



# Application Server 3.1.2

## User's Guide

## Please Read

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### 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

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# About This Guide

## Introduction

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The Application Server works with the Digital Network Control System (DNCS) to deliver digital applications to subscribers. The Application Server and the DNCS form the core of the Digital Broadband Delivery System (DBDS). The DBDS delivers broadcast data and digital applications from the headend to the subscribers' homes.

This guide provides procedures for setting up and managing digital applications such as pay-per-view (PPV) and the Interactive Program Guide (IPG) on the Application Server.

**Important:** This guide contains procedures for defining digital applications as well as deleting and changing the definitions for these applications. You will not complete these procedures in the order they are presented here. In addition, you will not necessarily use all of the procedures in this guide, depending on the applications that you offer to your subscribers.

**Note:** The illustrations and screen captures shown in this guide may not exactly match what displays on your system.

### Purpose

The purpose of this guide is to enable users to manage the applications that reside on Application Server 3.1.2. You will learn how to set up, or provision, each of the applications that reside on the Application Server.

### Prerequisite

Application Server software version 3.1.2 requires one of the following system releases:

- SR 2.2 or SR 3.2
- SR 2.2 Service Pack 1 or SR 3.2 Service Pack 1
- SR 2.4 or SR 3.4
- SR 3.3

### Audience

This guide is intended for system operators who are using Application Server 3.1.2 with one of the system releases listed earlier.

### Scope

This guide provides procedures for system operators who are using Application Server software version 3.1.2 only.

## Introduction, Continued

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### Document Version

This is the fourth formal release of this guide. In addition to minor textual and graphical modifications, the following changes have been made since the second release of this guide:

- Added descriptions for the Application Server processes in the **View DNCS Monitor Windows** section of Chapter 1
- Added a procedure for positioning a logo in the Interactive Program Guide (IPG) to the **Set Up the IPG** section of Chapter 5
- Added information describing the new feature that allows the numeric keys on the remote control to be programmed to power the DHCT on or off to the **Send a Configuration to a Single DHCT** and the **Set Staging Defaults** sections of Chapter 6

# Chapter 1

## Introducing the Application Server

### Overview

---

#### Introduction

This chapter explains the purpose of the Application Server, how the Application Server differs from the Digital Network Control System (DNCS), and how the Application Server fits into the Digital Broadband Delivery System (DBDS). In addition, this chapter provides an overview of how to monitor the status of the Application Server and how to use the online Help system.

#### In This Chapter

This chapter contains the following topics.

Topic	See Page
Understand the DBDS Network	1-2
View DNCS Monitor Windows	1-4
Online Help	1-9

# Understand the DBDS Network

---

## Introduction

The Application Server is a workstation that transfers data to the DNCS. The Application Server runs the applications that are necessary for providing digital services to subscribers. You must set up, or provision, the following applications so that the DBDS can deliver digital services to subscribers:

- Virtual Channel Service (VCS)
- Interactive Program Guide (IPG)
- Foreign language support
- DHCT Configuration
- Pay-Per-View (PPV)

The DNCS graphical user interface (GUI) allows you to manage and monitor the Application Server. The following two windows are available on the DNCS desktop and provide the means of entry to the Application Server as needed:

- DNCS Administrative Console Status
- DNCS Administrative Console

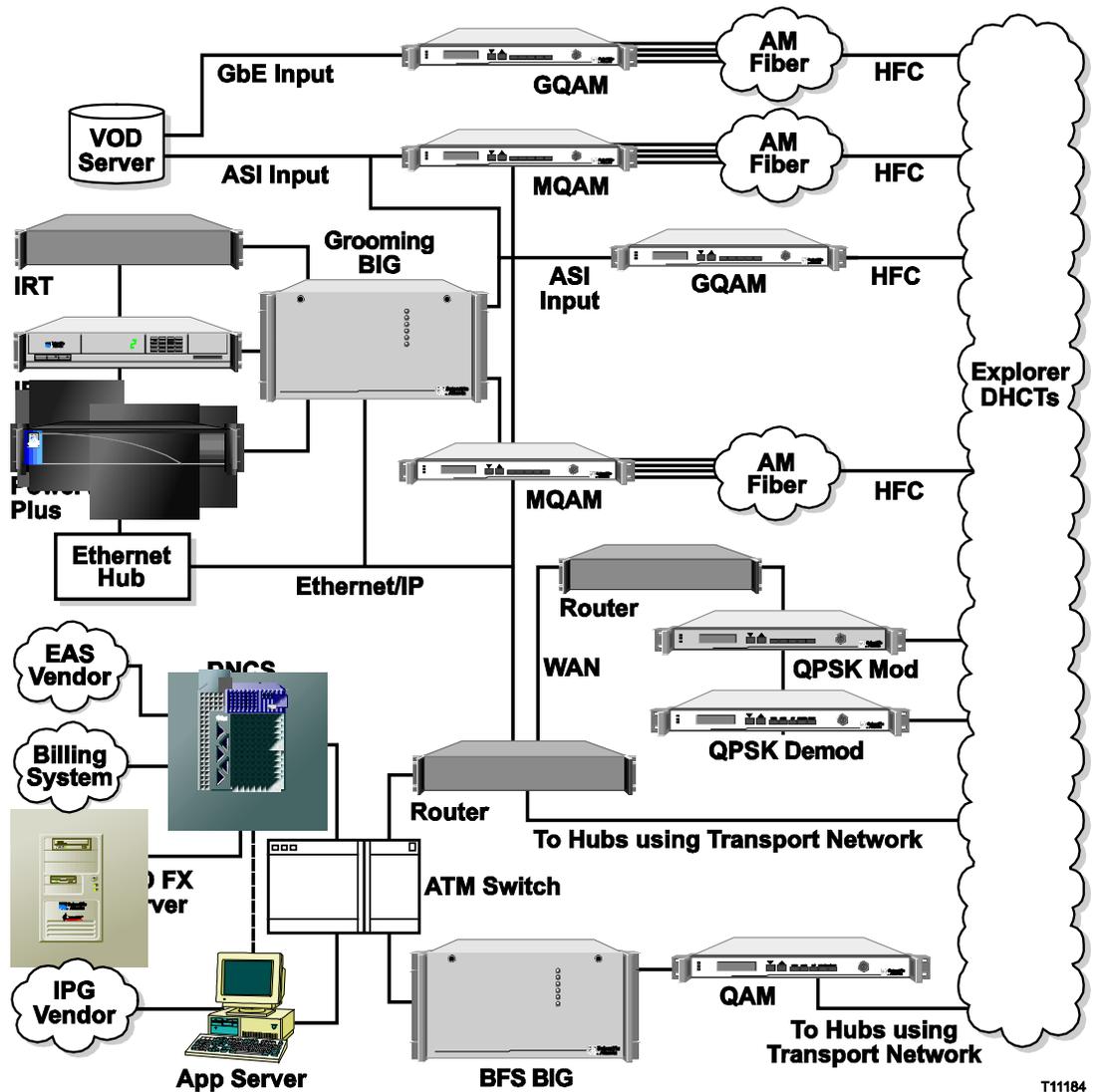
The **View DNCS Monitor Windows** section, later in this chapter, describes these windows and explains how they relate to the Application Server.

# Understand the DBDS Network, Continued

## The DBDS

This section briefly describes the relationship between the Application Server and the DBDS and explains how the Application Server works with the DBDS.

The DBDS is a network of hardware and software elements, including the Application Server, that connects content servers to DHCTs in order to deliver MPEG-2 video, audio, digital data, and analog services to subscribers. The following diagram illustrates how the various hardware elements interconnect to form the DBDS.



# View DNCS Monitor Windows

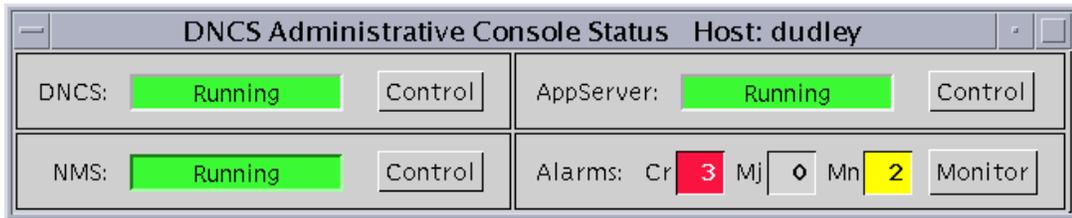
## DNCS Administrative Console Status Window

Use the DNCS Administrative Console Status window to determine the overall status of various processes and network elements. To determine the status of the individual Application Server processes, see **AppServer Control Window**, next in this section.

The DNCS Administrative Console Status window is divided into the following four areas:

- DNCS
- NMS
- AppServer
- Alarms

The following illustration indicates that the DNCS, Application Server (AppServer), and Network Management System (NMS) are all running. If one of these elements was not running, the associated box would appear red (instead of green) and display **Inactive** (instead of **Running**). The Alarms area indicates the number of critical (Cr), major (Mj), and minor (Mn) alarm conditions, if any, that are present in the DBDS.



## View DNCS Monitor Windows, Continued

### AppServer Control Window

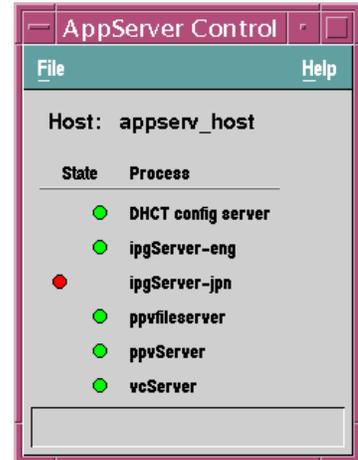
If you click the **Control** button in the AppServer area of the DNCS Administrative Console Status window, the AppServer Control window appears. The AppServer Control window provides a list of all the processes on the Application Server workstation, along with the working state of each.

Cisco® recommends that you leave the AppServer Control window open and visible at all times to help you monitor the system. The following list describes the different working states that can appear on this window:

- Green – The process as a whole is running, although a sub-process may be paused.
- Yellow – The process has not finished starting up or shutting down, or the process is waiting for a subprocess to finish starting up or shutting down.
- Red – The process has stopped or did not start.

Once the Application Server is up and running, all of these processes should be green. If any of them are red or yellow, there is a problem with that process, and you should contact Cisco Services.

Some processes restart automatically in response to an error. If this happens, the status indicator cycles through red, yellow, and green as the process shuts itself down, restarts itself, and then becomes active.



## View DNCS Monitor Windows, Continued

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### Application Server Processes Description

The following table provides a description of the processes on the Application Server that display in the AppServer Control window.

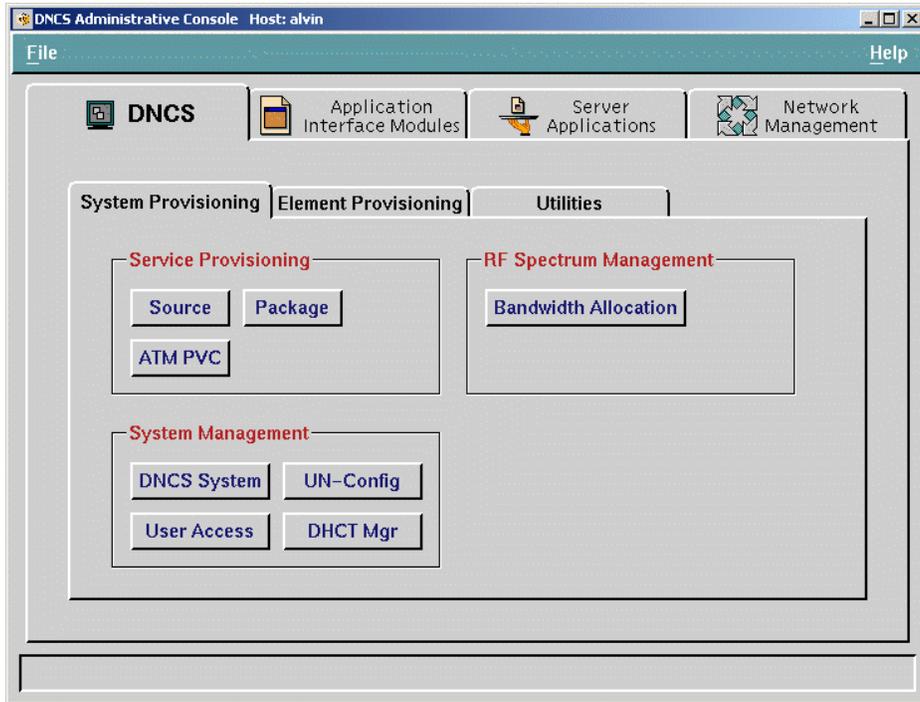
Process	Description
DHCT config server	DHCT Configuration Server - Generates the files containing the global, hub-specific global, and staging configuration values for SARA; places the files on the BFS
IPGServer- <i>xxx</i>	Interactive Program Guide Server - Generates the IPG files for language <i>xxx</i> , for example "eng" for English, and places that file on the BFS  <b>Note:</b> The languages available are English, French, Spanish, and Japanese.
ppvfileserver	Pay-per-view File Server - Generates PPV files for SARA and places those files on the BFS
ppvServer	Pay-per-view Server - Receives PPV event definitions from the billing system and the PPV UI and stores them in the database. The ppvServer also notifies the ppvfileserver process when it is time for the ppvfileserver to generate updated files
vcServer	Virtual Channel Server - Places the files for all configured virtual channels on the BFS

# View DNCS Monitor Windows, Continued

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## DNCS Administrative Console Window

Frequently called the Admin Console, the DNCS Administrative Console is the window you use most often as you operate the Application Server.



## View DNCS Monitor Windows, Continued

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### DNCS Administrative Console Window Tabs

Each of the four primary tabs on the DNCS Admin Console provides access to specific functions.

You will use the Server Applications tab to provision Application Server applications. For more information on using the other tabs in DNCS processes, refer to the *Digital Network Control System (DNCS) Software For Use With SR 2.1 and SR 3.0 User's Guide*.

The following table describes the specific functions of the primary tabs on the DNCS Admin Console.

Tab	Description
DNCS	Allows you to provision basic digital services and manage DBDS hardware on the DNCS
Application Interface Modules	Allows you to set parameters for the DNCS to interact with DHCTs and service providers (for example, HBO or Internet services) to permit a smooth transfer of information between the service providers and DHCTs
Server Applications	Provides access to applications that reside on the Application Server so that you can enable DHCTs to offer services associated with those applications to subscribers  <b>Note:</b> The options that appear on this tab vary depending on the applications available on your system.
Network Management	Provides access to network management windows, including the DHCT Monitor, so that you can monitor and manage activity on your system

# Online Help

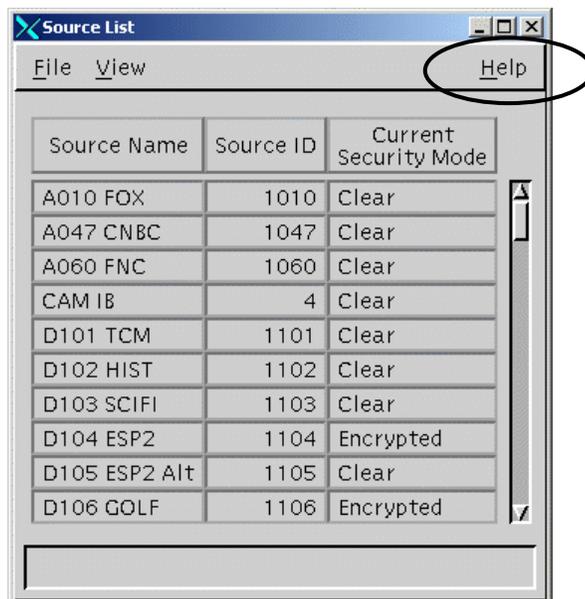
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## Introduction

The DNCS Online Help provides additional information about a window or a particular procedure. This section describes the different ways you can access the DNCS Online Help.

## List Windows

If you are viewing a window that provides a list of items, access the Online Help by clicking **Help** on the toolbar as indicated in the following illustration.



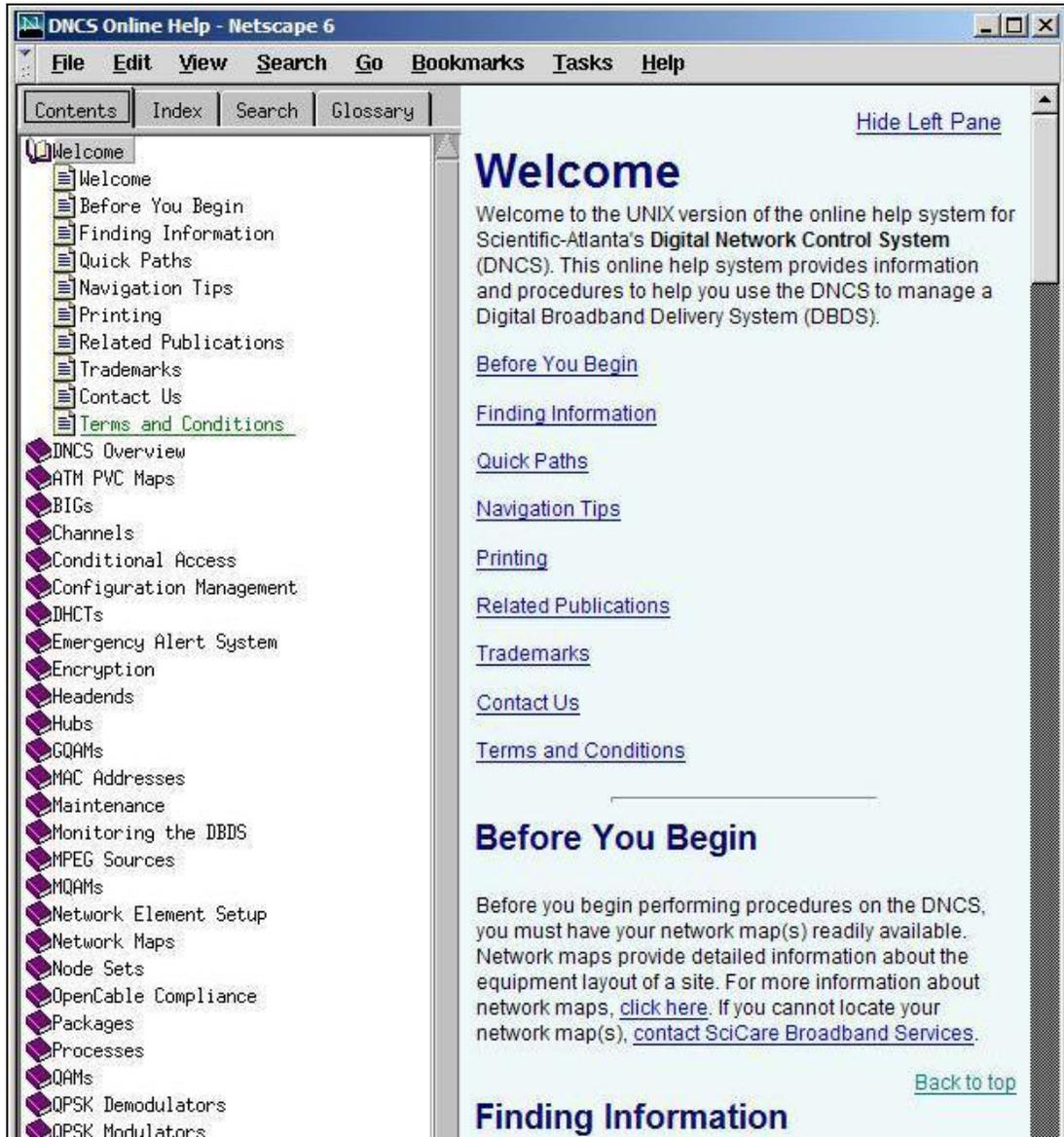
A drop-down list appears with the following options:

- Version
- Online Help

## Online Help, Continued

If you select **Version**, the system opens the Netscape Internet browser with a list of software versions installed on your DNCS workstation.

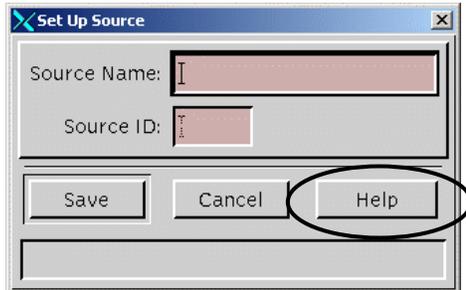
If you click **Online Help**, the system opens the DNCS Online Help in the Netscape Internet browser.



