OCAP service.

If your DNCS is licensed for the OCAP service, you may perform the SoftMux Common Download at any time.

1 Open an xterm window on the DNCS as **dncs** user.

2 Type **cd /export/home/dncs/doctor** and press **Enter** to access the doctor directory.

   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 At the prompt, type **doctor -av** and press **Enter** to generate 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** to display 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.

6 Is the **Open Cable Applications Platform (OCAP)** option licensed for your DNCS?

   ▪ If **yes**, go to step 7.

   ▪ If **no**, stop your work in this document and contact the representative that handles your account.

7   Press **Ctrl** and **c** simultaneously to exit the utility.

8   Type **exit** and press **Enter** to close the xterm window.

Verifying That Non-SA Sources are Licensed on Your System

1   From the DNCS Administrative Console, click the **System Provisioning** tab.

2   In the Service Provisioning section, click **Source** to open the DNCS Source List window.

3   Click to select any non-BFS source.

4   Click **File** and select **Source Definitions** to open the Source Definition List window for the selected non-BFS source.

5   In the Source Definition List window, click **File**.

6   Does the **New non-SA Digital** option appear in the File menu?

- If **yes**, then your system is licensed for non-SA sources, and you may continue preparing the DNCS for the Common Download process.

- If **no**, stop your work in this document and contact the representative that handles your account.

Prepare the DNCS for Common Download

Gather Information to Build the TSBroadcaster Session

The following table provides space to record the TSBroadcaster session data that you will use when rebuilding the TSBroadcaster session later in this document. Fill in the values for the fields listed in the following table.

Item	Your Value
CAQAM or MQAM Frequency	
Modulation	
Connectivity to the CAQAM or MQAM through Craft Port	
Object Carousel MPEG Program Number	
Common Download Data PID	
CAQAM or MQAM TSID IN/OUT	**Note:** The physical input port and physical outport port must be 1.
Object Carousel Source ID	
DNCS Unified Image (Host-provided)	[file name].img
Encoded Transport Stream File from SoftOC Feature	[file name].ts **Note:** Place the file on the OCAP server in the **/media1/tsplayer2/streaminputfiles/** directory.
Hardware ID (Host-provided)	
Vendor ID (Host-provided)	
Certificate File (Division/Host-provided)	[file name]

Disabling the CDL ASI Card on the DNCS

If you have an ASI card installed for Common Download, use the following procedure to disable the ASI card prior to performing the SoftMux Common Download process.

1   Open an xterm window on the DNCS as **dncs** user.

2   Type **cd /export/home/dncs** and press **Enter**. The /export/home/dncs directory becomes the working directory.

3   Type **vi .profile** and press **Enter**. The .profile file opens for editing using the UNIX vi text editor.

4   At the bottom of the .profile file, type **export OCDLD_NOASI=1** and press **Enter**.

5   Save the file and close the vi text editor.

6   Log out of the session, then log back in to the session for the disable command to take effect.

Tear Down Standard CF Session

Complete these steps to tear down the standard CF session in order to rebuild the session as a non-SA source session.

Note: If you do not have any sessions on your OCAP QAM, or you are not using the TSBroadcaster OCAP Navigator, skip this procedure and refer to *Placing the CAQAM or MQAM in Pass-Through Mode* (on page 12).
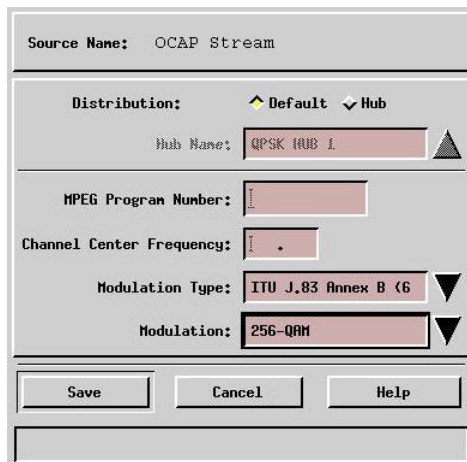
1   From the DNCS Administrative Console, click the **System Provisioning** tab.