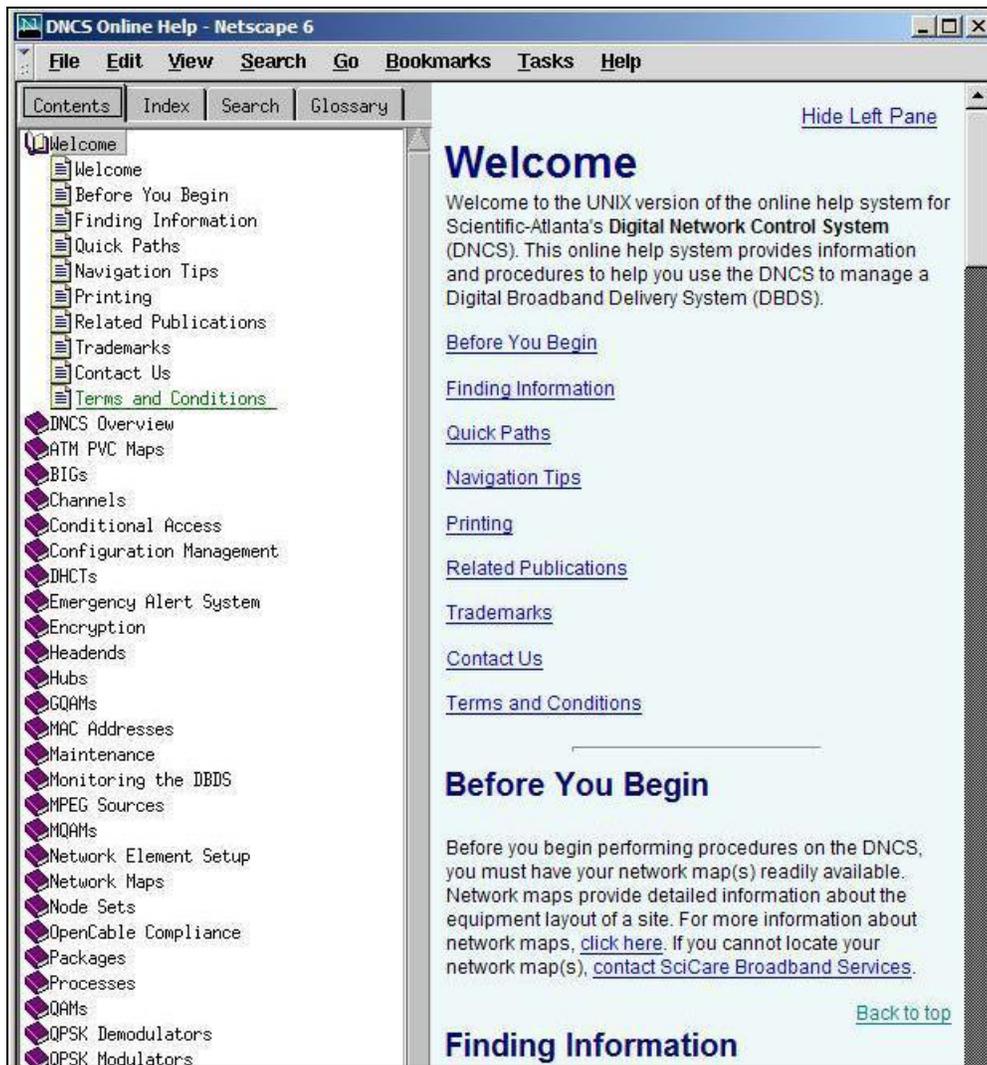
## Online Help, Continued

### Setup Windows

If you are viewing a window that allows you to set up a network element, access the Online Help by clicking the **Help** button located at the bottom of the window as indicated in the following illustration.



The system opens the DNCS Online Help in the Netscape Internet browser.



### Finding Information

You can use any of the following methods to find information you need in the DNCS Online Help:

- Click the topic in the **Contents** list
- Click the **Index** tab and type a keyword
- Click the **Search** tab and type a keyword
- Click the **Troubleshooting** topic in the Contents list for help resolving errors you may be experiencing
- Click the **Glossary** topic at the bottom of the Contents list for definitions of terms used throughout the Online Help

### Conventions

At the beginning of most procedures in the DNCS Online Help is a Quick Path for getting to a specific GUI window to perform the procedure. The following example shows the Quick Path for opening the Source Definitions List window.

**Quick Path:**  
**DNCS Administrative Console > DNCS tab > System Provisioning tab > Source > [Source Name] > File > Source Definitions**

As you become more experienced in using the DNCS, these Quick Paths may be the only reminders you need of how to perform certain tasks. In this example, you would use the Quick Path to perform the following steps.

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. On the DNCS tab, click the **System Provisioning** tab.
3. On the System Provisioning tab, click the **Source** button.

**Result:** The Source List window opens.

4. On the Source List window, click once on the source name (**[Source Name]**) whose definition you need.
5. Click on the **File** menu, and then select **Source Definitions**.

**Result:** The Source Definitions List window opens for the source you selected.

### Navigation Tips

The following tips may help you to navigate more efficiently around the DNCS and the Online Help:

- To open a window for an existing item on the DNCS, the procedures in the Online Help advise you to click once on the item name; then, click **File** and select **Open**. In most cases, you can simply double-click on the item name to open the window, if you prefer.
- To return to a Help topic you have previously visited, click **Go** on your browser toolbar, and then choose **Back** from the drop-down menu that appears. You can also click the right mouse button in the Help topic window and select **Back** from the menu that appears.
- Occasionally, a Help page may not display properly. This is especially true if you try to resize the Help window. If this happens, simply close the Online Help and then re-open it.

### Printing Help Topics

If your system has print capabilities, you can print any Help topic by completing these steps:

1. Click once within the topic to select that area (frame).
2. Click **File** on your browser toolbar, and then select **Print Frame** from the menu.

# Chapter 2

## Getting Started

### Overview

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#### Introduction

This chapter provides procedures for starting up the Application Server workstation and its processes. Use the procedures in this chapter if you are starting up the Application Server for the first time or if power to the Application Server has been interrupted.

Typically, the Application Server operates continuously until you stop it manually to upgrade it. If you are upgrading the Application Server, do *not* use the procedures in this chapter to restart the Application Server after the upgrade. Instead, use the procedures provided in the appropriate upgrade installation instructions for your system release.

#### In This Chapter

This chapter contains the following topics.

Topic	See Page
Power On the Application Server Workstation	2-2
Start Application Server Processes	2-3

# Power On the Application Server Workstation

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## Before You Begin

Before you power on the Application Server workstation, the DNCS processes must be running and you must have your login password. If you do not know your login password, see your system administrator.

## Powering Up the Application Server Workstation

Complete these steps to power on the Application Server workstation.

1. Go to the Application Server workstation and press the **Power** button.

**Result:** The login window opens with a welcome message after a few minutes.

**Note:** If your system is not set up properly, the Application Server will not finish powering up. If your Application Server does not power on, contact Cisco Services.

2. Type the user name (typically **dncs**), and then press **Enter**.

**Result:** The password prompt appears.

3. Type the password, and then press **Enter**.

**Result:** The Application Server desktop appears. The Application Server workstation is now powered up.

4. Your next step is to start the Application Server processes. Go to **Start Application Server Processes**, next in this chapter.

# Start Application Server Processes

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## Introduction

After you power on the Application Server workstation, you can start the Application Server processes. These processes are an integral part of the Application Server software. You cannot use the Application Server with the DNCS until you start these processes.

## Starting Application Server Processes

Complete these steps to start the Application Server processes.

1. Use the mouse to place the cursor anywhere on the Application Server desktop, and then click the middle mouse button.

**Result:** A dropdown menu appears with a list of options.

2. Click **App Serv Start**.

**Result:** The workstation front-panel “busy” light blinks to indicate that the software startup is in process.

# Start Application Server Processes, Continued

## Monitoring Application Server Processes

If you want to monitor each Application Server process as it starts, complete these steps.

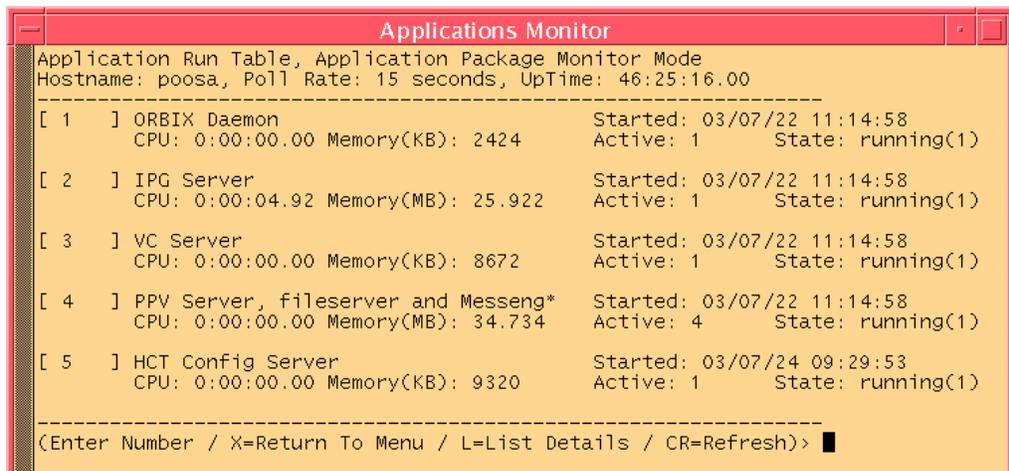
1. Click the center mouse button anywhere on the Application Server desktop and select **App Serv Monitor**.

**Result:** The Applications Monitor window opens.



2. Type **1** and press **Enter**.

**Result:** The Run Table Monitor appears. This monitor shows the time that each process started, among other information.



## Start Application Server Processes, Continued

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### What's Next

After you have verified that all of the processes are running properly, your next step is to set up the applications that you offer to your subscribers. Chapters 3 through 7 contain procedures for defining these applications and changing the way the applications are defined. Chapter 8 contains procedures for enabling and disabling tracing on the application server.

# Chapter 3

## Setting Up Language Support

### Overview

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#### Introduction

The DBDS allows you to display PPV/IPPV event information menus and the Interactive Program Guide (IPG) in one of several languages. However, to provide this feature to subscribers, you must first set up the languages on the DNCS.

**Important:**

- To provide IPG in a different language, your data provider must provide programming information, such as titles in those languages.
- To provide PPV/IPPV titles in a different language, the billing system must provide this information as a part of the event definition.

This chapter explains how to set up those languages.

#### In This Chapter

This chapter contains the following topics.

Topic	See Page
Set Up Supported Languages	3-2

# Set Up Supported Languages

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## Introduction

To set up other languages for your IPG, use the Languages user interface located on the Server Applications tab of the DNCS Administrative Console. For each language that you set up, there must be an IPG server and an IPG collector to support the language. The DNCS allows one IPG server per active language. You must complete the following tasks when setting up supported languages.

1. Verify and select the appropriate languages your system supports.
2. Create a server and a collector for each language you select.

For procedures to create a server and a collector, see **Set Up the IPG** in Chapter 5 of this guide.

## Verifying and Selecting the Appropriate Languages

Perform the following steps to verify that the DNCS recognizes the languages your DBDS supports.

1. On the **DNCS Administrative Console**, select the **Server Applications** tab.
2. Click **Languages**.

**Result:** The **Supported Languages** window opens.



3. If the languages your DBDS supports are not selected, select them.

**Note:** In the example in step 2, only English is selected. However, if your system also supports French, Spanish, or Japanese, select those options, and then click **Save**.



4. Click **Close** to exit the **Supported Languages** window.

# Chapter 4

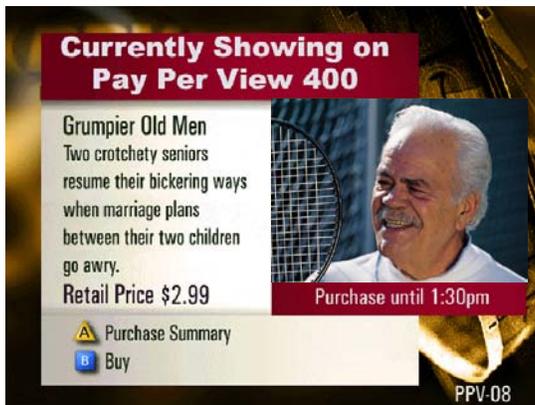
## Defining PPV Services and Events

### Overview

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#### Introduction

PPV services, like clear broadcasts, are always available to subscribers whenever they tune to a channel carrying the service. The channel displays the service on the subscriber's television. The channel displays a barker that advertises the events that are available for purchase. For example, the following example shows a Preview barker that contains information on the program that is currently showing, along with its retail price.



There are no control mechanisms or package restrictions that prevent subscribers from accessing the channels where PPV services are offered. Any subscriber can simply tune to a channel that displays the service and order the event. However, the events are considered "secure" because even though the channels are not restricted, the events are only available to subscribers who order them.

This chapter provides steps for creating, modifying, and deleting secure events and PPV events.

#### In This Chapter

This chapter contains the following topics.

Topic	See Page
Define PPV Services	4-2
Understand Windows and Barkers	4-10
Define PPV Events	4-17

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# Define PPV Services

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## Before You Begin

Before you can define PPV events for subscribers to purchase, you must define the PPV services that will deliver these events. A **PPV service** is an application that allows subscribers to purchase and view movies, concerts, or sporting events to be viewed at a certain time on a certain channel. A **PPV event** is any program (such as movie, concert, or sporting event) that a subscriber can purchase through a PPV service. If a subscriber has purchased the event that is currently playing on the PPV service, then the PPV service displays that event. If not, then the PPV service displays advertising, interstitials, or some other programming.

As with other services, you must complete the following tasks when defining a PPV service:

- **Add the service source.** This task specifies which digital or analog signal the DBDS will use to deliver the service to subscribers.
- **Define parameters for the service source.** This task defines the attributes that establish how the system will process service content. Also, this task includes building a session, which defines and allocates the resources that the source will use to deliver the service content.
- **Encrypt the content coming from the service source.** This task ensures that the content will only be available to authorized subscribers.

You must use the *Digital Network Control System Online Help (UNIX) Version 3.2.0.3 for SR 2.2/3.2* to complete these tasks before you can define PPV services.

Before you can define PPV services, the event's service must be registered with the Service Application Manager (SAM). The SAM is a table that identifies available services and their associated applications. Each time the DNCS registers a service with the SAM, the DNCS assigns it a unique service ID. The DNCS automatically registers the service with the SAM when you create the service, so you do not need to register the event's service with the SAM.

This section describes the Set Up PPV Service window and explains how to create, modify, and delete PPV services (the applications that deliver PPV events).

## Define PPV Services, Continued

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### Understanding the Set Up PPV Service Window

Use the Set Up PPV Service window to create or modify PPV services.

The screenshot shows a window titled "Set Up PPV Service". It contains the following fields and values:

- Service ID: (empty)
- Service Name: GBOPPV
- Short Description: GPPV
- Long Description: Geo Pay-Per-View
- Logo Index: 1
- Default Order Phone Number: 1-800-555-4567
- Default Cost: \$2.99
- Default Order Start Interval: 1 hours, 1 minutes
- Event Use Service: STARZ EAST
- Subscription Service: BBC AMERICA
- Interstitial Service: - none -

Buttons at the bottom: Save, Cancel, Help.

The fields on this window are as follows:

- **Service Name** – A unique name for the service  
**Note:** Service names are typically provided by the billing system.
- **Short Description** – A useful descriptive short name, such as IPPV1 and IPPV2 for subscribers when they tune to the channel where this PPV service resides
- **Long Description** – A longer description that provides a more complete definition of the service. This is for your benefit only. Subscribers never see the information entered here
- **Logo Index** (Optional) – A number that associates a graphic with the PPV service. You can obtain a list of logo numbers from Cisco services
- **Default Order Telephone Number** – Specifies the phone number for subscribers to call to order a reservation pay-per-view (RPPV) event advertised by this service. The number you enter here displays for subscribers unless the billing system provides another telephone number for the event. Type this phone number exactly as it should appear on the TV screen (including dashes and parenthesis, if appropriate)
- **Default Cost** (Optional) – Sets the default cost for events on the service if no cost is specified for the event. Type this amount exactly as it should appear on the TV screen (including a dollar sign and decimal point, if appropriate)

## Define PPV Services, Continued

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- **Default Order Start Interval** (Optional) – Specifies a default interval during which subscribers can call to order an event, if the event definition does not specify when subscribers can order the event. For example, suppose the Default Order Start Interval is 12 hours and 0 minutes. If an event does not specify an order start time, then subscribers can begin calling to order the event 12 hours before the event begins. Type this amount in hours and minutes
- **Event Use Service** – The service that will be seen on this PPV service when PPV events are purchased. Click the arrow (▼) to display a list of all services available, and then select the appropriate service from the list
- **Subscription Service** (Optional) – Specifies whether this service will function as a subscription service in addition to a PPV service
  - If you want the service to function as a PPV service, click the arrow (▼) and select **none**
  - If you want the service to function as a subscription service (one that is always available to authorized subscribers), click the arrow and select the same service you selected in the **Event Use Service** field
- **Interstitial Service** – A specific service that displays between events; this service could be general programming or an advertisement. Click the arrow and select from the list of existing services. If you do not specify an interstitial service, the PPV service channel will display a standard text barker between events

# Define PPV Services, Continued

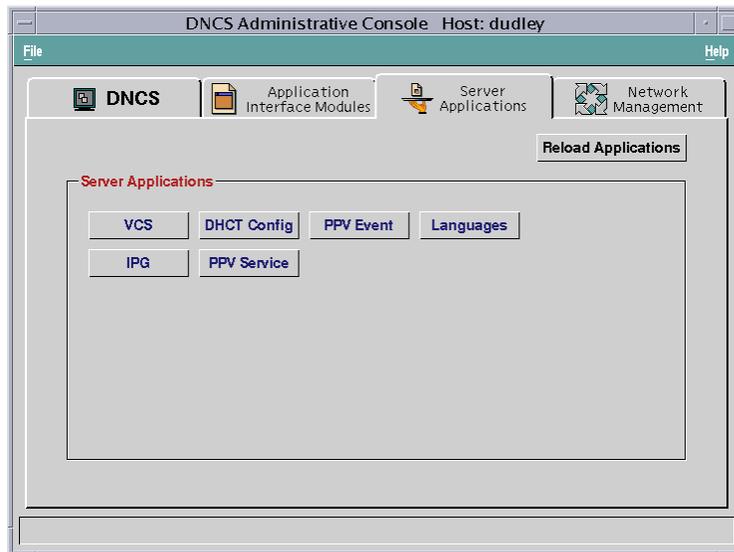
## Creating a PPV Service

After you add the service source, define parameters for the source, and encrypt its content, the next step is to create a service that advertises and sells the events: a PPV service.

Complete these steps to create a PPV service.

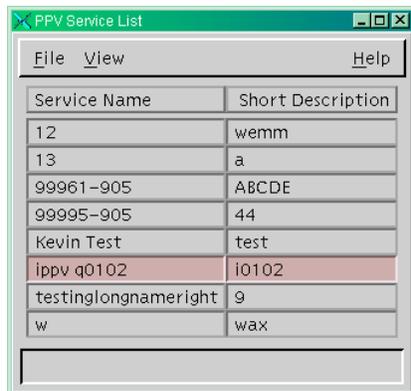
1. On the **DNCS Administrative Console**, select the **Server Applications** tab.

**Result:** The Server Applications tab moves to the forefront.



2. Click **PPV Service**.

**Result:** The **PPV Service List** window opens.

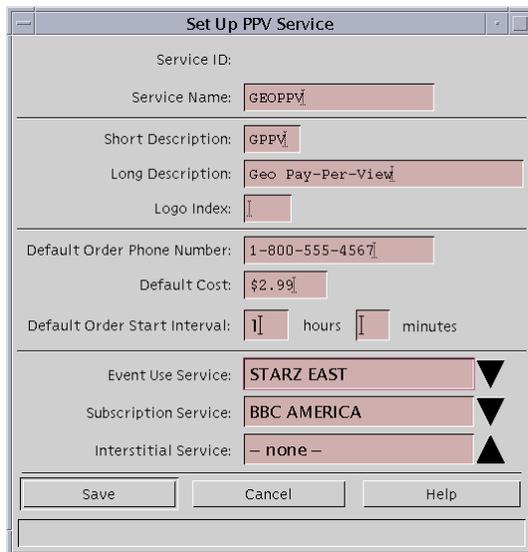


## Define PPV Services, Continued

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3. From the **File** menu, click **New**.