2   In the Service Provisioning section, click **Source** to open the DNCS Source List window.

3   Click to select the OCAP source ID.

4   Click **File** and select **Source Definitions** to open the Source Definition List window.

5   Select the source definition for the OCAP source ID.

6   Click **File** and select **Open** to show the source definition properties.

7   Click **Teardown Session**.

Rebuild OCAP Session as a Non-SA Session

Complete these steps to rebuild the OCAP session as a non-SA source session.

1   The Teardown Session window should still be open from the previous procedure.

2   Click **Close**.

3   Click **File** and select **New non-SA** to open the new non-SA source window.

```
Source Name:   OCAP Stream

   Distribution:     ◇ Default  ◇ Hub

       Hub Name:  QPSK HUB 1          ▲

   MPEG Program Number:  [

Channel Center Frequency:  [    .

   Modulation Type:  ITU J.83 Annex B (6    ▼

       Modulation:  256-QAM              ▼

  [  Save  ]      [  Cancel  ]      [   Help   ]

```

4   Follow these instructions to configure the new non-SA source definition:

 a   In the **Distribution** field, select **Default**.

 b   In the **MPEG Program Number** field, enter the Object Carousel MPEG Program Number you recorded in *Gather Information to Build the TSBroadcaster Session* (on page 10).

 c   In the **Channel Center Frequency** field, enter the QAM frequency (for example, frequency 711 would be entered as 711.00).

 d   At the **Modulation Type** field, click the arrow to select **ITU J.83 Annex B**.

 e   At the **Modulation** field, click the arrow and choose 64-QAM or 256-QAM (usually), depending on your QAM modulator.

5   Click **Save** to save the non-SA source session.

Placing the CAQAM or MQAM in Pass-Through Mode

1   Connect a PC terminal to the craft port on the back panel of the CAQAM or MQAM being configured.

2   Power on the PC and activate a ProComm or HyperTerminal window using the following modem connection settings:

 ▪   9600 baud

 ▪   1 stop bit

 ▪   No parity

 ▪   8 data bits

 ▪   No flow control

3 Press the **Enter** key to display the CAQAM or MQAM prompt.

- If the CAQAM> prompt appears, type **pidmode 1** and press **Enter** to place the CAQAM ASI card receiving stream in pass through mode.

- If the MQAM> prompt appears, type **pidmode 1 0x0 999** and press **Enter** to place the MQAM ASI card receiving stream in pass through mode.

  Notes:

  - If you need to take the CAQAM or MQAM out of pass-through mode, type **pidmode 0** and press **Enter** in this step.

  - To check the status of the CAQAM or MQAM, type **pidmode** and press **Enter** in this step.

4 Reboot the QAM modulator for the changes to take effect.

5 Activate a ProComm or HyperTerminal window again and type **pidmode** to verify that pass-through is enabled.

3

Using the Common Download Player

Introduction

The DNCS will implement Common Download through the OCAP Common Download Manager application (ocdlManager). The ocdlManager will service Common Download requests from the OCAP Common Download GUI and CableCARD Manager application. The Common Download software is then transmitted to host devices, such as televisions.

This chapter provides instructions for configuring the ocdlManager application and preparing the Common Download transport stream.

In This Chapter

Configure the ocdlManager

Configuring the SoftMux Common Download Settings

Complete the following instructions to configure the ocdlManager SoftMux Common Download settings and begin the OCAP Common Download configuration process.

Important: After you enter your SoftMux Common Download settings, make sure that you check your settings *before* you press **Save Configuration**. After you press **Save Configuration**, your changes are saved and you cannot easily go back and make changes to the configuration. If you must make changes to the SoftMux settings after you have saved your work, see *Modifying the DNCS Common Download Settings* (on page 35).

1   Ensure that you are logged in to the DNCS console as **dncs** user.

2   Start the Netscape Web browser on the DNCS.

3   In the URL address field of the browser, enter the URL address for your DNCS in the format **http://<dncs name>:8086/config**, and then press **Enter**.

   Example: An example of a URL address is **http://dncsatm:8086/config**.

4 The DNCS OCAP Common Download Configuration window opens.

Note: The values shown in the following window do not represent the actual configuration values.