**Result:** The **Set Up PPV Service** window opens.



The screenshot shows the 'Set Up PPV Service' dialog box with the following values:

- Service ID: (empty)
- Service Name: GEOPPV
- Short Description: GPPV
- Long Description: Geo Pay-Per-View
- Logo Index: 1
- Default Order Phone Number: 1-800-555-4567
- Default Cost: \$2.99
- Default Order Start Interval: 1 hours, 1 minutes
- Event Use Service: STARZ EAST
- Subscription Service: BBC AMERICA
- Interstitial Service: - none -

Buttons at the bottom: Save, Cancel, Help.

4. On the **Set Up PPV Service** window, complete all of the following required fields. Optional fields are labeled.

- Service Name
- Short Description
- Long Description
- Logo Index (Optional)
- Default Order Telephone Number
- Default Cost (Optional)
- Default Order Start Interval (Optional)
- Event Use Service
- Subscription Service (Optional)
- Interstitial Service

**Notes:**

- See **Understanding the Set Up PPV Service Window** on page 4-3 for descriptions of these fields.
- Be sure to make a note of the values in the Short Description field and the Event Use Service field. You will need these values when you set up this PPV service on the IPG.

## Define PPV Services, Continued

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5. Click **Save**.

**Result:** The Application Server creates a PPV service for the source and automatically does the following:

- Registers the service with the SAM
- Assigns a URL of **ippv** to the service
- Makes the service available to the channel maps
- Creates an unlimited segment from the service, which you can view in the **Segment List**

**Result:** For each PPV service there are two SAM services: the PPV service and the Event Use service. You must map both the PPV service and the Event Use service to the IPG Service List to ensure that data about the events appears in the IPG and on the purchase barkers.

6. Do you want to add another PPV service?
  - If **yes**, go back to step 3 and add the next service.
  - If **no**, go to step 7.
7. Add all of the PPV services that you created and all of their Event Use services to the IPG Service List. Go to the **Set Up the IPG** section in Chapter 5 and follow the instructions. Then, go to step 7.
8. Add all of the PPV services that you created to the channel map. Refer to the *Digital Network Control System Online Help (UNIX) Version 3.2.0.3 for SR 2.2/3.2*, for procedures to complete this task. Then, go to **Modifying PPV Services**, next in this section.

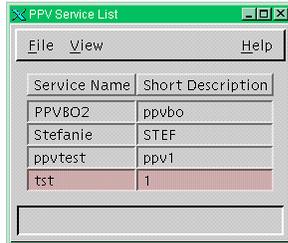
# Define PPV Services, Continued

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## Modifying PPV Services

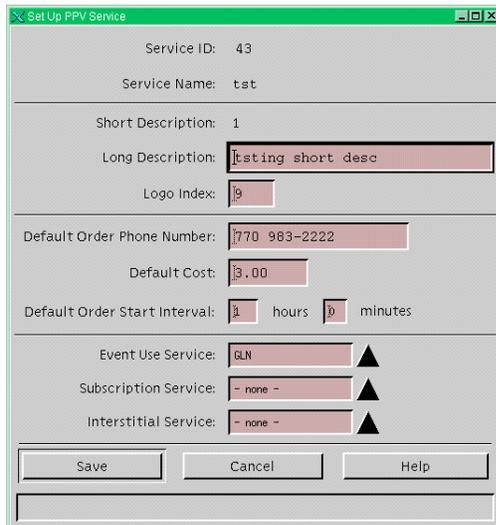
Complete these steps to modify a PPV service.

1. On the **PPV Service List** window, highlight the row of the desired service.



2. Click the **File** menu and select **Open**.

**Result:** The **Set Up PPV Service** window opens.



3. Make necessary changes in the fields, and click **Save**.

## Define PPV Services, Continued

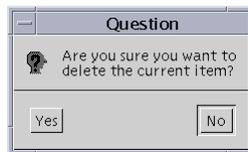
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### Deleting a PPV Service

Complete these steps to delete a PPV service.

1. Select the service you want to delete in the **PPV Service list** window.
2. Click the **File** menu and select **Delete**.

**Result:** A **Question** window opens, prompting you to confirm that you want to delete the current item.



3. Click **Yes** to confirm that you want to delete the PPV service.

# Understand Windows and Barkers

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## Introduction

PPV events are available for viewing during a specified period of time. This period of time is called a **window**. The period of time that a window is present determines when the PPV service displays a specific type of advertisement or purchase option. These advertisements and purchase options are presented by screens called **barkers**.

This section describes the types of windows and barkers used in offering PPV events to subscribers. You must understand the relationship between windows and barkers in order to define PPV events successfully.

**Note:** Remember a window is a period of time. A barker is a screen that advertises an event or allows a subscriber to order an event.

## Understand Windows and Barkers, Continued

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### Windows

PPV services use six different types of windows to offer events to subscribers. Some windows are used for both RPPV and impulse pay-per-view (IPPV) events, and some are used for IPPV events only. The following table describes the different windows and the associating PPV event.

Type of Window	Purpose
<b>Event Window</b>	This window defines the period of time that video is shown on the PPV service channel. The event's start time and length determine this time period.
<b>Marketing Window</b>	This window defines the period of time that the PPV service can advertise the event. During the Marketing window, a Purchase Prompt barker appears when the subscriber sets a reminder or VCR timer for the event. This also allows subscribers to purchase an IPPV event from the IPG.  <b>Important:</b> The Marketing Window should be at least as long as the number of days of IPG data you provide (typically seven days).
<b>Advertising Window</b>	This window defines the period of time that the Purchase barker appears when the subscriber is tuned to the PPV service channel. Each PPV service may have only one Advertising window open at a time.
<b>Preview Window</b>	This window defines the period of time that a subscriber may view the IPPV event on the PPV service channel without purchasing the event. During this time, if the subscriber has not purchased the event, the Preview barker appears. When a subscriber purchases the event, the event appears.
<b>Buy (GBAM) Window</b>	This window defines the period of time that the PPV service will attempt to verify IPPV event purchases. If the PPV service verifies the purchase, the subscriber will see the event. (The Buy window uses a Global Broadcast Authenticated Message [GBAM] to verify a purchase.)
<b>Cancel Window</b>	This window defines the period of time that a subscriber may cancel an IPPV event purchase.

# Understand Windows and Barkers, Continued

## Window Relationships

There are some timing requirements that you must follow when setting up PPV windows. If you do not follow these requirements, then subscribers may not be able to purchase PPV events successfully. For example, if you do not define an Advertising window correctly, then the Purchase barker will not appear when subscribers tune to the PPV service channel. In this case, subscribers are unable to purchase the event. Or, if you do not define the event itself correctly, then the event will not appear as expected.

In examining the window relationships in the following illustration, remember that the billing system defines these windows when it sends the event definition to the Application Server. Therefore, in most cases you should not need to define an event (although you can do so manually if necessary.) You can view the Set Up PPV Event window to view the window definitions for an event.

**Note:** For IPPV events, you must define all six windows. For RPPV events, you only need to define three windows: the Marketing, Advertising, and Event windows.



Purchase Prompt Barker

Default Start = 26 hours before event start

### Marketing Window \*

Must open before event starts and close before event ends.  
The event phone number must be active after the marketing window opens.

Day 1 (1:00 AM)

Day 11 (8:00 PM)



Purchase Barker

Default Start = 15 minutes before event start

### Advertising Window \*

Must be contained within the Marketing Window.  
The Advertising Window must close before the Buy Window closes.

Day 11 (6:45 PM)

Default End = 45 minutes after event start

Day 11 (7:45 PM)



Preview Barker

### Buy (GBAM) Window

Must be open at least 5 minutes before event starts.

Day 11 (6:55 PM)

Day 11 (7:50 PM)

### Preview Window \*

Must be contained within the Advertising Window.

Day 11 (7:00 PM)

Day 11 (7:30 PM)

### Cancel Window

Must open before event starts.

Day 11 (7:00 PM)

Day 11 (8:00 PM)

### Event Window \*

Event must be set up on billing system 30 minutes before the Advertising Window start time.

Day 11 (7:00 PM)

Day 11 (9:00 PM)

\* Event, Advertising and Preview Windows of different events on the same service may not overlap. However, the Advertising Window of one event may open while the previous event is still in progress.

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## Understand Windows and Barkers, Continued

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### Barkers

A barker is often associated with a specific window. PPV uses three kinds of barkers. These barker types are as follows:

- **Purchase Prompt barker** – This barker prompts subscribers to buy an event when the subscriber performs one of the following actions:
  - Sets the VCR timer to record an event that has not yet occurred
  - Uses a reminder timer to notify the subscriber of an event to view in the futureSubscribers can dismiss this barker by pressing the C key on the remote control. This barker appears during the Marketing window.
- **Purchase barker** – This barker advertises the next event available for purchase. This barker appears until the subscriber buys the event, selects a different channel, or views the Advertising window.
- **Preview barker** – This barker is similar to the Purchase barker. In addition to displaying information about the event, the Preview barker also displays a portion of the event as part of the advertisement.

**Note:** The Purchase Prompt barker and the Purchase barker appear for both RPPV and IPPV events. The Preview barker appears only for IPPV events.

## Understand Windows and Barkers, Continued

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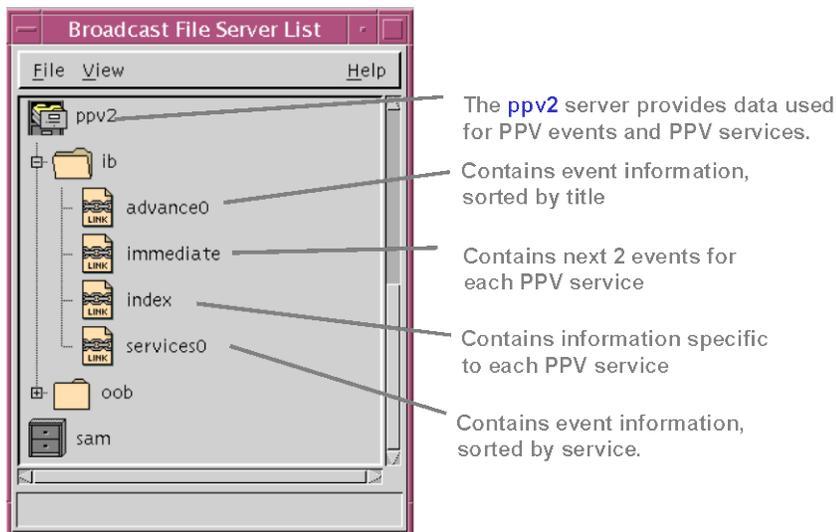
### BFS Data Files Critical to PPV Events

BFS data files contain data that the DHCTs need to perform certain tasks. The PPV data carousel periodically broadcasts these files to DHCTs, which ensures that DHCTs always have the most recent PPV information. For PPV events, there are four files that contain data critical to advertising PPV events:

- **advanced0** contains event information sorted by title
- **immediate** contains data for the next two events of each PPV service
- **index** contains information specific to each PPV service
- **services0** contains event information sorted by service

In the following example, the BFS data files have registered with the BFS. After you have defined a service and the Application Server receives event definitions from the billing system, and stores the event information in the database. Periodically the ppvfileserver updates the files on the BFS to include the new event information.

The following illustration shows these files and explains the contents of each.



## Understand Windows and Barkers, Continued

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### PPV Advertising Window Defaults

By default, the advertising window starts 15 minutes before an event starts and ends 45 minutes after an event starts. These values are called the *start offset* and the *end offset*. Cisco suggests that you adjust these values if you frequently have events that are less than 60 minutes long.

Before you adjust these offsets, you must identify the length of the shortest event that you will advertise. The length of your shortest event is your *minimum event interval*. Use the minimum event interval and the following guidelines to determine the new default values for your offsets:

- The total offset time (start offset plus end offset) must not exceed your minimum event interval. For example, if your shortest event is 30 minutes long, then the start offset plus the end offset must not exceed 30 minutes.
- For IPPV events, the purchase window cannot start before the advertising window starts.
- The advertising window must end at least 5 minutes before the end of the event.

The following table shows two examples of minimum event intervals and identifies acceptable default values for the start offset and the end offset:

<b>Minimum Event Interval</b>	<b>Advertising Window Start Offset</b>	<b>Advertising Window End Offset</b>
30 minutes	10 minutes	15 minutes
59 minutes	15 minutes	35 minutes

## Understand Windows and Barkers, Continued

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### Setting Default Values for PPV Advertising Windows

After you determine the default offset values for the Advertising Window, follow these steps to adjust those values:

1. Open an xterm window on the **Application Server**.
2. Type `cd /export/home/dnccs` and press **Enter**.  
**Result:** The /export/home/dnccs directory is now the working directory.
3. Type `vi .profile` and press **Enter**.  
**Note:** Be sure the type a period (.) before the word “profile.”  
**Result:** The vi editor opens the .profile file for editing.
4. Use the arrow keys to move to the bottom of the file.
5. Type `o`.  
**Result:** A new line appears at the end of the file.
6. Type the following lines at the end of the file and press **Enter** after each line.  
**export PPV\_ADV\_WIND\_START\_INTVL=[number of seconds for new default start offset]**  
  
**export PPV\_ADV\_WIND\_END\_INTVL=[number of seconds for new default end offset]**  
  
**Examples:**  
  
`PPV_ADV_WIND_START_INTVL=600`  
`PPV_ADV_WIND_END_INTVL=900`
7. Type `:wq` and press **Enter**.  
**Result:** The vi editor saves and closes the .profile file.
8. On the **Application Server**, run the **appControl** utility, and then stop and restart the PPV processes to activate these new values.

# Define PPV Events

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## Types Of Events (RPPV vs. IPPV)

The billing system defines the following two types of events based on how subscribers purchase them:

- RPPV event – Subscribers can purchase an RPPV event by placing a telephone call. A cable service representative (or an automated service) may order the event for the subscriber.
- IPPV event – Subscribers can purchase an IPPV event by using the remote control keys to purchase the event.

**Note:** After you define an event, you should use a DHCT in the headend to confirm that the event is available for ordering. By doing so, you can verify that the PPV service and the PPV event were defined correctly.

## Generating PPV Events Automatically

Typically, the billing system defines PPV events automatically. However, a solid understanding of how the billing system defines PPV events are defined makes it easier for you to correct any errors that may occur

Whether the billing system defines an event automatically, or you define one manually using the Application Server, either action generates an ECM (Entitlement Control Message). An ECM associates a package with the event and assigns an EID (Event ID) to the package. (**Packages** collect program segments into offerings that are meaningful to the subscriber and hold potential profitability for the MSO.)

The billing system automatically generates PPV events as follows:

1. The billing system sends event definition to the Application Server.
2. The Application Server processes the definition and sends it to the DNCS for packaging.
3. Using the definition, the DNCS issues an ECM for the event. As part of issuing the ECM, the DNCS creates a package for the event and assigns the package an EID.
4. The DNCS transmits the ECM to the ATM switch, which forwards it to a router, and the router, in turn, forwards the ECM to the appropriate program QAM modulator.

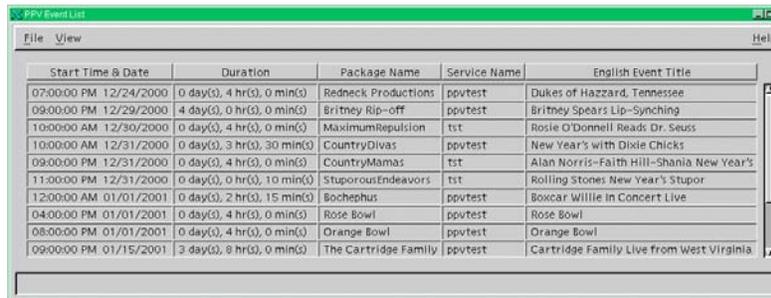
## Define PPV Events, Continued

### Generating RPPV Events Manually

Perform the following steps to create an RPPV event.

1. On the **DNCS Administrative Console**, select the **Server Applications** tab.
2. Click **PPV Event**.

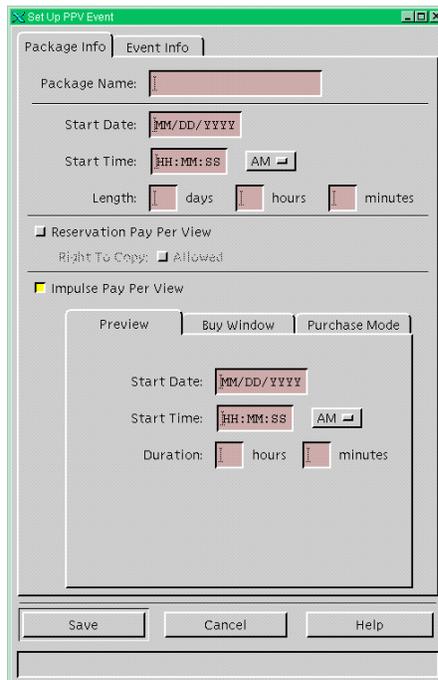
**Result:** The **PPV Event List** window opens. Typically you would open an event from this list to examine one already defined by the billing system. However, because you are setting up events manually, create a new event by selecting **New** from the **File** menu.



Start Time & Date	Duration	Package Name	Service Name	English Event Title
07:00:00 PM 12/24/2000	0 day(s), 4 hr(s), 0 min(s)	Redneck Productions	ppvtest	Dukes of Hazzard, Tennessee
09:00:00 PM 12/29/2000	4 day(s), 0 hr(s), 0 min(s)	Britney Rip-off	ppvtest	Britney Spears Lip-Synching
10:00:00 AM 12/30/2000	0 day(s), 4 hr(s), 0 min(s)	MaximumRepulsion	tst	Rosie O'Donnell Reads Dr. Seuss
10:00:00 AM 12/31/2000	0 day(s), 3 hr(s), 30 min(s)	CountryDivas	ppvtest	New Year's with Dixie Chicks
09:00:00 PM 12/31/2000	0 day(s), 4 hr(s), 0 min(s)	CountryMamas	tst	Alan Norris-Falch Hill-Shania, New Year's
11:00:00 PM 12/31/2000	0 day(s), 0 hr(s), 10 min(s)	StuporousEndeavors	tst	Rolling Stones New Year's Stupor
12:00:00 AM 01/01/2001	0 day(s), 2 hr(s), 15 min(s)	Bocephus	ppvtest	Boxcar Willie In Concert Live
04:00:00 PM 01/01/2001	0 day(s), 4 hr(s), 0 min(s)	Rose Bowl	ppvtest	Rose Bowl
08:00:00 PM 01/01/2001	0 day(s), 4 hr(s), 0 min(s)	Orange Bowl	ppvtest	Orange Bowl
09:00:00 PM 01/15/2001	3 day(s), 8 hr(s), 0 min(s)	The Cartridge Family	ppvtest	Cartridge Family Live from West Virginia

3. Click the **File** menu and select **New**.

**Result:** The **Set Up PPV Event** window opens. The window has two tabs that allow the user to access different data entry fields: the **Package Info** and **Event Info** tabs. Start by entering information into the **Package Info** tab to define the package that contains the event.



The screenshot shows the 'Set Up PPV Event' dialog box with the 'Package Info' tab selected. The fields are as follows:

- Package Name: [Redacted]
- Start Date: MM/DD/YYYY
- Start Time: HH:MM:SS AM
- Length: [Redacted] days, [Redacted] hours, [Redacted] minutes
- Reservation Pay Per View
- Right To Copy:  Allowed
- Impulse Pay Per View
- Preview tab selected, showing:
  - Start Date: MM/DD/YYYY
  - Start Time: HH:MM:SS AM
  - Duration: [Redacted] hours, [Redacted] minutes

Buttons at the bottom: Save, Cancel, Help.

*Continued on next page*

## Define PPV Events, Continued

4. Select the **Package Info** tab.
5. In the top section of the tab, type the following information into their respective fields:
  - **Package Name** – A name for the package
  - **Start Date** – The date when the package starts in MM/DD/YY format
  - **Start Time** – The time when the package starts in HH:MM:SS format. Select **AM** or **PM**
  - **Length** – The length of the package in days, hours, and minutes
6. Select the **Reservation Pay Per View** option.
7. If you want subscribers to have the right to copy the event, select the **Allowed** option.
8. Select the **Event Info** tab.

The screenshot shows the 'Set Up PPV Event' dialog box with the 'Event Info' tab selected. The 'Event Info' section contains the following fields: Service Name (PPV Max), Retail Price (5.99), English Event Title (American Beauty), French Event Title, Spanish Event Title, and Japanese Event Title. The 'Reservation PPV Event Order Phone Info' section contains: Phone Number (1-800-555-1234), Start Date (06/30/2002), and Start Time (07:00:00 PM). The 'Advertising Window' and 'Marketing Window' sections are both checked. The 'Marketing Window' section is highlighted with a callout box showing a magnified view of its fields: Start Date (06/30/2002), Start Time (07:00:00 PM), and Duration (26 hours, 45 minutes).