DNCS OCAP Common Download Configuration

Session Configuration

Session Number:	198
QAM Frequency:	411
Session Device Id:	00:00:00:00:00:00
Datarate:	500000
Blocksize:	4000
VpiVci:	256
QAM Output TS Id:	0
Inband ASI Device:	/dev/Hmux1
Inband Mode:	83
ASI Card Output Program Number:	3
PMT Pid: *Note : CVT Pid value will be PMT Pid+1*	149

ASI Card Configuration

Inband ASI Device:	/dev/Hmux1
Output TS Id:	1
Port Number:	0
Bandwidth:	38000000
PSI Interval:	0

Save Configuration

Goto Image Import
Goto Image List

5 Follow these instructions to configure the **Session Configuration** section of the DNCS OCAP Common Download Configuration window.

a In the **Session Number** field, type **198** (default value).

b In the **QAM Frequency** field, type the 3-digit value that represents the frequency of the OCDL QAM. For example, to enter the frequency 411.00, you would type **411** without the zeros.

c In the **Session Device Id** field, if the Id value is not already listed, type **00:00:00:00:00:00**.

d In the **Datarate** field, type **500000**.

e In the **Blocksize** field, type **4000**.

f In the **VpiVci** field, type **64** or **256**, depending on your QAM modulator.

g In the **QAM Output TS Id** field, type the value that represents the output TSID for the OCDL MPEG source.

h In the **Inband ASI Device** field, type **/dev/Hmux1**.

    i   In the **Inband Mode** field, type **83**.

    j   In the **ASI Card Output Program Number** field, enter the value of the corresponding MPEG stream, if one exists.

    k   In the **PMT Pid** field, enter the Common Download Data PID value you recorded in *Gather Information to Build the TSBroadcaster Session* (on page 10).

6   Follow these instructions to configure the **ASI Card Configuration** section of the DNCS OCAP Common Download Configuration window.

    a   In the **Inband ASI Device**, type **/dev/Hmux1**.

    b   In the **Output TS Id** field, enter the CAQAM or MQAM Output TS Id value you recorded in *Gather Information to Build the TSBroadcaster Session* (on page 10).

    c   In the **Port Number** field, type **0**.

    d   In the **Bandwidth** field, type the value that represents the bandwidth of the OCDL QAM.

    e   In the **PSI Interval** field, type **0**.

7   Verify that your configuration settings in steps 5 and 6 are correct.

8   Click **Save Configuration** to save your configuration changes and close the DNCS OCAP Common Download Configuration window. The following message appears.

> DNCS OCAP Common Download configuration data has been changed. You must restart the Common Download Mgr to use the new configuration.
>
> Goto Image Import
> Goto Image List

9   Stop and restart (bounce) the ocdlManager process to make the configuration changes take effect.

Perform a Common Download on the DNCS Using TSBroadcaster

Setting Up the Output Stream

By default, the Common Download Player is set up with an output stream that discards all input. You need to update the output stream configuration for the new stream.

1   From the DNCS Administrative Console, click the **Utilities** tab and click **Session List** to open the Session Filter list.

2   In the Session Filter window, type the URL address for the TSBroadcaster computer and press **Enter** to open the TSBroadcaster Web GUI.

    Example:

   **http://[IP Address of the TSBroadcaster]:8080/tsbroadcaster**

3   To log in, type **demo** for the user name, and then type **demo** again for the user password.

4   Click the **Multiplexer** tab to open the Manage Multiplex Page.

   **Note:** If you do not see the Multiplexer tab displayed, contact Cisco Services for assistance.

5   In the Manage Multiplex Stream screen, click **Outputs** to access the Outputs menu.
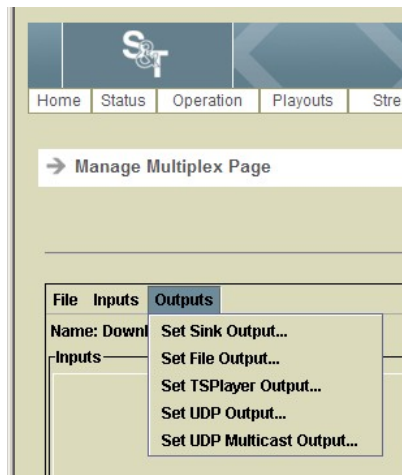
6   Select the **Set TSPlayer Output** option. The Set TSPlayer Output window opens.