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## Define PPV Events, Continued

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9. In the top section of the tab, type the following information into their respective fields:
  - **Service Name** - Click the down arrow and select the appropriate PPV service that advertises this event.
  - **Retail Price** - The price of the event. If entered, the price appears on the subscriber's IPG. Type this price exactly as it should appear on the IPG, including dollar sign and decimal, if appropriate.
  - **English Event Title** - The title of the event. The title appears during the Advertising, Purchase, and Preview windows.
  - **Phone Number** - The telephone number subscribers can call to order the event. Type this number exactly as it should appear on the IPG, including parentheses and dashes, if appropriate.
  - **Start Date** - The date on which the event is to begin. Type this date in the format MMDDYY. Do not type slashes in this date. This date must be in the future.
  - **Start Time** - The time at which the event is to begin. Type this time in the format HHMM. Do not type colons in this time. Must be at least 15 minutes in the future. Select AM or PM.
10. If you choose the **Specify Advertising Window** and **Specify Marketing Window** options, then enter the data defining how these windows function in their fields on the respective tabs. Otherwise, the Application Server applies the defaults to the data in these fields when you save the changes.

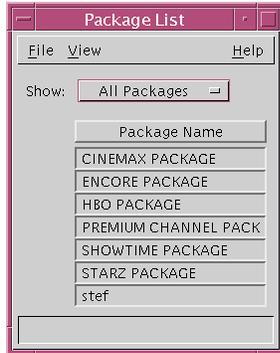
**Note:** These windows let you specify the start date, start time, and duration for the advertising window or marketing window.
11. Click **Save** when you finish entering all the data.

**Note:** The Set Up PPV Event window disappears and the Application Server saves your changes.
12. Verify that the source you created now appears in the **PPV Service List** window and that the source information is correct.

## Define PPV Events, Continued

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- From the **DNCS Administrative Console**, click **Package** on the **DNCS System Provisioning** tab to access the **Package List** window. Verify that a segment exists for the package that contains the RPPV segment.



- Highlight the package and select **Provision** from the **File** menu.

**Result:** The **Package Provision** window opens and displays the segment for the RPPV event you just created.



## Define PPV Events, Continued

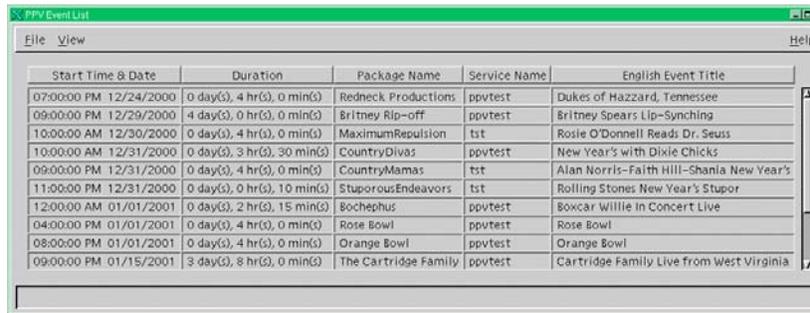
### Generating IPPV Events Manually

Setting up an IPPV event is similar to setting up an RPPV event. However, to set up an IPPV event you must present a method for subscribers to purchase the event on their own. The following procedure provides instructions to set up an IPPV event manually.

Perform the following steps to create an IPPV event.

1. On the **DNCS Administrative Console**, select the **Server Applications** tab.
2. Click **PPV Event**.

**Result:** The **PPV Event List** window opens. Typically you would open an event from this list to examine one already defined by the billing system. However, because you are setting up events manually, create a new event by selecting **New** from the **File** menu.



The screenshot shows a window titled "PPV Event List" with a menu bar containing "File", "View", and "Help". Below the menu bar is a table with the following columns: "Start Time & Date", "Duration", "Package Name", "Service Name", and "English Event Title". The table contains 11 rows of event data.

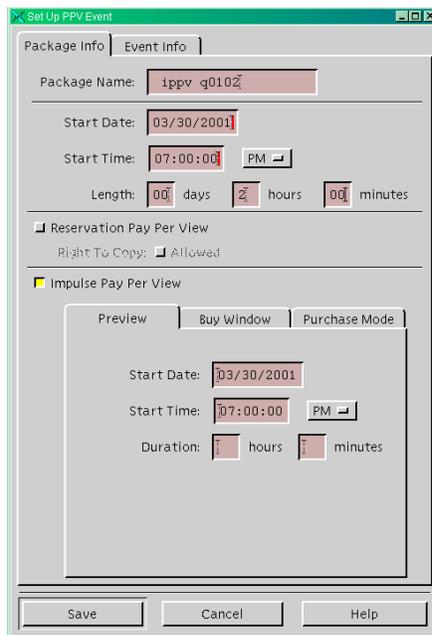
Start Time & Date	Duration	Package Name	Service Name	English Event Title
07:00:00 PM 12/24/2000	0 day(s), 4 hr(s), 0 min(s)	Redneck Productions	ppvtest	Dukes of Hazzard, Tennessee
09:00:00 PM 12/29/2000	4 day(s), 0 hr(s), 0 min(s)	Britney Rip-off	ppvtest	Britney Spears Lip-Synching
10:00:00 AM 12/30/2000	0 day(s), 4 hr(s), 0 min(s)	MaximumRepulsion	tst	Rosie O'Donnell Reads Dr. Seuss
10:00:00 AM 12/31/2000	0 day(s), 3 hr(s), 30 min(s)	CountryDivas	ppvtest	New Year's with Dixie Chicks
09:00:00 PM 12/31/2000	0 day(s), 4 hr(s), 0 min(s)	CountryMamas	tst	Alan Norris-Faith Hill-Shania New Year's
11:00:00 PM 12/31/2000	0 day(s), 0 hr(s), 10 min(s)	StuporousEndeavors	tst	Rolling Stones New Year's Stupor
12:00:00 AM 01/01/2001	0 day(s), 2 hr(s), 15 min(s)	Bocephus	ppvtest	Boxcar Willie in Concert Live
04:00:00 PM 01/01/2001	0 day(s), 4 hr(s), 0 min(s)	Rose Bowl	ppvtest	Rose Bowl
08:00:00 PM 01/01/2001	0 day(s), 4 hr(s), 0 min(s)	Orange Bowl	ppvtest	Orange Bowl
09:00:00 PM 01/15/2001	3 day(s), 8 hr(s), 0 min(s)	The Cartridge Family	ppvtest	Cartridge Family Live from West Virginia

## Define PPV Events, Continued

---

3. Click the **File** menu and select **New**.

**Result:** The **Set Up PPV Event** window opens. The window has two tabs that allow the user to access different data entry fields: the **Package Info** and **Event Info** tabs. Start by entering information into the **Package Info** tab to define the package that contains the event.



The screenshot shows the 'Set Up PPV Event' dialog box with the 'Package Info' tab selected. The fields are filled with the following values:

- Package Name: ippv q0102
- Start Date: 03/30/2001
- Start Time: 07:00:00 PM
- Length: 00 days, 2 hours, 00 minutes
- Reservation Pay Per View:  Allowed
- Right To Copy:  Allowed
- Impulse Pay Per View:

Below these fields is a preview window with the following values:

- Start Date: 03/30/2001
- Start Time: 07:00:00 PM
- Duration: 1 hours, 1 minutes

At the bottom of the dialog are three buttons: Save, Cancel, and Help.

4. Select the **Package Info** tab.
5. In the top section of the tab, type the following information into their respective fields:
  - **Package Name** – A name for the package
  - **Start Date** – The date when the package starts in MM/DD/YY format
  - **Start Time** – The time when the package starts in HH:MM:SS format. Select **AM** or **PM**
  - **Length** – The length of the package in days, hours, and minutes

## Define PPV Events, Continued

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6. Select the **Impulse Pay Per View** option.

**Result:** The **Preview**, **Buy Window**, and **Purchase Mode** tabs become active.

The image shows three sequential screenshots of a software interface for defining PPV events. Each screenshot has three tabs: 'Preview', 'Buy Window', and 'Purchase Mode'.  
1. The first screenshot shows the 'Preview' tab active. It contains fields for 'Start Date' (03/30/2001), 'Start Time' (07:00:00 PM), and 'Duration' (0 hours, 0 minutes).  
2. The second screenshot shows the 'Buy Window' tab active. It contains the same 'Start Date' and 'Start Time' fields, and a 'Duration' field (0 hours, 0 minutes). Below these are two checkboxes: 'Allow Immediate Cancel' and 'Allow Windowed Cancel', both of which are checked. A 'Cancel Duration' field (0 hours, 0 minutes) is also present.  
3. The third screenshot shows the 'Purchase Mode' tab active. It features a table with three columns: 'Length (min)', 'Cost', and 'Right To Copy'. The first row of data shows '120', '1', and 'Allowed' respectively.

7. Complete the fields on these tabs with data that defines how the windows function. Follow the rules of window relationships as outlined in the **Understand Windows and Barkers** section, earlier in this chapter. Otherwise, the Application Server applies the defaults to the data in these fields when you save it.

### Notes:

- You can also set up a dual RPPV/IPPV event by selecting both **Reservation Pay Per View** and **Impulse Pay Per View** options. Then, complete the fields in the **Set Up PPV Event** window for both types of events.
- When you set up a dual RPPV/IPPV event, DHCTs that can purchase IPPV events will display IPPV advertisements for the event, and subscribers will be able to use their remote controls to purchase the event. DHCTs that can purchase RPPV events will display a telephone number that prompts subscribers to phone in an order for an event.

## Define PPV Events, Continued

8. Select the **Event Info** tab.

Set Up PPV Event

Package Info | **Event Info**

Event Info

Service Name: **PPV Max**

Retail Price: **5.99**

English Event Title: **American Beauty**

French Event Title: [ ]

Spanish Event Title: [ ]

Japanese Event Title: [ ]

Reservation PPV Event Order Phone Info

Phone Number: **1-800-555-1234**

Start Date: **06/30/2002**

Start Time: **07:00:00** PM

Specify Advertising Window  Specify Marketing Window

Advertising Window | **Marketing Window**

Start Date: **06/30/2002**

Start Time: **07:00:00** PM

Duration: [ ] hours **45** minutes

Save Cancel Help

Advertising Window | Marketing Window

Start Date: **06/30/2002**

Start Time: **07:00:00** PM

Duration: **26** hours [ ] minutes

T10138

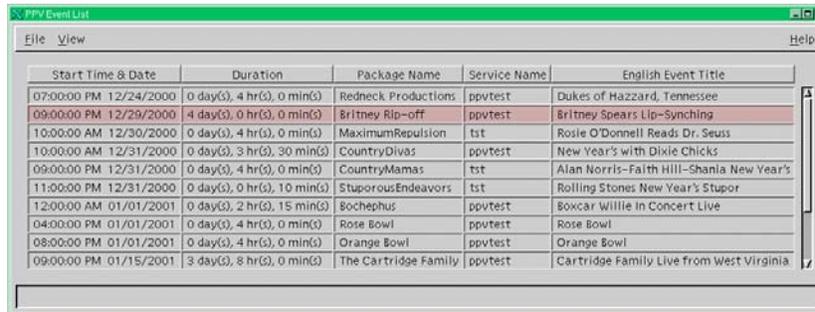
9. At the top type the following information in the fields:
- **Service Name** - Click the arrow and select the appropriate PPV service that advertises this event.
  - **Retail Price** - The price of the event. If entered, the price appears on the subscribers IPG
  - **Event Title** - The title of the event. The title appears during the Advertising, Purchase, and Preview windows. Event titles are available in multiple languages if you have set up the languages on the DNCS.
10. If you choose the **Specify Advertising Window** and **Specify Marketing Window** options, enter the data (Start Date, Start Time and Duration) defining how these windows function in their fields on the respective tabs. Otherwise, the Application Server applies the defaults to the data in these fields when save it.
11. Click **Save** when you finish entering all the data.
12. Check the **PPV Service List** to ensure the source you created is on the list, and to verify that the source information is correct.
- Note:** The Application Server saves your changes.

## Define PPV Events, Continued

### Modifying A PPV Event

Use the following steps to modify a PPV service.

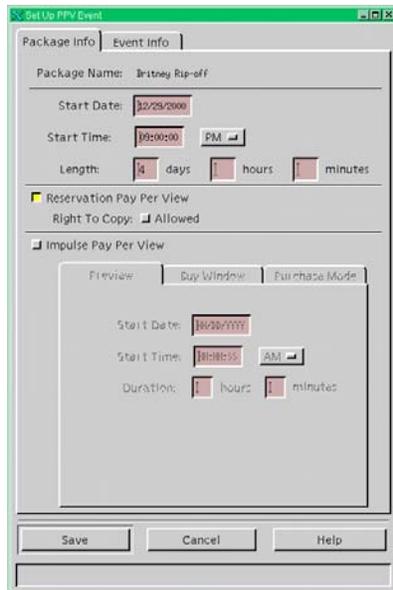
1. On the **PPV Event list** window, highlight the row of the desired event.



Start Time & Date	Duration	Package Name	Service Name	English Event Title
07:00:00 PM 12/24/2000	0 day(s), 4 hr(s), 0 min(s)	Redneck Productions	ppvtest	Dukes of Hazzard, Tennessee
09:00:00 PM 12/29/2000	4 day(s), 0 hr(s), 0 min(s)	Britney Rip-off	ppvtest	Britney Spears Lip-Synching
10:00:00 AM 12/30/2000	0 day(s), 4 hr(s), 0 min(s)	MaximumRepulsion	tst	Rosie O'Donnell Reads Dr. Seuss
10:00:00 AM 12/31/2000	0 day(s), 3 hr(s), 30 min(s)	CountryDivas	ppvtest	New Year's with Dixie Chicks
09:00:00 PM 12/31/2000	0 day(s), 4 hr(s), 0 min(s)	CountryMamas	tst	Alan Norris-Faith Hill-Shania New Year's
11:00:00 PM 12/31/2000	0 day(s), 0 hr(s), 10 min(s)	StuporousEndeavors	tst	Rolling Stones New Year's Stupor
12:00:00 AM 01/01/2001	0 day(s), 2 hr(s), 15 min(s)	Bocephus	ppvtest	Boxcar Willie In Concert Live
04:00:00 PM 01/01/2001	0 day(s), 4 hr(s), 0 min(s)	Rose Bowl	ppvtest	Rose Bowl
08:00:00 PM 01/01/2001	0 day(s), 4 hr(s), 0 min(s)	Orange Bowl	ppvtest	Orange Bowl
09:00:00 PM 01/15/2001	3 day(s), 8 hr(s), 0 min(s)	The Cartridge Family	ppvtest	Cartridge Family Live from West Virginia

2. Click the **File** menu and select **Open**.

**Result:** The **Set Up PPV Event** window opens with completed fields. The following illustration shows the data for the **Package Info** tab and the **Event Info** tab.



Package Name: Britney Rip-off

Start Date: 12/29/2000

Start Time: 09:00:00 PM

Length: 4 days 0 hours 0 minutes

Reservation Pay Per View  
Right To Copy:  Allowed

Impulse Pay Per View

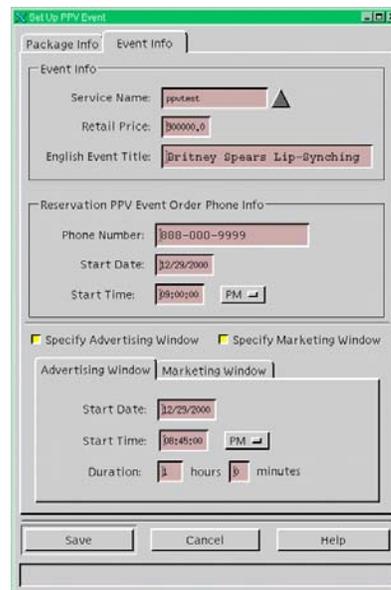
Preview Day Window Full Charge Mode

Start Date: 12/29/2000

Start Time: 10:00:00 AM

Duration: 1 hours 1 minutes

Save Cancel Help



Event Info

Service Name: ppvtest

Retail Price: 300000,0

English Event Title: Britney Spears Lip-Synching

Reservation PPV Event Order Phone Info

Phone Number: 888-000-9999

Start Date: 12/29/2000

Start Time: 09:00:00 PM

Specify Advertising Window  Specify Marketing Window

Advertising Window Marketing Window

Start Date: 12/29/2000

Start Time: 08:45:00 PM

Duration: 1 hours 0 minutes

Save Cancel Help

3. Make necessary changes in the fields, and then click **Save**.

## Define PPV Events, Continued

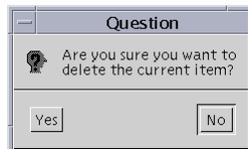
---

### Deleting A PPV Event

Use the following steps to delete a PPV event.

1. Select the event you want to delete in the **PPV Event list** window.
2. Click the **File** menu and select **Delete**.

**Result:** A Question window opens, prompting you to confirm that you want to delete the current item.



3. Click **Yes** to confirm.

# Chapter 5

## Setting Up the Interactive Program Guide

### Overview

---

#### Introduction

The IPG is an application that DHCTs use to display program information, such as the program name, start and end times, description, and rating. When you set up the IPG, the DNCS populates the IPG with data such as program listings and program descriptions. SARA provides other information on the IPG such as instructional text (for example, the words Browse By and Choose Date) and other General Settings menus. If you do not set up the IPG correctly, the IPG appears with no program information, even when a subscriber selects the Guide button.

IPG data is linked to a specific program service using the IPG service provider's designation and the SAM service ID number. This link ensures that information and program descriptions are matched to the correct services.

This chapter provides procedures for setting up the IPG.

#### In This Chapter

This chapter contains the following topics.

Topic	See Page
Before You Begin	5-2
Set Up the IPG	5-4
Edit IPG Data	5-12

# Before You Begin

## Introduction

The IPG is an application that DHCTs use to present program information, including the program name, start and end times, description, and rating. The subscriber can use the IPG to view and purchase programs. You can access the IPG by pressing the Guide button on the DHCT remote control, and then scrolling through the list. When you press the Guide button, the picture on the current channel reduces to fit one-quarter of the television screen and appears on the upper right corner of the screen, as shown in the following example.



In the example, the IPG has three sections:

- The upper left corner includes the channel number (36), SAM short description (HDLN), and the channel logo of the highlighted program. This section contains detailed information about the current channel, including the full channel name, the start and end time of the current program, and a description of the program. The description may appear truncated due to screen limitations, but you can always access the full program description by pressing the Info button on the remote control.

**Note:** Space in this section is also available for an optional Multiple System Operator (MSO) logo. For instructions on positioning your logo, see **Positioning Your Logo on the Main Screen of the IPG**, later in this chapter.

- The upper right corner shows the quarter-screen picture, channel number, date, and time.
- The bottom half of the screen shows the listings for several channels arranged in chronological order. The strip along the bottom of the screen identifies the date for these listings and indicates the way these listings are arranged (“by time” in this example). Pressing the button lets you browse these listings alphabetically by title or by program type, and pressing the button lets you view listings for a different date. In addition, if you press the Info button, this section of the screen displays more detailed information about the highlighted program.

## Before You Begin, Continued

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### Description

The IPG should include each service that you created in the IPG Service List on the DNCS. This ensures that the DBDS correctly matches each service in the IPG list with the program descriptions from IPG providers. The IPG Service List links the program descriptions from IPG providers with each service that you create.

### Collecting the IPG Data

In order to provide IPG data, you must set up IPG collectors and IPG servers. The IPG collectors receive IPG data through the data provider's File Transfer Protocol (FTP) Web site. This data is stored in a provider-neutral format in the Application Server database.

For each IPG collector, there must be an IPG server. The IPG servers pull data from the DNCS database and create files on the Broadcast File System (BFS). The DHCTs can then download data as needed.

The following table lists and describes the information you must have in order to set up each IPG collector.

<b>IPG Data Required</b>	<b>Description</b>
The IPG service provider	Specifies the format in which to provide data to the subscriber. Cisco supports three formats: TV Data, On TV, and CISCO COMP (Cisco Compatible) formats
Host Name	Specifies the FTP site from which to retrieve the data. The host name can be a standard Web name, such as ftp.tvdata.com if the Application Server uses Domain Name Service (DNS), or a raw IP address such as 204.97.140.250
User Name	Specifies your user name. The IPG data provider will give you this name.
Password	Specifies your password. The IPG data provider will give you this password
Pickup Directory or Data file location	Specifies the directory from which to retrieve data files. The IPG data provider will give you this directory.
File Template	Specifies the naming convention of the file to be retrieved
Collection Time	Specifies the time the IPG collector will collect new data from the data provider

# Set Up the IPG

---

## Introduction

The process for setting up IPG services includes the following tasks:

- Selecting languages that subscribers can choose to display IPG data
- Setting up the IPG servers for each language
- Setting up IPG collectors for each language
- Setting up the IPG services

This section also includes procedures to modify and delete IPG Service names.