7   Enter the following information in the Set TSPlayer Output window:

a   In the **Address** field, type **localhost**.

b   In the **Port** field, type **2012**.

c   In the **Bit Rate** field, type **500000**.

d   In the **Time Slice** field, type **0.1**.

8   Click **OK** to save your TSPlayer Output settings.

Adding the Data Carousel Transport Stream to the TSBroadcast Multiplexer

1   Using FTP, transfer the .ts file to the **/media1/tsplayer2/streaminputfiles/** directory on the TSBroadcaster computer.

2   From the DNCS Administrative Console, click the **Utilities** tab and click **Session List** to open the Session Filter list.

3   In the Session Filter window, type the URL address for the TSBroadcaster computer and press **Enter** to open the TSBroadcaster Web GUI.

Example:

http://[IP Address of the TSBroadcaster]:8080/tsbroadcaster

4   To log in, type **demo** for the user name, and then type **demo** again for the user password.

5 Click the **Multiplexer** tab to open the Manage Multiplex Page.

Note: If you do not see the Multiplexer tab displayed, contact Cisco Services for assistance.
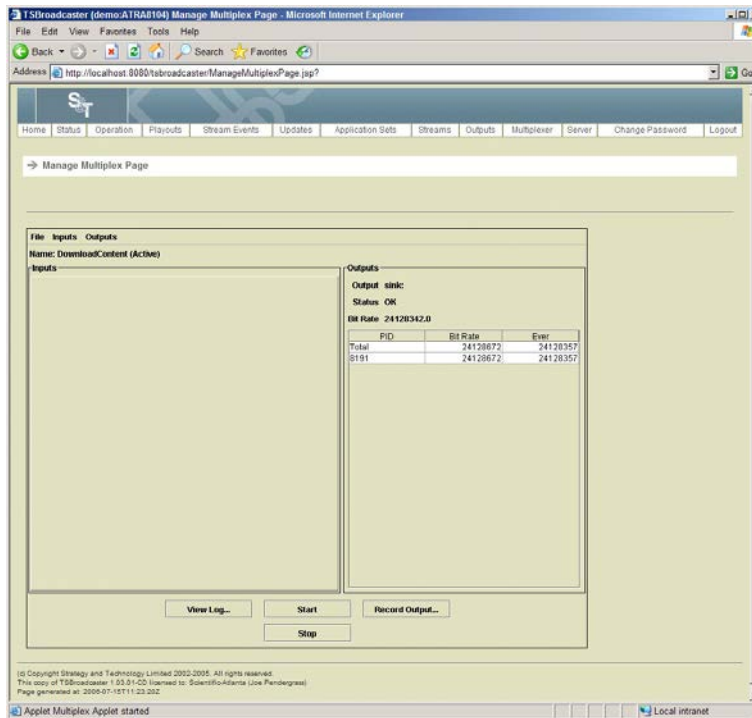
6 From the **Inputs** menu, select **Add Stream File Input**.
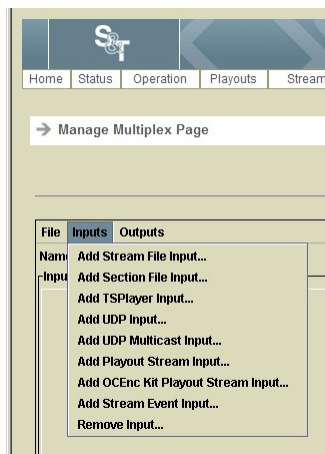
The **Add File Input** window opens.
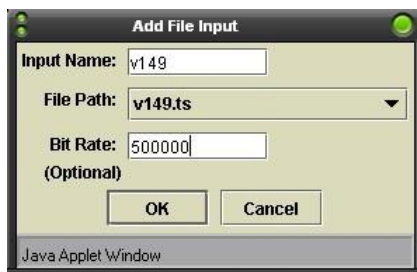
7 In the Add File Input window, use the following steps to add the new Common Download stream.

   a Type the .ts file name in the **Input Name** field.

   b Select the .ts file name from the **File Path** drop down list.

   c Enter the host vendor's recommended file bit rate for the file (typically 500000).

   d Click **OK**.