If you provide IPG data in foreign languages, you must set up the languages for the IPG data before you set up the IPG. When you first install your system, the IPG is available in at least one language. For the DNCS to allow you to create additional IPG servers and collectors, you must first select the languages that you offer.

SR 2.1 and SR 3.0 provide support for IPG data in English, French, Spanish, and Japanese. For detailed instructions on setting up support for foreign languages, see **Set Up Supported Languages** in Chapter 3 of this guide.

## Set Up the IPG, Continued

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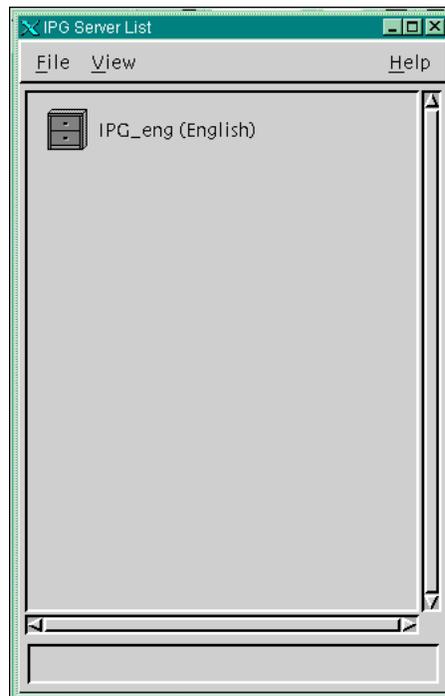
### Setting Up IPG Servers

The IPG server is not a physical server. Instead, it is a process named *ipgServer* that resides on the Application Server. The IPG server uses the IPG information in the database to create IPG data files. The DBDS uses these IPG data files to display program information in the IPG.

Use the following steps to set up IPG servers.

1. On the **Server Applications** tab, click **IPG**.

**Result:** The following **IPG Server List** window opens.

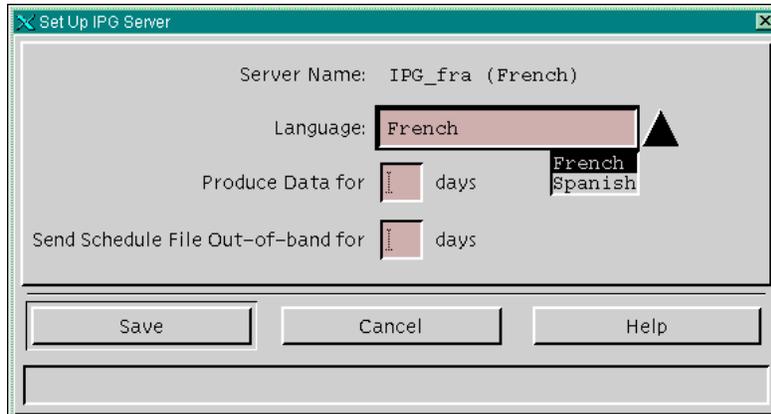


## Set Up the IPG, Continued

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2. Click the **File** menu and select **New Server**.

**Result:** If you selected a language that does not yet have an IPG server, the following **Set Up IPG Server** window opens.



**Note:** If all languages already have IPG servers, the following message appears in the bottom pane of the **IPG Server List** window: **No Languages found**.

3. Click the **Language** arrow and select the language from the list.  
**Note:** The Supported Languages that you selected earlier appear in the list.
4. Type the appropriate information for the following fields:
  - Produce Data for ... days (typical choice is 7)
  - Send Schedule File Out-of-band for ... days (typical choice is 2)

 **CAUTION:**

**The BFS requires a lot of bandwidth to send IPG data out of band. If you schedule out-of-band data for more than 2 or 3 days, you may cause the BFS Server to function incorrectly and disrupt service to subscribers.**

5. Click **Save**.

**Result:** The **IPG Server List** window opens again and lists the new IPG language server you just added.

## Set Up the IPG, Continued

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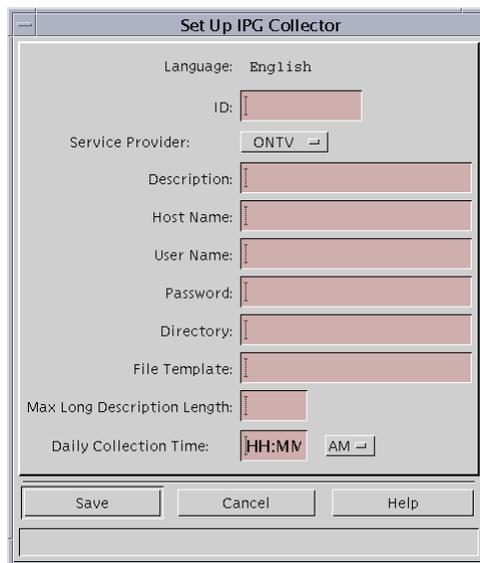
### Setting Up the IPG Collector

The IPG collector is a process that resides on the application server. The IPG collector automatically runs once a day to retrieve IPG data from the IPG data provider.

Use the following steps to set up IPG collectors.

1. On the **IPG Server List** window, highlight the desired language server.
2. Click the **File** menu and select **New Collector**.

**Result:** The following **Set Up IPG Collector** window opens.



The screenshot shows a dialog box titled "Set Up IPG Collector". It contains the following fields and controls:

- Language: English
- ID: [Redacted text box]
- Service Provider: ONTV [Dropdown arrow]
- Description: [Redacted text box]
- Host Name: [Redacted text box]
- User Name: [Redacted text box]
- Password: [Redacted text box]
- Directory: [Redacted text box]
- File Template: [Redacted text box]
- Max Long Description Length: [Redacted text box]
- Daily Collection Time: HH:MM [Time input] AM [Dropdown arrow]

At the bottom of the dialog box are three buttons: Save, Cancel, and Help.

3. Complete all the fields by typing the required information, and click **Save**.

**Important:** Leave the **Max Long Description Length** set to its default value of 240.

#### Notes:

- The cable service provider and the IPG data provider supply all the information for these fields, for example, the user name and password, file template, and retrieval directory. The server updates data sent to DHCTs at midnight. Therefore, the collection time should be set as late as possible, but early enough for collection to finish before midnight.
- When you set up the IPG collector, it is a good idea to ping the IPG provider's site to make sure that you can connect to the provider's site.

## Set Up the IPG, Continued

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4. On the **Password Prompt** window that opens, retype the password, and then click **Continue**.

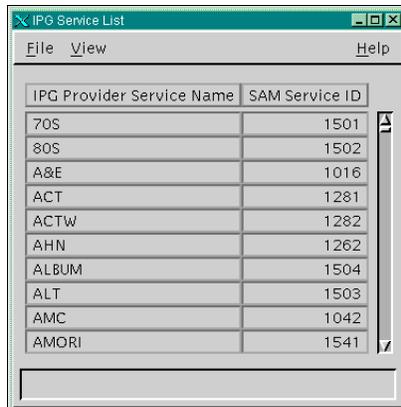
**Result:** The system confirms the password, and then the **IPG Server List** window opens again.

### Setting Up IPG Services

After setting up the languages, IPG server, and IPG collector, you are ready to set up the IPG Service. Perform the following steps to set up IPG Services.

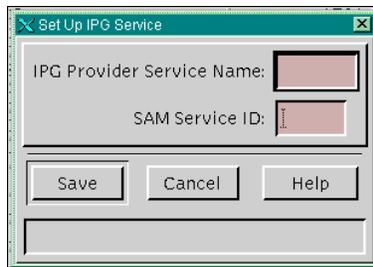
1. On the **IPG Server List** window, click the **File** menu and select **Services**.

**Result:** The **IPG Service List** window opens.



2. Click the **File** menu and select **New**.

**Result:** The **Set Up IPG Service** window opens.



## Set Up the IPG, Continued

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3. Type the IPG Provider Service Name and the SAM Service ID in their respective fields.

### Notes:

- The SAM Service ID is the ID number you recorded when you registered the service with the SAM. For more information on registering services with the SAM, refer to the *Digital Network Control System Online Help (UNIX) Version 3.2.0.3 for SR 2.2/3.2*.
  - If you are setting up a PPV channel, you can find the SAM Service ID on the Set Up PPV Service window. To access the Set Up PPV window, select the Server Applications tab on the DNCS Administrative Console window, and then click PPV Service. In the PPV Service List window, click the File menu and select New. In the Set Up PPV Service window, double-click on the name of the service you want to view.
  - For each PPV service that you set up, you must enter both the PPV service and the Event Use service into the IPG service list. If you do not enter both services, information about the event will be missing in the IPG grid or in the PPV purchase barker. The PPV service ID displays event information in the IPG grid. The Event Use service ID displays event information in the PPV purchase barker.
4. Click **Save**.
  5. Click the **File** menu and select **Close**.

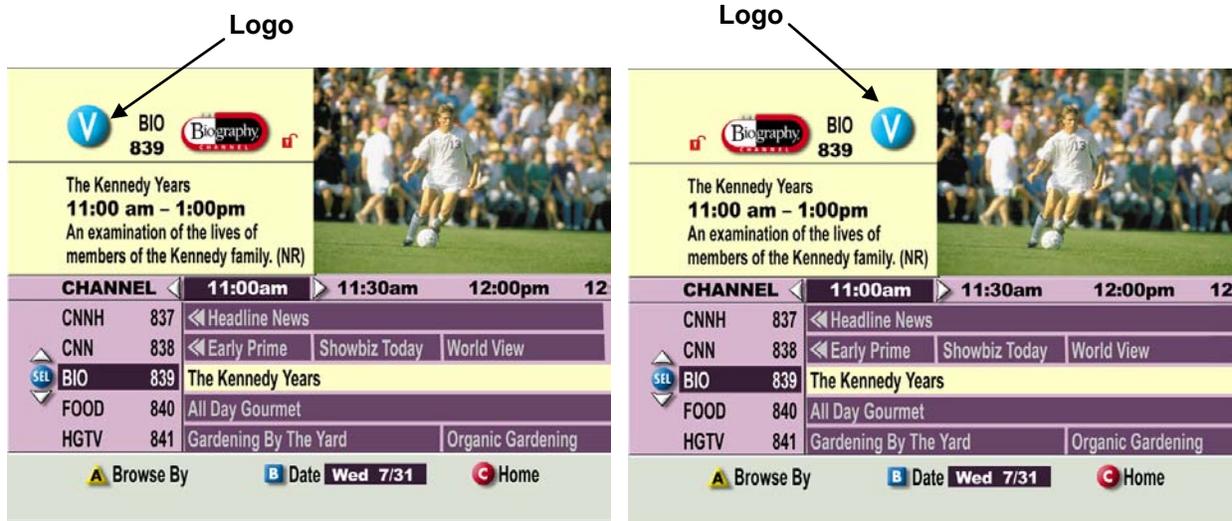
### Positioning Your Logo on the Main Screen of the IPG

Each time your subscribers tune to the Interactive Program Guide, you want to remind them who provides this great service! The MSO Logo Position option lets you prominently position your logo either to the left or to the right of the channel number to best suit your needs.

## Set Up the IPG, Continued

### Logo Positions

The following screens show an example of the logo positions.



**Logo to the Left**

**Logo to the Right**

To position your logo on the main screen of the Interactive Program Guide, perform the following steps.

1. On the DNCS Administrative Console, select the **Server Applications** tab.
2. Click **DHCT Config**.  
**Result:** The DHCT Configure Prompt window opens.
3. Select **Global**.  
**Result:** The Set Up Global DHCT Configuration window opens.
4. Select the **IPG** tab.  
**Result:** The IPG tab appears in the forefront.
5. For the **MSO Logo Position** option, select either Left or Right to place your logo either to the left or to the right of the channel number on the Interactive Program Guide.
6. Click **Save**.

**Result:** The logo appears either to the left or right of the channel number on the Interactive Program Guide.

## Set Up the IPG, Continued

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### Modifying an IPG Service Name

Perform the following steps to modify an IPG service name.

**Important:** The IPG service names should match the names that your data provider uses in the IPG collector file.

1. Highlight the desired IPG server in the **IPG Server List** window.
2. Click the **File** menu and select **Services**.
3. On the **IPG Service List** window, highlight the row of the desired IPG service.
4. Make changes to the IPG Provider Service Name, and click **Save**.

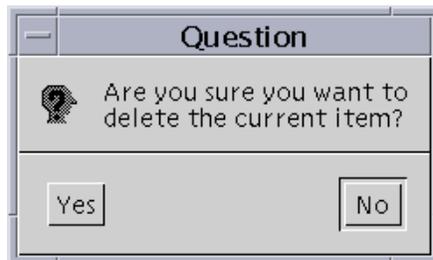
**Note:** You can only change the IPG Provider service name. You cannot change the SAM service ID.

### Deleting an IPG Service Name

Perform the following steps to delete an IPG service name.

1. Select the IPG server you want to delete in the **IPG Server List** window.
2. Click the **File** menu and select **Services**.
3. On the **IPG Service List** window, highlight the row of the desired IPG service.
4. Click the **File** menu and select **Delete**.

**Result:** A Question window opens, prompting you to confirm that you want to delete the current item.



5. Click **Yes** to confirm that you want to delete the IPG service name.

# Edit IPG Data

---

## Introduction

Usually, your site will receive program information from an IPG data provider and pass that data to the IPG without altering the information at all. However, you may occasionally need to change the program information. This section explains how to edit existing IPG data and add new IPG data.

### Important:

- The editor is ideally only used to provide data on channels where the provider does *not* provide data.
- Editing programs for services where the content provider sends information will only be effective until the collector runs again. You must work with the data provider to avoid having outdated or incorrect data they send overwrite the edits you make.

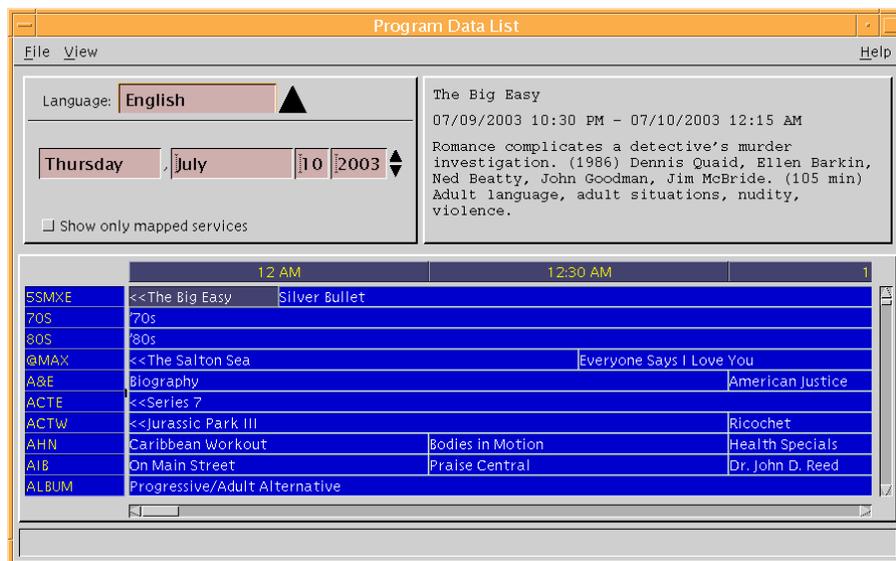
## Editing Existing IPG Data

Complete these steps to edit existing IPG program information.

1. On the **Server Applications** Tab, click **IPG**.
2. Select the IPG server that contains the data you want to edit.
3. Click the **File** menu and select **Program Data**.

**Result:** The Program Data window opens.

**Note:** It may take a few moments for all of the IPG data to appear in the Program Data window.



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*Continued on next page*

## Edit IPG Data, Continued

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4. Use the scroll bars along the bottom and right side of the window to locate the program whose data you want to edit, and click on the name of the program.
5. Click the **File** menu and select **Open**.

**Result:** The Set Up Program Data window opens.

Language: English

Descriptions | Features

Descriptions

Service Name: 5SMXE

Start Date/Time: 07/09/2003 10:30 PM

Stored Start Time: 1057804200

Duration: 1 hours 45 minutes

Title: The Big Easy

Short Title:

Description: Romance complicates a detective's murder investigation. (1986) Dennis Quaid, Ellen Barkin, Ned Beatty, John Goodman, Jim McBride. (105 min) Adult language, adult situations, nudity, violence.

Primary Theme: Drama

Secondary Theme: Other  
Action/Adv.  
Adult  
Biography  
Cartoons  
Children's  
Comedy  
Documentary  
Drama  
Family

Save Cancel Help

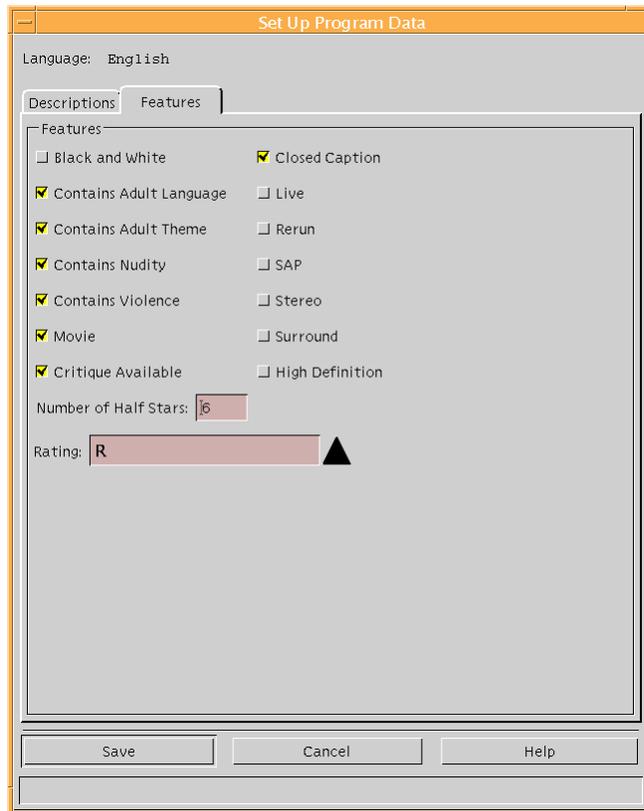
6. Complete all the fields by typing in the required information.

## Edit IPG Data, Continued

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7. Click the **Features** tab.

**Result:** The Features tab moves to the forefront.



8. Select all the features that apply to this program, and click **Save**.

**Result:** The Set Up Program Data window closes.

**Important:** Not all feature tags listed can be displayed by all versions of SARA.

**Example:** The High Definition feature only displays in SARA 1.52 and later.

9. Repeat steps 4 through 8 for all of the programs that you want to edit.
10. After you have edited all the programs you want to edit, click the **File** menu in the IPG Server List window, and select **Send**.

**Result:** The IPG Server sends the updated information to the IPG collector.

## Edit IPG Data, Continued

---

### Adding New IPG Data

Complete these steps to add new program data to the IPG.

1. In the Program Data List window, click the **File** menu and select **New**.  
**Result:** The Set Up Program Data window opens.
2. Complete all the fields by typing in the required information.
3. Click the **Features** tab.  
**Result:** The Features tab moves to the front of the window.
4. Select all the features that apply to this program, and click **Save**.  
**Result:** The Set Up Program Data window closes.
5. Repeat steps 1 through 4 for all of the programs that you want to edit.
6. After you have added all the programs you want to add, click the **File** menu in the IPG Server List window, and select **Send**.  
**Result:** The IPG Server sends the updated information to the IPG collector.

# Chapter 6

## Sending DHCT Configuration

### Overview

---

#### Introduction

DHCTs use a standard set of default parameters that define their operating characteristics. This set of parameters is called a DHCT configuration. You can make changes to this configuration and apply those changes in any of the following ways:

- For all DHCTs in the network
- For a single DHCT
- For all DHCTs in a hub
- During the staging process, so that all DHCTs receive this configuration when they are staged

This chapter provides procedures for configuring DHCTs from the Application Server. Section A of this chapter explains how to select a method for sending a configuration (global, addressable, hub-specific, or staging defaults). Section B describes each of the parameters that you can set.

**Important:** For detailed information about the configurable options of SARA, refer to *Enhancing Your Subscribers' Experience: SARA Configurable Options, User's Guide*.

**Note:** The procedures in this chapter can all be completed independently of each other. You do not necessarily need to complete all of the procedures in this chapter.

#### In This Chapter

This chapter contains the following topics.

Topic	See Page
Section A Sending a Configuration	6-2
Section B Configuration Options	6-17

# Section A

## Sending a Configuration

### Overview

---

#### Introduction

You use the Application Server to set up and send a DHCT configuration to the appropriate DHCTs. You can send a configuration in any of the following ways:

- For all DHCTs in the network (a *global configuration*)
- For a single DHCT, identified by MAC address (an *addressable configuration*)
- For all DHCTs in a hub (a *hub-specific configuration*)
- During the staging process, so that all DHCTs receive this configuration when they are staged (*staging defaults*)

This section provides procedures to select a type of configuration (global, addressable, hub-specific, or staging defaults). This section also explains how to change and send the configuration to the appropriate DHCTs.

**Note:** You can send some operating parameters (such as PIN numbers) to the DHCT either through a DHCT configuration or through the billing system. You should coordinate the set up and transmission of operating parameters with your billing system administrator to avoid sending conflicting instructions to the DHCTs.

#### In This Section

This section contains the following topics.

Topic	See Page
Send a Configuration to All DHCTs	6-3
Send a Configuration to a Single DHCT	6-7
Sending a Configuration to All DHCTs in a Single Hub	6-10
Set DHCT Staging Defaults	6-15

# Send a Configuration to All DHCTs

---

## Introduction

A global configuration lets you configure the operating parameters for all the DHCTs. This section provides instructions to set up and send a Global DHCT configuration and detailed descriptions of the tabs on the Set up Global DHCT Configuration window.

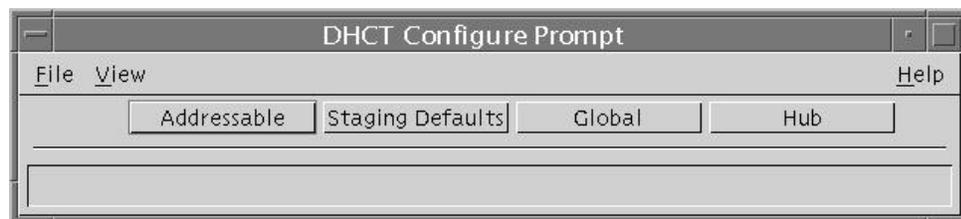
**Note:** The parameters that you set in the Global window affect the parameters that are available in the Addressable and Staging Defaults windows.

## Sending a Global Configuration

Follow these steps to set up a global DHCT configuration.

1. On the DNCS Administrative Console, select the **Server Applications** tab.
2. Click **DHCT Config**.

**Result:** The DHCT Configure Prompt window opens.



## Send a Configuration to All DHCTs, Continued

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3. Click **Global**.

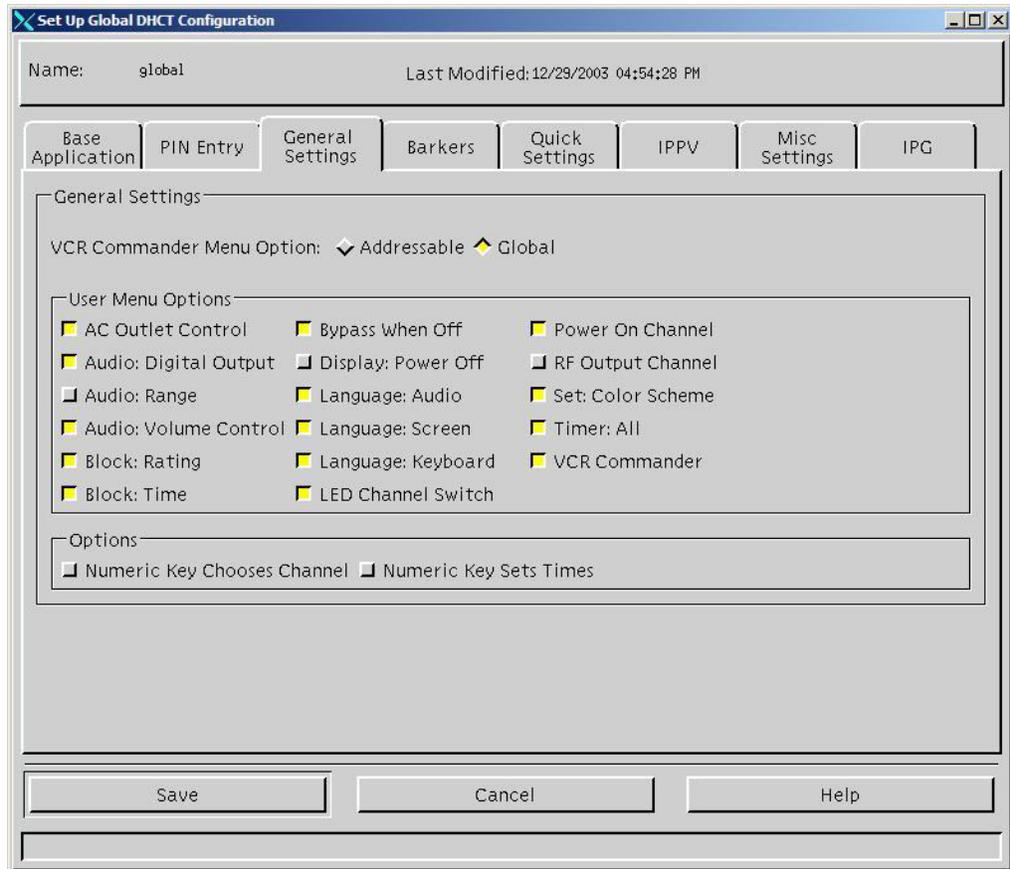
**Result:** The Set Up Global DHCT Configuration window opens.

The screenshot shows the 'Set Up Global DHCT Configuration' window. At the top, the window title is 'Set Up Global DHCT Configuration'. Below the title bar, there is a header area with 'Name: global' and 'Last Modified: 12/29/2003 04:54:28 PM'. The main area is divided into several tabs: 'Base Application', 'PIN Entry', 'General Settings', 'Barkers', 'Quick Settings', 'IPPV', 'Misc Settings', and 'IPG'. The 'Base Application' tab is selected. Inside this tab, there are several settings: 'Number of Digit Entry' is set to 4, 'Number of LED Digits' is set to 3, 'Display Power Off' has radio buttons for 'Time when powered off' (selected) and 'Blank when powered off', and 'RF Output Channel' is set to 3 with a dropdown arrow. Below these are three checkboxes: 'Allow Service Disconnect (Brick Mode)', 'Allow IPG Authorization by Package', and 'Allow VCR Commander Authorization by Package', each followed by a 'Package Name' dropdown menu. At the bottom of the 'Base Application' tab is an 'Options' section with four checkboxes: 'Blocked Barker Allows Restricted Unblocking', 'Invalid Numeric Entry Chooses Next Highest Channel', 'LAST Key Uses Channel Up/Down', and 'Skip Unauthorized Channels'. At the very bottom of the window are three buttons: 'Save', 'Cancel', and 'Help'.

## Send a Configuration to All DHCTs, Continued

4. Select the **General Settings** tab.

**Result:** The General Settings tab appears in the forefront.



## Send a Configuration to All DHCTs, Continued

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5. On the General Settings tab, do the following:
  - In the General Settings section, select a VCR Commander Menu Option:
    - **Addressable** - To allow only specific DHCTs to show or hide the General Settings VCR Commander menu items
    - **Global** - To show or hide the General Settings VCR Commander menu items for all DHCTs
  - In the User Menu Options section, select the desired options you want to enable or disable for subscribers.
  - In the Options section, select both of the following options:
    - **Numeric Key Chooses Channel** – To allow subscribers to use numeric entry on the remote control when entering channels in the IPG and General Settings
    - **Numeric Key Sets Times** – To allow subscribers to use numeric entry on the remote control when setting time in the General Settings
  - Click **Save**.
6. Select the other configuration tabs and enter the necessary information in the appropriate fields. For more information on these tabs and the options that each one contains, see **Section B, Configuration Options**, later in this chapter.
7. Click **Save** when finished.

**Result:** The Application Server sends the configuration to all DHCTs.

# Send a Configuration to a Single DHCT

---

## Introduction

If necessary, you can change or set the configuration options for a single DHCT without reconfiguring all of the DHCTs in your network. This section explains how to send an addressable configuration to a single DHCT.

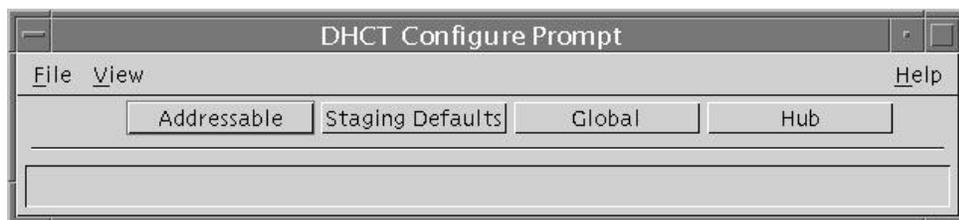
**Note:** In SR 1.5.1 and earlier, when you sent a configuration to a single DHCT, the DNCS would replace *all* of the settings in the DHCT with the current settings in the configuration (including PINs and parental blocking settings). Beginning with SR 2.1, the DNCS only sends the configuration options that you change. The field names for any options that you change will be highlighted in bold in the Set Up Addressable DHCT Configuration window.

## Sending an Addressable Configuration

Follow these steps to send an addressable configuration to a single DHCT.

1. On the DNCS Administrative Console, select the **Server Applications** tab.
2. Click **DHCT Config**.

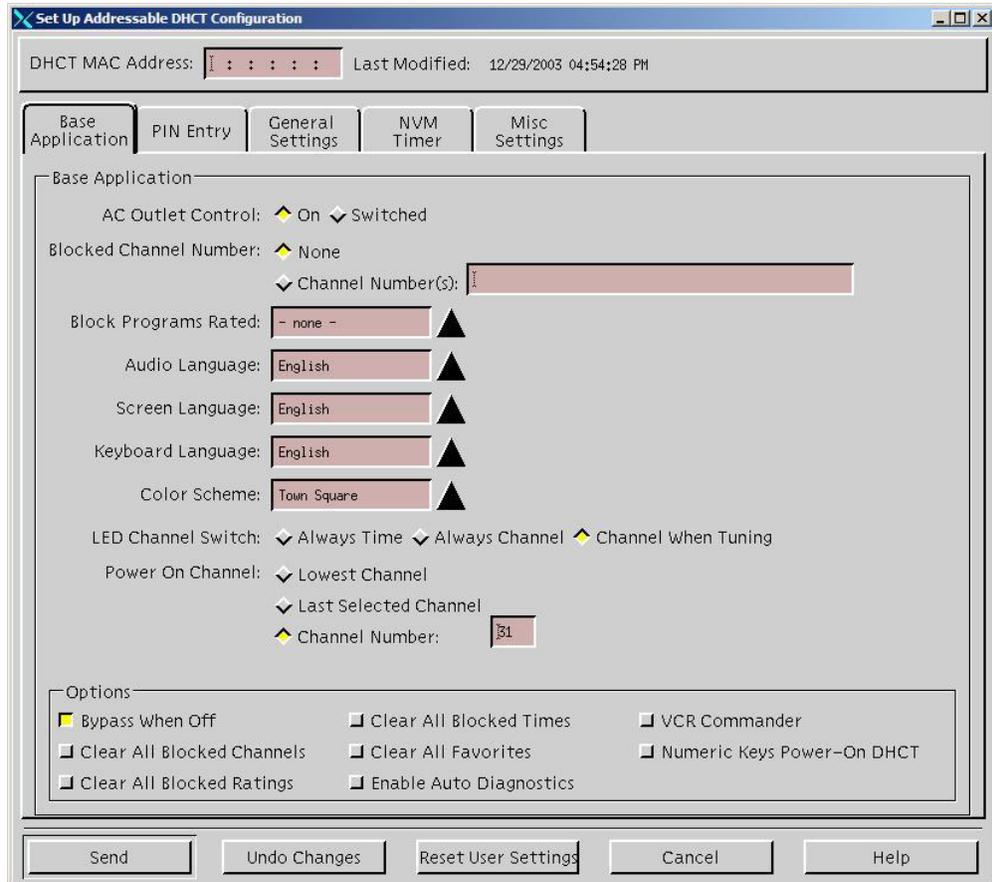
**Result:** The DHCT Configure Prompt window opens.



## Send a Configuration to a Single DHCT, Continued

3. Click **Addressable**.

**Result:** The Set Up Addressable DHCT Configuration window opens with the Base Application tab in the forefront.



4. Type the MAC address in the DHCT MAC Address field.

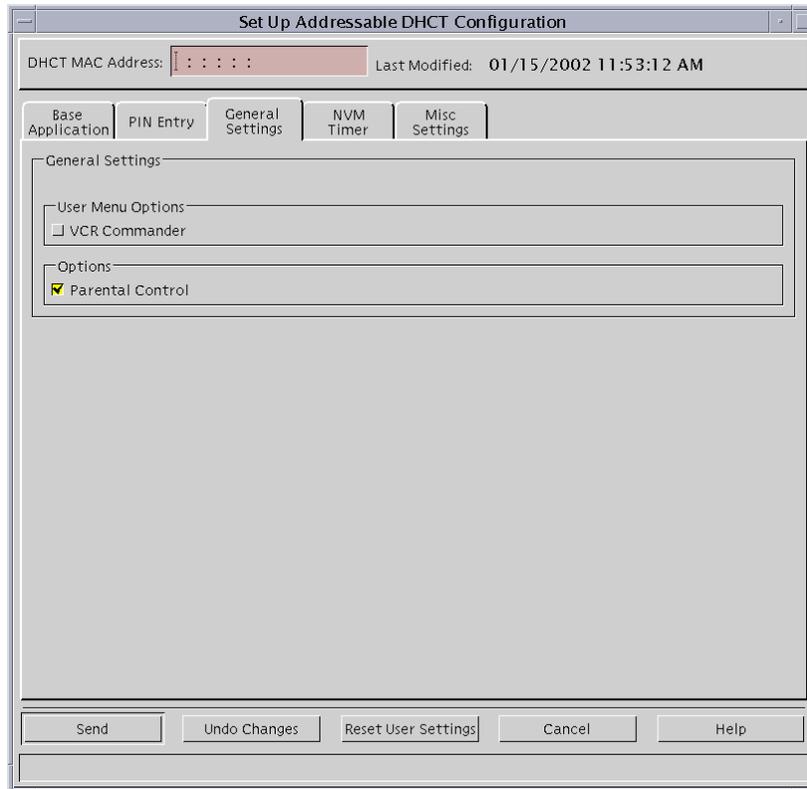
**Note:** You must provide the MAC address when configuring a single DHCT.

## Send a Configuration to a Single DHCT, Continued

---

5. Select the **General Settings** tab.

**Result:** The General Settings tab moves to the forefront.



6. On the General Settings tab, select one or both of the following options:
  - **VCR Commander** - To allow the user to enable the VCR Commander preference to display in the DHCT General Settings menu
  - **Parental Control** - To enable Parental Control. If disabled, subscribers will not be able to block programs from the DHCT General Settings menu
7. Select the other configuration tabs and enter the necessary information in the appropriate fields. For more information on these tabs and the options that each one contains, see **Section B, Configuration Options**, later in this chapter.

**Note:** If you need to reset all user-configurable settings on the single DHCT to the original default values that were used during staging, click the **Reset User Settings** button. During staging, none of the settings you select on any of the tabs are necessary or are used by the DHCT.

8. Click **Save** when finished.

**Result:** The Application Server sends the configuration to the DHCT that you specified.

# Sending a Configuration to All DHCTs in a Single Hub

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## Introduction

A hub configuration lets you configure the operating parameters for all of the DHCTs within a specific hub. This is especially useful for configuring PPV barkers for different geographic areas. You can offer different local numbers for subscribers to call to order PPV events, based on the area where the subscriber lives.

This section provides instructions to set up and send a configuration to all of the DHCTs in a single hub.

## Selecting the Options that You Can Set Within a Hub

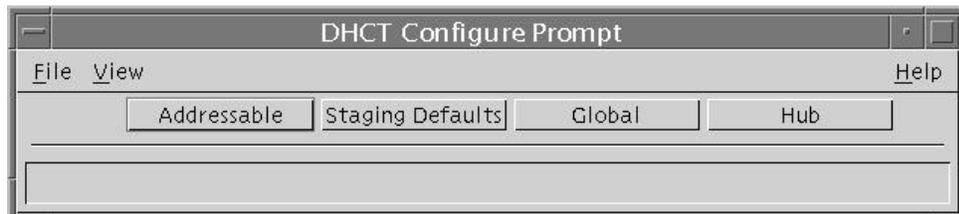
Before you can send a configuration to all DHCTs in a hub, you must first specify the options that you will be able to set on a hub-specific basis. All DHCTs receive the global configuration. Hub-specific configurations override only those global items that you choose as hub-specific items.

For example, if you want to set up a different unauthorized barker for each hub, you must specify the unauthorized barker as a hub-specific option. You will only be able to set options that you specify in this procedure.

Follow these steps to select the options that you can set within a hub.

1. On the DNCS Administrative Console, select the **Server Applications Tab**.
2. Click **DHCT Config**.

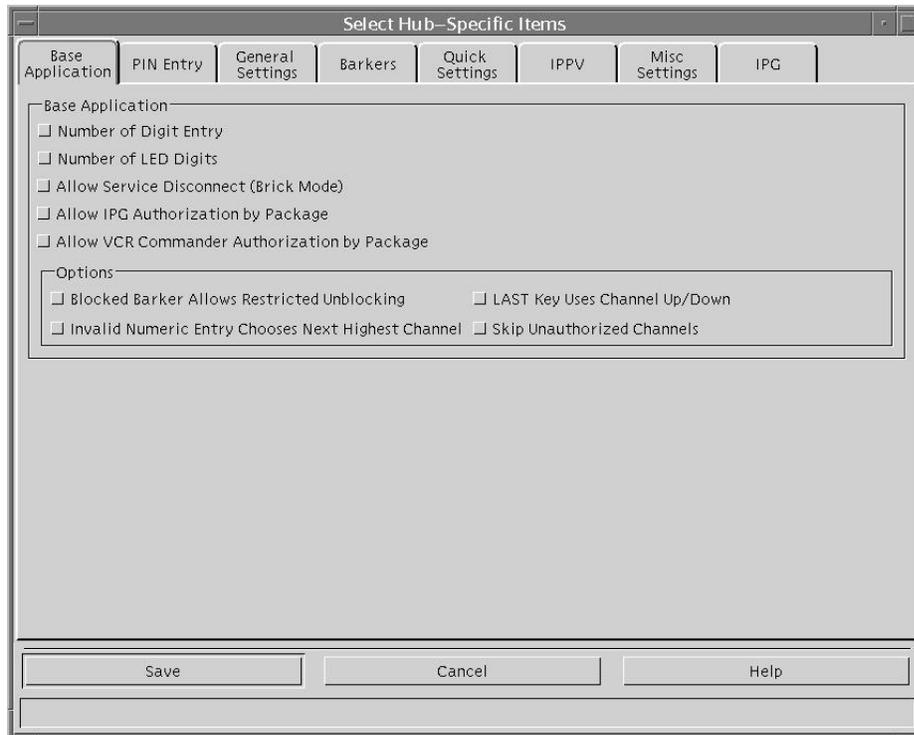
**Result:** The DHCT Configure Prompt window appears.



## Sending a Configuration to All DHCTs in a Single Hub, Continued

3. Click **File** and select **Select Hub-Specific Items** to specify which items can be set independently by hub.

**Result:** The Select Hub-Specific Items window appears.



4. On the Base Application tab, select all of the items that you want to specify by hub. For example, if you want the LAST key on the remote control to function differently in different hubs, select **LAST Key Uses Channel Up/Down**.

**Notes:**

- You will not be able to set any options for a hub unless you select those options here first.
  - For more information on these tabs and the options that each one contains, see **Section B, Configuration Options** later in this chapter.
5. Click on each of the tabs across the top of the box and continue selecting all of the items that you wish to specify.
  6. After you select all of the options that you want to specify by hub, click **Save**.

**Result:** The Select Hub-Specific Items window closes. You can now send a configuration to all DHCTs in a hub.

## Sending a Configuration to All DHCTs in a Single Hub, Continued

---

### Sending a Configuration to All DHCTs in a Hub

Follow these steps to send a configuration to all DHCTs in a hub. If you want send this configuration to multiple hubs, you must repeat these steps for each hub that you want to change.

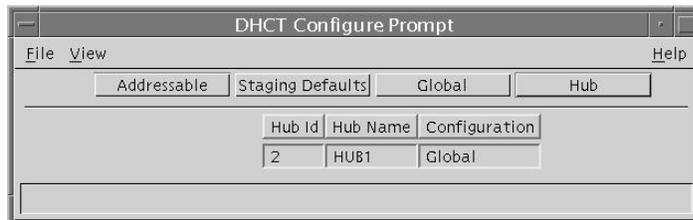
1. On the DNCS Administrative Console, select the **Server Applications** tab.
2. Click **DHCT Config**.