8 After the screen has refreshed to show the new Input stream with the logical name given, use the following steps to remap the PID.

   a Double-click **PID 2048** to open the Manage PID window.
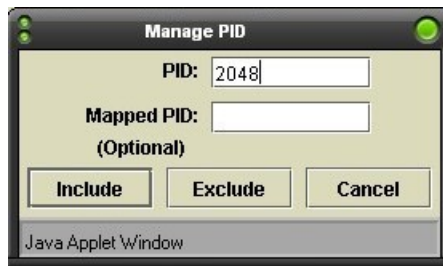
   b In the **Mapped PID** field, enter the new PID, plus 1. Use the information you recorded in *Gather Information to Build the TSBroadcaster Session* (on page 10).

   c Click **Include** to save your changes and close the Manage PID window.

9 Verify that the PID shows up in the outputs as the remapped PID.

   Note: Only one transport stream file can be played out per PID, as only one PID is currently supported.

Generating a CDVT Message

To prepare a download image for broadcast, you will need the download image (.img) file and the information that you need to put in the CVT. This information includes data about the image and information about the configuration of the image within the Common Download Player output.

The download image information consists of the following elements:

- Vendor ID

- Hardware ID

- Code file name

- Certificate file

Complete the following steps to download the image file to a new host device.

**1** The Netscape Web browser should still be open from your last procedure. If Netscape is not open, launch the browser from the DNCS Administrative Console/Utilities tab/Session List.

2 In the URL address field of the browser, type **http://[dncs name]:8086/import** as the URL address. The Image Import Form is displayed.

3 Follow these instructions to configure the Image Import Form using the information you recorded in *Gather Information to Build the TSBroadcaster Session* (on page 10).

 a In the **Vendor Name** field, type the vendor name.

 b In the **Vendor ID** field, type the vendor identifier value.

 c In the **Hardware Id** field, type the hardware identifier value.

 d In the **Description** field, type a description of the package.

 e In the **Image File** field, type the location of the image file on the DNCS.

  Example: /dvs/resapp/[file name].img

 f In the **Certificate File** field, type the name of the security certificate file on the DNCS.

  Example: /dvs/resapp/[certificate file name]

 g From the **Download Type** list, click to select a download type for this image.

 h From the **Download Cmd** list, select the download command for this image.

4 Click **Import Image** to save the new image file settings and begin downloading the image file to your host device.

5 The CDVT message is now being broadcast from the DNCS. The encoded image file (TSBroadcaster) is the actual file to be downloaded.

4

Changing the Broadcasted Image File

Introduction

After performing a Common Download on the DNCS using TSBroadcaster, you may encounter a situation when you need to change your broadcasted image file. This change is performed on the TSBroadcaster GUI and the DNCS.

This chapter provides instructions for changing a broadcasted image file.

In This Chapter

Load a New Image File on the TSBroadcaster Computer

1 Launch the Netscape Web browser from the DNCS Administrative Console/Utilities tab/Session List.

2 In the URL address field of the browser, type **http://[dncs name]:8086/delete**.

3 Select the Common Download image file you want to delete, and then click **Delete Selected Image(s)** to remove the .img file.

4 Using FTP, locate and transfer the new .ts file to the **/media1/tsplayer2/streaminputfiles/** directory on the TSBroadcaster computer.

5 Launch the TSBroadcaster Web GUI from the DNCS.

6 In the web browser window, type the URL address for the TSBroadcaster computer and press **Enter** to open the TSBroadcaster Web GUI.

Example:

http://[IP Address of the TSBroadcaster]:8080/tsbroadcaster

7 Click the Input file tab for the currently broadcasting file and use the following steps to stop playout of the broadcasting file.

    a Double-click the 2048 line (this line should show the 150 or 151 PID) to open the Manage PID window.

    b Click **Exclude** to stop the playout of this broadcast file.