**Result:** The DHCT Configure Prompt window appears.

3. Click **Hub**.

**Result:** The DHCT Configure Prompt shows a list of hubs that are available with your network. The Configuration field indicates whether the hub is set to the standard global configuration or whether it uses a hub-specific configuration:

- The Configuration field displays *Global* for any hubs that use the standard global configuration.
- The Configuration field displays *Hub* for any hubs that use a unique configuration.

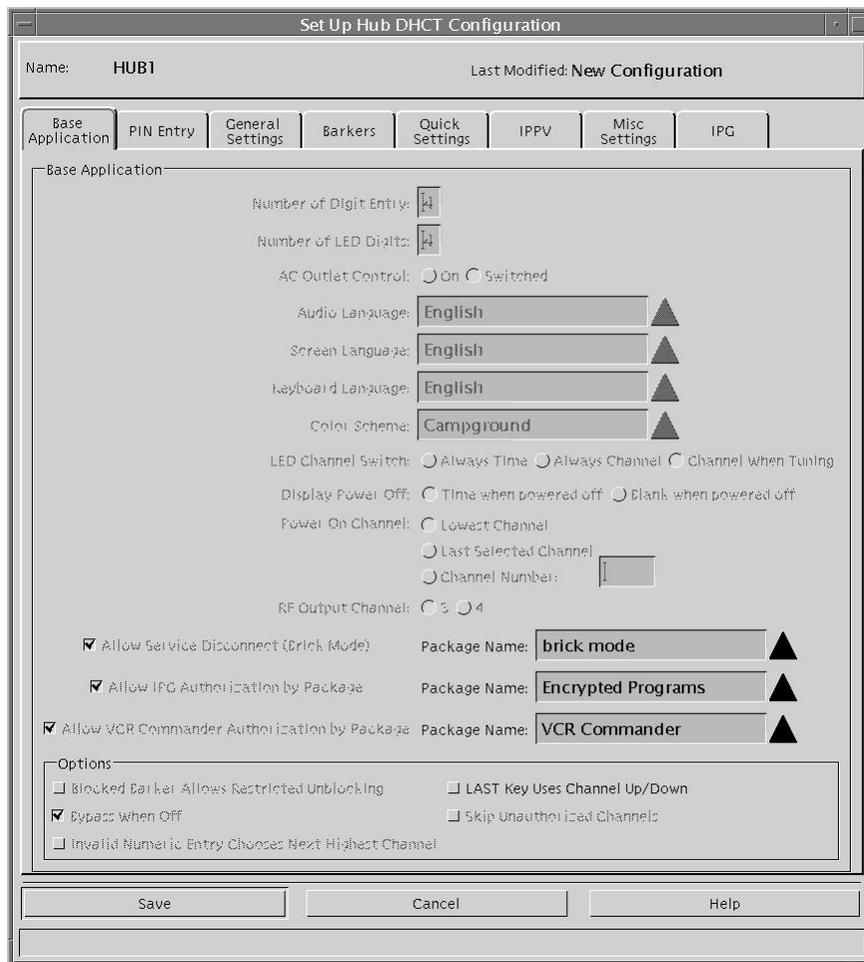


4. Highlight the hub where you want to change the configuration.

## Sending a Configuration to All DHCTs in a Single Hub, Continued

5. Click **File** and select **New Hub-Specific**.

**Result:** The Set Up Hub DHCT Configuration window appears.



6. Select the appropriate configuration tabs and enter the necessary information in the appropriate fields. For more information on these tabs and the options that each one contains, see **Section B, Configuration Options** later in this chapter.

**Note:** You can only change the options that you specified to be set within a hub. All other options are dimmed. If you need to specify other options to be set within a hub, see **Selecting the Options that You Can Set Within a Hub**, earlier in this section.

7. Click **Save** when finished.

**Result:** The Application Server sends the configuration to all of the DHCTs in the hub that you specified.

## Sending a Configuration to All DHCTs in a Single Hub, Continued

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### Deleting a Hub-Specific Configuration

After you specify a unique configuration for a hub, you may need to change that hub to use the standard global configuration. To do that, you must delete the specific configuration for that hub.

Follow these steps to delete a hub-specific configuration.

1. On the DNCS Administrative Console, select the **Server Applications** tab.
2. Click **DHCT Config**.

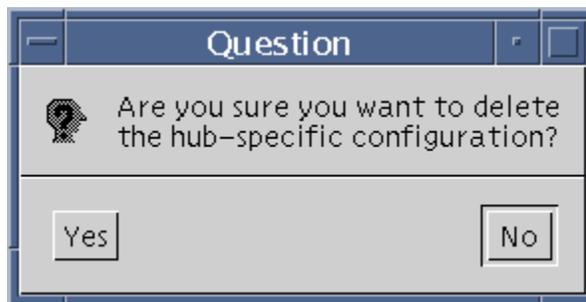
**Result:** The DHCT Configure Prompt window appears.

3. Click **Hub**.

**Result:** The DHCT Configure Prompt shows a list of hubs that are available with your network.

4. Highlight the hub where you want to delete the hub-specific configuration.
5. Click **File** and select **Delete Hub-Specific**.

**Result:** A message appears and asks you to confirm that you want to delete the hub-specific configuration.



6. Click **Yes**.

**Result:** The Application Server deletes the hub-specific configuration and sends the global configuration to all of the DHCTs in the hub you selected.

# Set DHCT Staging Defaults

## Introduction

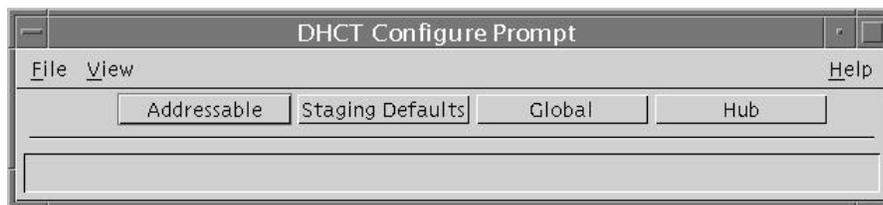
Before you deploy DHCTs to subscribers' homes, you must load the necessary software and security information into those DHCTs. This process is known as *staging* the DHCT. During this process, you can also set many default configuration values for each DHCT. This section describes how to set up those default configuration values.

## Setting Up DHCT Staging Defaults

Follow these steps to set up default values for staging DHCTs.

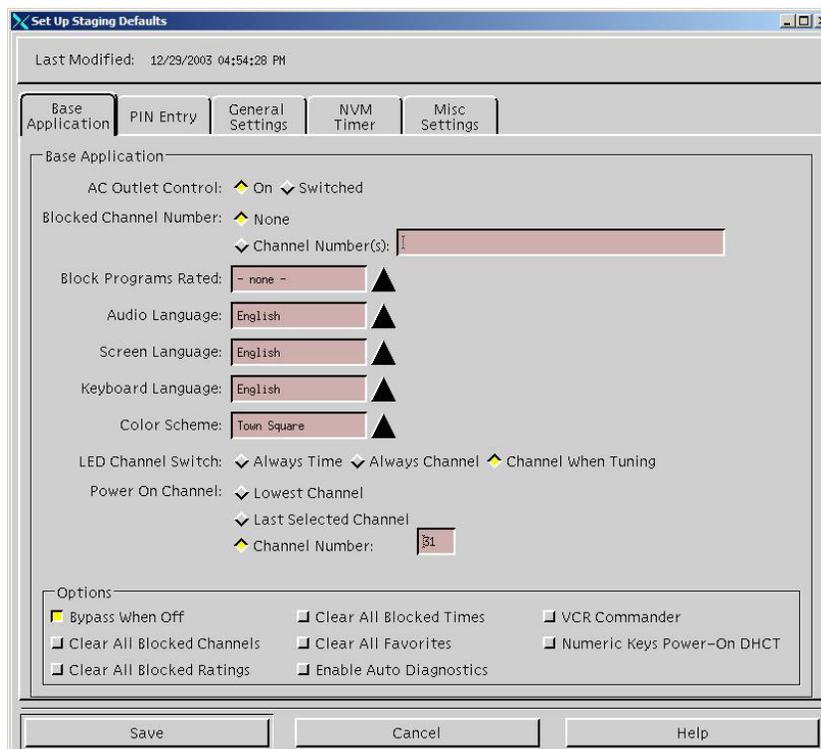
1. On the DNCS Administrative Console, select the **Server Applications** tab.
2. Click **DHCT Config**.

**Result:** The DHCT Configure Prompt window opens with **Addressable** as the default selection.



3. Click **Staging Defaults**.

**Result:** The Set Up Staging Defaults window opens.



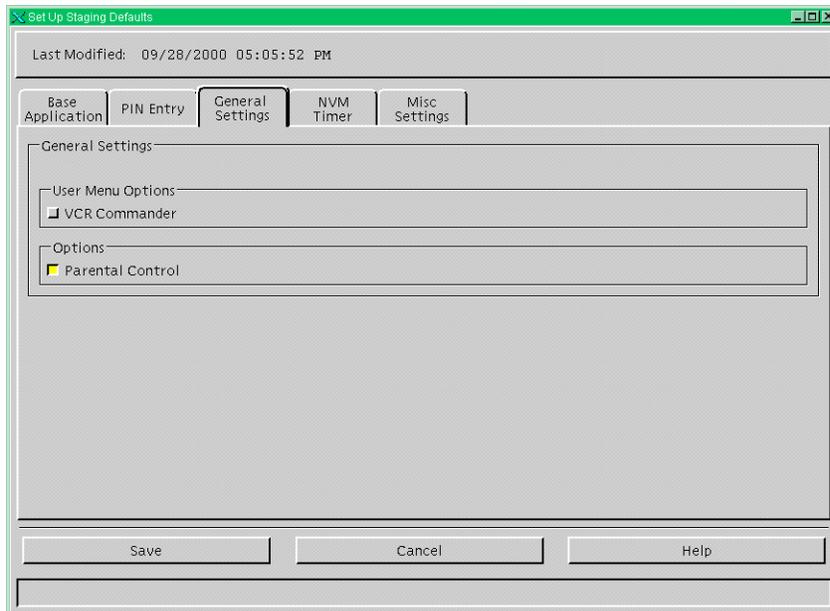
*Continued on next page*

## Set DHCT Staging Defaults, Continued

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4. Select the **General Settings** tab.

**Result:** The General Settings tab moves to the forefront.



5. On the General Settings tab, select one or both of the following options:
  - **VCR Commander** - To allow the user to enable the VCR Commander preference to display in the DHCT General Settings
  - **Parental Control** - Select this option to enable Parental Control. If disabled, the staged DHCTs will not have Parental Control capability
6. Select the other configuration tabs and enter the necessary information in the appropriate fields. For more information on these tabs and the options that each one contains, see **Section B, Configuration Options**, next in this chapter.
7. Click **Save** when finished.

# Section B

## Configuration Options

### Overview

---

#### Introduction

In order to send a global or addressable configuration to a DHCT, or to set up DHCT staging defaults, you must set configuration options. You will set these options through a configuration window. The title of this window and the available tabs will change, depending on the kind of configuration that you are setting up.

This section explains the various configuration options that you can set and includes an example of each configuration window. The section also describes the configuration options and identifies the tabs that are available for each type of configuration.

#### In This Section

This section contains the following topics.

<b>Topic</b>	<b>See Page</b>
Base Application Tab Configuration Options	6-18
PIN Entry Tab Configuration Options	6-25
General Settings Tab Configuration Options	6-29
Barkers Tab Configuration Options	6-34
Quick Settings Tab Configuration Options	6-35
IPPV Tab Configuration Options	6-37
Misc Settings Tab Configuration Options	6-39
IPG Tab Configuration Options	6-44
NVM Tab Configuration Options	6-48

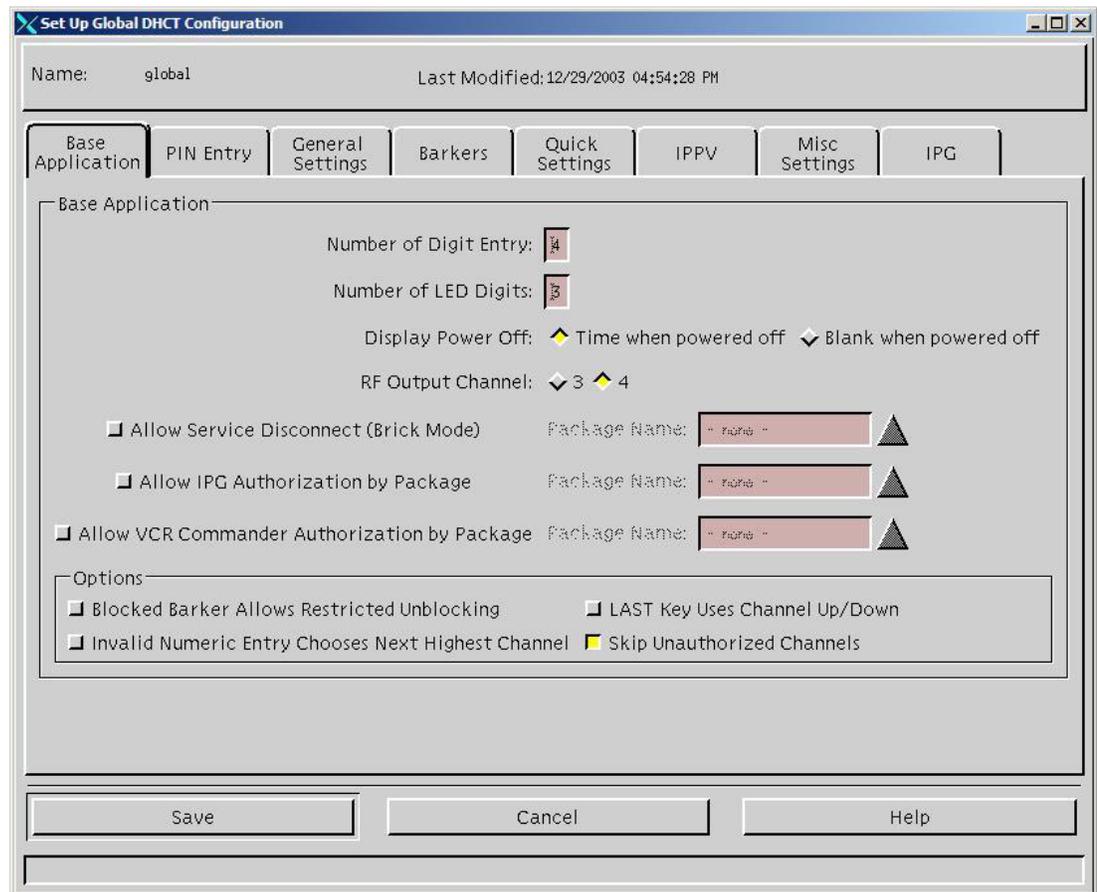
# Base Application Tab Configuration Options

## Introduction

The Base Application tab is the default tab. This tab controls the configuration for the part of Cisco Resident Application (SARA) known as the Base Application. Base Application is the underlying functionality of the SARA that resides in the DHCT.

This section describes the fields on the Base Application tab.

**Note:** The following illustration shows an example of the Global Configuration window. The Addressable Configuration window and the Staging Defaults window include different options. In addition, the options available on the Base Application tab may vary, depending on the options you have set on the General Settings menu.



## Base Application Tab Configuration Options, Continued

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### Name

This field appears at the top of the Global DHCT Configuration window. Do not change the value in this field.

### DHCT MAC Address

This field appears at the top of the Addressable DHCT Configuration window. Type the MAC address of the DHCT that you want to configure.

### Number of Digit Entry

This field specifies the *maximum* number of digits a subscriber must enter to change channels on the DHCT. In order for subscribers to access channels above 999, this field must contain 4.

### Number of LED Digits

This field indicates the *minimum* number of digits to display on the LED for the channels. If the channel number contains fewer than this number of digits, the LED will display the channel number with leading zeroes. If the channel number is greater than this number of digits, the LED shows the full channel number.

For example, if this field is set to 3, then the LED displays a minimum of three numbers when you tune to a channel:

- Channel 12 will display 012
- Channel 456 will display 456
- Channel 1234 will display 1234

### AC Outlet Control

This field lets you specify whether power is applied to the AC convenience outlet on the rear panel of the DHCT at all times or only when the DHCT is powered on. Select one of the following options:

- **On** means that the AC convenience outlet has power at all times.
- **Switched** means that the AC convenience outlet only has power when the DHCT is powered on.

This field appears on this tab only if **AC Outlet Control** is disabled on the General Settings Tab.

## Base Application Tab Configuration Options, Continued

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### Blocked Channel Numbers (Additional Blocked Channel Numbers)

This field lets you specify channels that should be blocked by default on the DHCT. This field only appears in the Staging Defaults window.

The Addressable Configuration window contains a similar option called “Additional Blocked Channel Numbers.” On that window, this field lets you specify *additional* channels that should be blocked on the DHCT. It does *not* clear any blocked channels that the subscriber has already set. Select one of the following options:

- Select **None** if you do not want to block any channels (or any additional channels).
- Select **Channel Number(s)** to specify channels that should be blocked. In the space provided, type the channel numbers that you want to block, separated by a comma and a space.

**Example:** 26, 52, 78, 79

### Block Programs Rated

This field lets you block programs based on the program rating. This field only appears in the Staging Defaults window and the Addressable Configuration window.

Click the arrow to select a rating that you want to block. All programs with that rating or higher are blocked by default.

**Example:** If you select PG-13, programs rated R and NC-17 will also be blocked.

### Example: Audio Language

Click the arrow to select the default language that subscribers hear. This field appears on this tab only if **Language: Audio** is disabled on the General Settings tab.

### Screen Language

Click the arrow to select the default language for text in the IPG and barkers. This field appears on this tab only if **Language: Screen** is disabled on the General Settings tab.

### Keyboard Language

Click the arrow to select the default language that wireless keyboards will use to communicate with the DHCT. This field appears on this tab only if **Language: Keyboard** is disabled on the General Settings tab.

## Base Application Tab Configuration Options, Continued

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### Color Scheme

Click the arrow to specify the color scheme that subscribers will see. This field appears on this tab only if **Set: Color Scheme** is disabled on the General Settings tab.

### LED Channel Switch

This field lets you specify what the LED displays when the DHCT is on:

- **Always Time** displays the current time.
- **Always Channel** displays the current channel.
- **Channel When Tuning** displays the current channel when the subscriber changes the channel. After a few seconds, the DHCT displays the current time.

This field appears on this tab only if **LED Channel Switch** is disabled on the General Settings tab.

### Display Power Off

This field lets you specify what the LED on the DHCT displays when the power is off:

- **Time when powered off** displays the time even when the DHCT is powered off.
- **Blank when powered off** displays nothing when the DHCT is powered off.

This field appears on this tab only if **Display: Power Off** is disabled on the General Settings tab.

### Power On Channel

This field lets you specify the channel where the DHCT automatically tunes each time the subscriber turns on the DHCT. Select one of the following options:

- **Lowest Channel** means that the DHCT tunes to the lowest channel each time the DHCT is powered on.
- **Last Selected Channel** means that the DHCT tunes to the last channel that was viewed each time the DHCT is powered on.
- **Channel Number** lets you identify a channel where the DHCT should tune each time the DHCT is powered on.

This field appears on this tab only if **Power On Channel** is disabled on the General Settings tab.

## Base Application Tab Configuration Options, Continued

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### RF Output Channel

This field lets you specify the designated channel for the DHCT RF output. The subscriber's TV must be tuned to this channel in order to receive services.

This field appears on this tab only if **RF Output Channel** is disabled on the General Settings tab.

### Allow Service Disconnect (Brick Mode)

This field lets you specify whether to disable DHCTs that are not authorized for a specific package. This package is usually a "brick mode" package used to bring DHCTs out of service for various reasons. If the DHCT is not authorized for this package, then the DHCT goes into "brick mode." When a DHCT goes into brick mode, the system responds with the following outcome:

- An Out of Service barker appears on the screen
- The DHCT does not respond to the front panel or remote control keys

**Note:** If you select this option, you must enter the name of the package that is required to authorize the DHCT.

The DHCT must be re-authorized for the Brick Mode Package in order to function. Use **Disconnect Barker Phone** on the Barkers Tab to specify the phone number that subscribers should call to clear the brick mode and make the DHCT usable again.