8 From the **Inputs** menu, select **Remove Input**.

9 In the drop-down list, select the input you wish to remove and click **OK**.

10 From the **Inputs** menu, select **Add Stream File Input**.
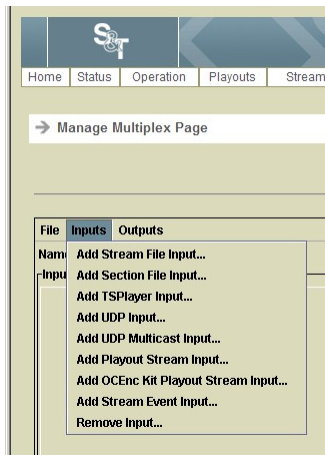

The **Add File Input** window opens.
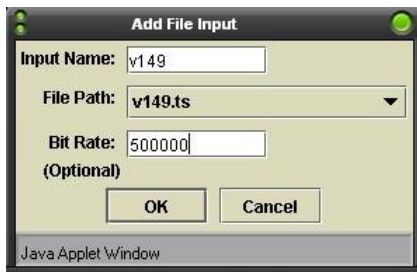
11 In the Add File Input window, use the following steps to add the new broadcast file.

    a Type the .ts file name in the **Input Name** field.

    b Select the .ts file name from the **File Path** drop down list.

    c Enter the host vendor's recommended file bit rate for the file (typically 500000).

    d Click **OK**.

12 After the screen has refreshed to show the new input stream with the logical name given, use the following steps to remap the PID.

    a Double-click **PID 2048** to open the Manage PID window.
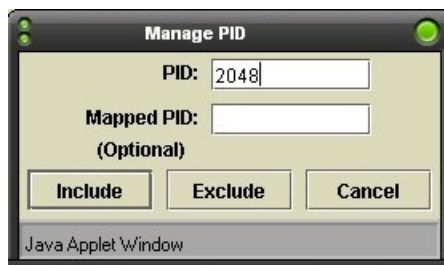
    b In the **Mapped PID** field, enter the new PID, plus 1. Use the information you recorded in *Gather Information to Build the TSBroadcaster Session* (on page 10).

    c Click **Include** to save your changes and close the Manage PID window.

13 Verify that the PID shows up in the outputs as the remapped PID. The new broadcast file is now playing out.

Note: Only one transport stream file can be played out per PID, as only one PID is currently supported.

Make Changes to the Image File on the DNCS

1 The Netscape Web browser should still be open from your last procedure. If Netscape is not open, launch the browser from the DNCS Administrative Console/Utilities tab/Session List.

2 In the URL address field of the browser, type **http://[dncs name]:8086/import** as the URL address. The Image Import Form is displayed.

3 Follow these instructions to configure the Image Import Form using the information you recorded in *Gather Information to Build the TSBroadcaster Session* (on page 10).

    a In the **Vendor Name** field, type the vendor name.

    b In the **Vendor ID** field, type the vendor identifier value.

    c In the **Hardware Id** field, type the hardware identifier value.

    d In the **Description** field, type a description of the package.

    e In the **Image File** field, type the location of the image file on the DNCS.

       Example: /dvs/resapp/[file name].img

    f In the **Certificate File** field, type the name of the security certificate file on the DNCS.

       Example: /dvs/resapp/[certificate file name]

    g From the **Download Type** list, click to select a download type for this image.

    h From the **Download Cmd** list, click to select the download command for this image.

4 Click **Import Image** to save the new image file settings and begin downloading the image file to your host device. The CDVT message now being broadcast from the DNCS and the actual encoded image file (TSBroadcaster) is the actual file to be downloaded.

5

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.

A

Common Download Player Files and Directories

Introduction

This section describes the additional files and directories provided to support the Common Download player.

All files in the file systems are owned by user **sandt** except for TSMux executable files that need **root** ownership to assume run-time privileges.

Important: The file system must not be changed except as directed in this document.

In This Appendix

Common Download Player Working Directory

This directory contains the TSBroadcaster or TSDeveloper configuration files.

Location: `/disk1/media1/tsplayer2`

File(s)/Directories:

- **player2.properties** - File defining the TSBroadcaster properties

- **streaminputfiles** - Directory containing the stream input files

- **streamoutputfiles** - Directory containing the stream output files

- **model** - Directory holding the files defining the Common Download Player multiplex configuration

TSBroadcaster Property Settings

The TSBroadcaster reads in its property settings at startup, from the `/media1/tsbroadcaster/broadcaster.properties` file.

The following example shows the broadcaster.properties file output:

```
system.serverFile=/media1/tsbroadcaster/server.xml

system.modelRoot=/media1/tsbroadcaster/model

system.workRoot=/media1/tsbroadcaster/work

system.buildRoot=/media1/tsbroadcaster/build

system.logRoot=/media1/tsbroadcaster/log

system.archiveRoot=/media1/tsbroadcaster/archive

system.hexadecimalPids=false

system.timeZone=America/New_York

system.locale=en,US

stream.OCAP=true
```

Note: Site-specific parameters are entered here.

```
#
# Multiplexer properties
#
multiplex.present=true

multiplex.name=DownloadContent

multiplex.port=2080

multiplex.refreshRate=1.0
```

TSBroadcaster Properties for Common Download Player

The following table lists the TSBroadcaster properties for the Common Download Player.

Property Name	Description	Setting
multiplex.present	Shows Common Download Player is present	**false**—Disables Multiplexer tab
		true—Set to show Common Download Player is present
multiplex.name	Name of Common Download Player multiplex	**DownloadContent**
multiplex.port	Port TSBroadcaster uses to communicate with Common Download Player	**2080**
multiplex.refreshRate	Refresh rate of Common Download Player display in seconds	**1.0**

B

Modifying the DNCS Common Download Settings

Introduction

This section provides instructions for changing your Common Download DNCS parameters.

Note: When the ocap_config.xml file is modified, you must bounce the ocdlManager after making your changes. Bouncing the ocdlManager does not affect your cable services.

In This Appendix

Modify the DNCS Common Download Settings

In the event that you need to change your Common Download DNCS parameters, you must edit the ocap_config.xml file using vi editor.

Note: When the ocap_config.xml file is modified, you must bounce the ocdlManager after making your changes. Bouncing the ocdlManager does not affect your cable services.

Perform the following steps to modify the ocap_config.xml file:

1   Open an xterm window on the DNCS, and log in as **root** user.

2   Type each command and press **Enter** to access the ocap_config.xml file for editing:

- **cd /dvs/dvsFiles/OCAP_CD/CONFIG**

- **cp ocap_config.xml ocap_config.xml_backup**

- **vi ocap_config.xml**

Important: Be sure to type a space before each command.

The following example shows the ocap_config.xml file output:

```
<?xml version='1.0'?>
<!-- ############################################### -->
<!-- WARNING: This is a generated file.  DO NOT EDIT! -->
<!-- ############################################### -->

<ocap>
   <session number='198' freq='699' deviceId='00/00/00/00/00/00'
datarate='3000000' blocksize='2048' vpiVci='256' outputTsid='0'
inbandDevice='/dev/Hmux1' inbandMode='83' progNumber='3' pmtPid='113'
dncsPro
gNum='0'>
   </session>
   <asiconfig inbandDevice='/dev/Hmux1' tsId='3021' port='1'
bandwidth='38000000' psiInterval='0'>
   </asiconfig>
</ocap>
```

3   You may edit the following values in the ocap_config.xml file:

- **freq**

- **datarate**

- **blocksize**

- **progNumber**

- **pmtPid**

- **tsId**

Notes:

■ Modification of the datarate and blocksize values will help increase the download speeds. (These parameters are dependent on how many images are loaded on the carousel.)

■ Blocksize examples:

 – 1024 = 1K

 – 2048 = 2K

 – 3072 = 3K

 – Maximum blocksize amount is 4000K.

   Note: Setting the blocksize to 4000K may cause problems for some hosts.

■ Datarate examples:

 – 1 Mbps = One to five 7 MB images

 – 2 Mbps = Six to ten 7 MB images

 – 3 Mbps = Eleven+ 7 MB images

   Note: The datarate and blocksize parameters are only recommendations.

4 After making any file modifications, restart the ocdlManager process.