### Allow IPG Authorization by Package

This field lets you specify whether the IPG is available to all subscribers. If you select this field, then DHCTs must be authorized for a specific package in order to have access to the IPG. If you do not select this field, all subscribers will be able to view the IPG.

**Note:** If you select this field, you must enter the name of the package that is required to authorize the DHCT.

### Allow VCR Commander Authorization by Package

This field lets you specify whether the VCR Commander is available to all subscribers who have a VCR Commander module. If you select this field, then DHCTs must be authorized for a specific package to use the VCR Commander.

If this field is not selected, any subscriber who has a VCR Command can use the VCR Commander.

**Note:** If you select this option, you must enter the name of the package that is required to authorize the DHCT.

## Base Application Tab Configuration Options, Continued

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### Blocked Barker: Allows Restricted Unblocking

This field lets you specify whether subscribers will be able to unblock channels that have been blocked. If selected, the blocked barker appears whenever a subscriber tunes to a blocked channel. This barker allows the subscriber to enter a PIN to unblock the channel. The blocked barker appears again if the subscriber tunes to another channel and retunes the blocked channel.

If disabled, the Blocked Barker does not let subscribers enter a PIN.

### Bypass When Off

This field lets you specify whether or not the broadcast signal will be routed directly to the TV when the DHCT is powered off. If enabled, the broadcast signal goes directly to the TV when the DHCT is powered off.

This field appears on this tab only if the **Bypass When Off** option is disabled on the General Settings tab.

**Note:** This function is available only on DHCTs that have the Bypass switch installed.

### Invalid Numeric Entry Chooses Next Highest Channel

This option lets you specify whether the DHCT will tune to the next highest channel when the subscriber enters an invalid channel number. For example, suppose the subscriber tries to tune to channel 15, but there are no channels between 10 and 50. If you select this option, the DHCT will automatically tune channel 50 when the subscriber enters 15.

If you do not select this option, the DHCT will tune channel 15 and display either a blank screen or an unauthorized channel barker. See **Skip Unauthorized Channels**, later in this section.

## Base Application Tab Configuration Options, Continued

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### LAST Key Uses Channel Up and Down

This option lets you specify how the LAST key on the remote control functions. If you select this option, pressing the LAST key on the remote control displays the last channel tuned, even if it was tuned using the channel up (CH+) and channel down (CH-) keys.

If you do not select this option, the Last key on the remote control displays the last channel that was tuned by numeric entry.

For example, suppose a subscriber begins on channel 2 and presses 9 to go to channel 9. The subscriber then presses CH+ (channel up) to go to channel 10, and then presses CH+ again to go to channel 11. Then the subscriber presses LAST on the remote control.

Depending on which function you selected for this option, one of the following results occurs:

- If you select this option, the DHCT displays channel 10 (the last channel that was tuned by any means).
- If you select do not select this option, the DHCT displays channel 9 (the last channel that was entered using numeric entry).

### Skip Unauthorized Channels

This option lets you specify what happens when the subscriber uses the CH+ and CH- keys to tune to an unauthorized channel.

If you select this option, the DHCT skips over unauthorized channels when the subscriber uses the CH+ and CH- keys. For example, suppose channels 73 and 75 are authorized, but channel 74 is not. If a subscriber starts on channel 73 and presses the CH+ key, the next channel that appears is channel 75. Channel 74 does not appear at all.

If you do not select this option, the DHCT displays an unauthorized channel barker for each unauthorized channel. This barker states that the channel is not authorized and explains how to order the channel, if the channel is available.

**Note:** This option does not affect what happens when a subscriber uses the numeric keypad on the remote control to tune to an unauthorized channel. In that case, the DHCT always displays an unauthorized channel barker.

# PIN Entry Tab Configuration Options

## Introduction

On the PIN Entry tab, you can enable the Blocking PIN (Personal Identification Number) and the Purchase PIN for the user.

- The Blocking PIN allows the subscriber to block or unblock channels from unauthorized persons, and to turn parental control on or off.
- The Purchase PIN is required whenever the subscriber wants to make a purchase through the DHCT.

This section describes the fields and options on the PIN Entry tab.

**Example:** The subscriber can use the PIN as a means to prevent children and others from watching specific channels or making unauthorized purchases. Anyone who wants to view a specific channel or make a purchase will need a PIN to do so.

The screenshot shows a window titled "Set Up Global DHCT Configuration" with a tabbed interface. The "PIN Entry" tab is selected. At the top, it shows "Name: global" and "Last Modified: 12/29/2003 04:54:28 PM". Below the tabs, the "PIN Call Number" is set to "000555-1212". The "Blocking PIN" section includes "Lockout Time: 5 minutes", "Trial Timer: 3 minutes", "Invalid Tries: 5", and a checked checkbox for "Enable Blocking PIN Lockout". The "Purchase PIN" section includes "Lockout Time: 5 minutes", "Trial Timer: 3 minutes", "Invalid Tries: 5", and a checked checkbox for "Enable Purchase PIN Lockout". The "Options" section has a checked checkbox for "Enable PIN On LEDs". At the bottom are "Save", "Cancel", and "Help" buttons.

## PIN Call Number

This field lets you specify the telephone number that displays when a channel is locked out. The subscriber must call this telephone number to have the PIN reset in order to access the channel again.

## PIN Entry Tab Configuration Options, Continued

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### Blocking PIN Area

Whenever a subscriber enters an incorrect blocking PIN, the DHCT starts a timer and allows the subscriber to try again to enter the correct PIN. If the subscriber enters too many incorrect PINs before that timer runs out, then the DHCT locks out the channel.

The fields in the Blocking PIN area let you specify the parameters for this feature. The rest of this topic provides a description of all fields in the Blocking PIN area.

#### Lockout Time

This field lets you specify the length of time (in minutes) that a channel will be locked out if a subscriber does not enter a Blocking PIN correctly. At the end of this time, the lockout will be removed, and the subscriber will be able to enter the correct PIN.

#### Trial Time

This field lets you specify the length of the timer that starts when a subscriber enters an incorrect blocking PIN. If the subscriber tries too many times to enter the correct PIN before this timer runs out, then the DHCT locks out the channel. This field specifies the length of that timer in minutes.

#### Invalid Tries

This field lets you specify the number of times that a subscriber can try to enter a blocking PIN.

**Example:** Assume the attributes are set as follows:

- **Invalid Tries** - 3
- **Trial Timer** - 1 minute
- **Lockout Time** - 30 minutes

In this case, if a subscriber enters three incorrect PINs within one minute, the DHCT will lockout the channel for 30 minutes.

#### Enable Blocking PIN Lockout

This field lets you specify whether or not to enable the blocking PIN feature by default. If this box is selected, then the blocking PIN feature is available on the DHCT.

## PIN Entry Tab Configuration Options, Continued

---

### Purchase PIN Area

Whenever a subscriber enters an incorrect purchase PIN, the DHCT starts a timer and allows the subscriber to try again to enter the correct PIN. If the subscriber enters too many incorrect PINs before that timer runs out, then the DHCT locks out the channel.

The fields in the Purchase PIN area let you specify the parameters for this feature. The rest of this topic provides a description of all fields in the Purchase PIN area.

#### Lockout Time

This field lets you specify the length of time (in minutes) that a channel will be locked out if a subscriber does not enter a purchase PIN correctly. At the end of this time, the lockout will be removed, and the subscriber will be able to enter the correct PIN.

#### Trial Time

This field lets you specify the length of the timer that starts when a subscriber enters an incorrect purchase PIN. If the subscriber tries too many times to enter the correct PIN before this timer runs out, then the DHCT locks out the channel. This field specifies the length of that timer in minutes.

#### Invalid Tries

This field lets you specify the number of times that a subscriber can try to enter a purchase PIN.

**Example:** Assume the attributes are set as follows:

- **Invalid Tries** - 3
- **Trial Timer** - 1 minute
- **Lockout Time** - 30 minutes

In this case, if a subscriber enters three incorrect PINs within one minute, the DHCT will lockout the channel for 30 minutes.

#### Enable Purchase PIN Lockout

This field lets you specify whether or not to enable the purchase PIN feature by default. If this box is selected, then the purchase PIN feature is available on the DHCT.

## PIN Entry Tab Configuration Options, Continued

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### Options Area

The Options area contains other parameters that you can set for purchase PINs and blocking PINs. This area contains one field.

#### Enable PIN On LEDs

This field lets you specify what the LED displays when the DHCT displays the PIN entry screen. If this field is selected, the LED displays the message “PIN” instead of the channel number or the time of day when the PIN entry screen is displayed. This message prompts the user to enter a PIN number.

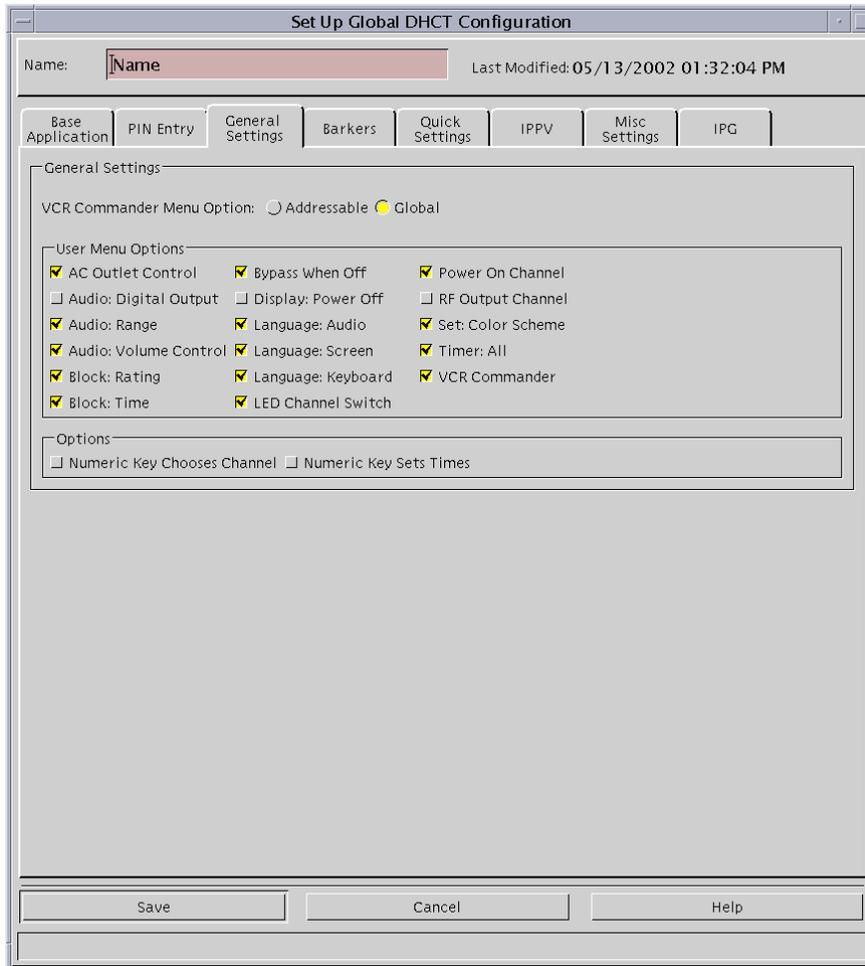
# General Settings Tab Configuration Options

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## Introduction

The General Settings tab lets you establish the options that the subscriber can set on the General Settings menu on the DHCT. This section describes the fields on the General Settings tab.

**Note:** You must select options on this tab first, before you select options on the other configuration tabs. The options you select on this tab determine the options that appear on the other tabs.



## General Settings Tab Configuration Options, Continued

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### VCR Commander Menu Option

This field lets you specify whether all DHCTs or only specific DHCTs will be able to show and hide VCR Commander General Settings menu options. Select one of the following options:

- **Addressable** means that only specific DHCTs can show and hide the VCR Commander General Settings options.
- **Global** means that all DHCTs can show and hide the VCR Commander General Settings options.

### User Menu Options Area

The fields in this area let you specify the options that will be available to subscribers on the General Settings and Quick Settings menus.

#### AC Outlet Control

This field lets you specify whether or not subscribers can configure the AC outlet on the DHCT. If this field is selected, subscribers can control whether the convenience outlet on the back of the DHCT is always on or only on when the DHCT power is on.

If this field is not selected, you can use the **AC Outlet Control** field on the Base Application tab to specify how the AC outlet will function.

#### Audio: Digital Output

This field lets you specify whether or not subscribers can configure the Audio Digital Output. If this field is selected, subscribers can control the type of digital audio signal that the DHCT produces (Dolby™ Digital or Two Channel Only).

If this field is not selected, you can use the **Audio Digital Output** field on the Misc Settings tab to specify the digital audio output signal from the DHCT.

For more information on audio digital output, see *Operating Audio Outputs on the Explorer® DHCT Technical Bulletin*.

#### Audio: Range

This field lets you specify whether or not subscribers can select an audio compression range. If this field is selected, subscribers can control the amount of compression applied to the audio.

If this field is not selected, you can use the **Audio Range** field on the Misc Settings tab to select a compression range for the DHCT.

For more information on audio digital output, see *Operating Audio Outputs on the Explorer® DHCT Technical Bulletin*.

## General Settings Tab Configuration Options, Continued

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### Audio: Volume Control

This field lets you specify whether or not subscribers can configure the audio volume control for each DHCT. If this field is selected, subscribers can control whether the volume on the DHCT is controlled or fixed.

If this field is not selected, you can use the **Audio Volume Control** field on the Misc Settings tab to configure the volume control for the DHCT.

For more information on audio digital output, see *Operating Audio Outputs on the Explorer® DHCT Technical Bulletin*.

### Block: Rating

This field lets you specify whether or not subscribers can block programs by rating. If this field is selected, the General Settings menu lets subscribers block programs based on their rating.

### Block: Time

This field lets you specify whether or not subscribers can block programs by time. If this field is selected, the General Settings menu lets subscribers block all programs at certain times of the day.

### Bypass When Off

This field lets you specify whether or not subscribers can configure the RF bypass options. If this field is selected, the General Settings menu lets subscribers select whether or not the RF signal should bypass the DHCT when the DHCT is powered off.

If this field is not selected, you can use the **Bypass When Off** field on the Base Application tab to specify whether or not the RF signal should bypass the DHCT when the power is off.

### Display: Power Off

This field lets you specify whether or not subscribers can select what the LED displays when the DHCT is powered off. If this field is selected, subscribers can select whether the LED displays the current time or is blank when the DHCT is powered off.

If this field is not selected, you can use the **Display Power Off** field on the Base Application tab to specify what the LED displays when the DHCT is powered off.

## General Settings Tab Configuration Options, Continued

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### Language: Audio

This field lets you specify whether or not subscribers can select the audio track that they will hear. If this field is selected, the General Settings menu lets subscribers select to hear the primary audio or the secondary audio track.

If this field is not selected, you can use the **Audio Language** field on the Base Application tab to select the audio track that subscribers will hear.

### Language: Screen

This field lets you specify whether or not subscribers can select the language for text that appears on the screen. If this field is selected, the General Settings menu lets subscribers select the language for IPG screens and barkers.

If this field is not selected, you can use the **Screen Language** field on the Base Application tab to select the language for text that appears on the screen.

### Language: Keyboard

This field lets you specify whether or not subscribers can select the language that wireless keyboards will use to communicate with the DHCT. If this field is selected, the General Settings menu lets subscribers select the language for the keyboard.

If this field is not selected, you can use the Keyboard Language field on the Base Application tab to select the language that wireless keyboards will use.

### LED Channel Switch

This field lets you specify whether or not subscribers can select what the LED displays when the DHCT is powered on. If this field is selected, the General Settings menu lets subscribers select whether the LED should display the current time or channel when the DHCT is powered on.

If this field is not selected, you can use the **Display Power Off** field on the Base Application tab to specify what the LED should display when the DHCT is powered off.

### Power On Channel

This field lets you specify whether or not subscribers can select the first channel that appears when the DHCT is powered on. If this field is selected, the General Settings menu lets subscribers select the first channel to display when the DHCT is powered on.

If this field is not selected, you can use the **Power On Channel** field on the Base Application tab to specify the first channel that appears when the DHCT is powered on.

## General Settings Tab Configuration Options, Continued

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### RF Output Channel

This field lets you specify whether subscribers can select the RF output channel for the DHCT. If this field is selected, the General Settings menu lets subscribers select whether to send the signal from the DHCT to channel 3 or channel 4 on the TV.

If this field is not selected, you can use the **RF Output Channel** field on the Base Application tab to select the RF output channel for the DHCT.

### Set: Color Scheme

This field lets you specify whether subscribers can set the color scheme for the DHCT SARA screens. If this field is selected, the General Settings menu lets subscribers select the color scheme for SARA screens on the DHCT.

If this field is not selected, you can use the **Color Scheme** field on the Base Application tab to select the color scheme for the DHCT screens.

### Timer: All

This field lets you specify whether subscribers can set timers on the DHCT. If this field is selected, the General Settings menu lets subscribers set various timers such as Wake Up, Power Off, VCR New, Reminder, and Sleep timers.

### VCR Commander

This field lets you specify whether subscribers can use the VCR Commander with the DHCT. If this field is selected, the DHCT lets subscribers use the VCR Commander to record programming.

**Note:** This option only provides the VCR Commander feature to subscribers who have a VCR Commander module installed on the DHCT.

## Options Area

The fields in this area let you specify the operation of the numeric keys (0-9) on the remote control.

### Numeric Key Chooses Channel

If this field is selected, subscribers can use the numeric keys on the remote control to change the channels if the IPG or Quick Settings menu is displayed on the TV.

### Numeric Key Sets Times

If this field is selected, subscribers can use the numeric keys on the remote control to set times in the General Settings menu.

### Numeric Keys Power-On DHCT

If this field is selected, subscribers can press any numeric key on the remote control to power on the DHCT.

**Important:** This setting requires SARA 1.52, or later, or SARA 1.83, or later.

# Barkers Tab Configuration Options

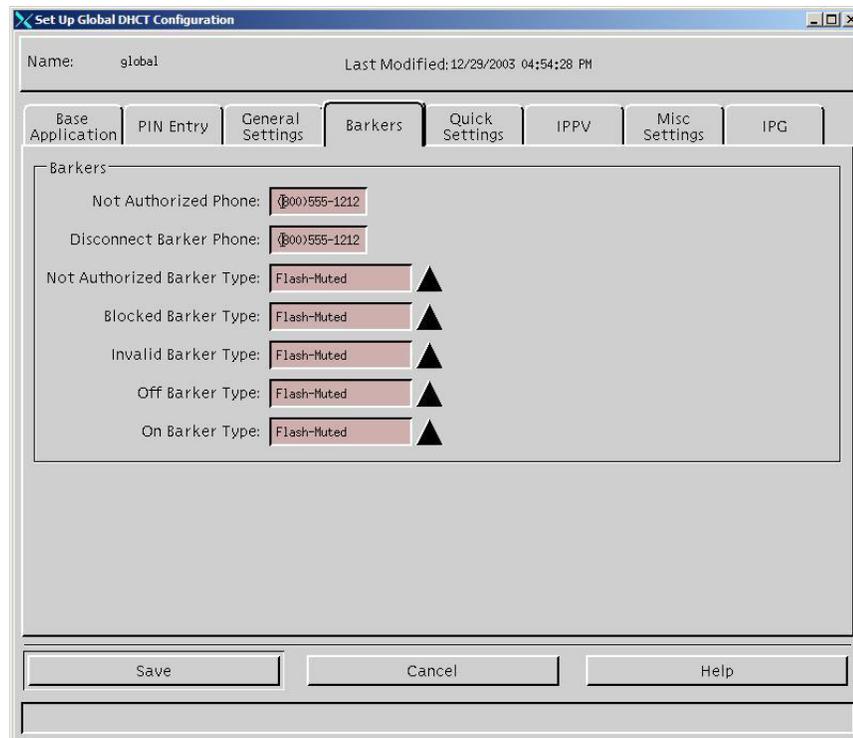
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## Introduction

The Barkers tab lets you configure the information that displays on barkers, such as the phone number to call for an unauthorized channel.

**Note:** This tab only appears if you are sending a global DHCT configuration.

Currently, the only fields enabled on this tab are **Not Authorized Phone** and **Disconnect Barker Phone**. This section describes those two fields.



## Not Authorized Phone

This field lets you specify the phone number that displays on a barker when subscribers tune to a channel that is not authorized. Subscribers can call this phone number to order the channel, if they wish.

## Disconnect Barker Phone

This field lets you specify the phone number that appears on a barker for a DHCT that is in "brick mode." If the DHCT is in brick mode, the following results occur:

- An Out of Service barker appears
- The DHCT does not respond to the front panel or remote control key
- The DHCT stays in brick mode

For the brick mode package to function again, the DHCT must be authorized.

# Quick Settings Tab Configuration Options

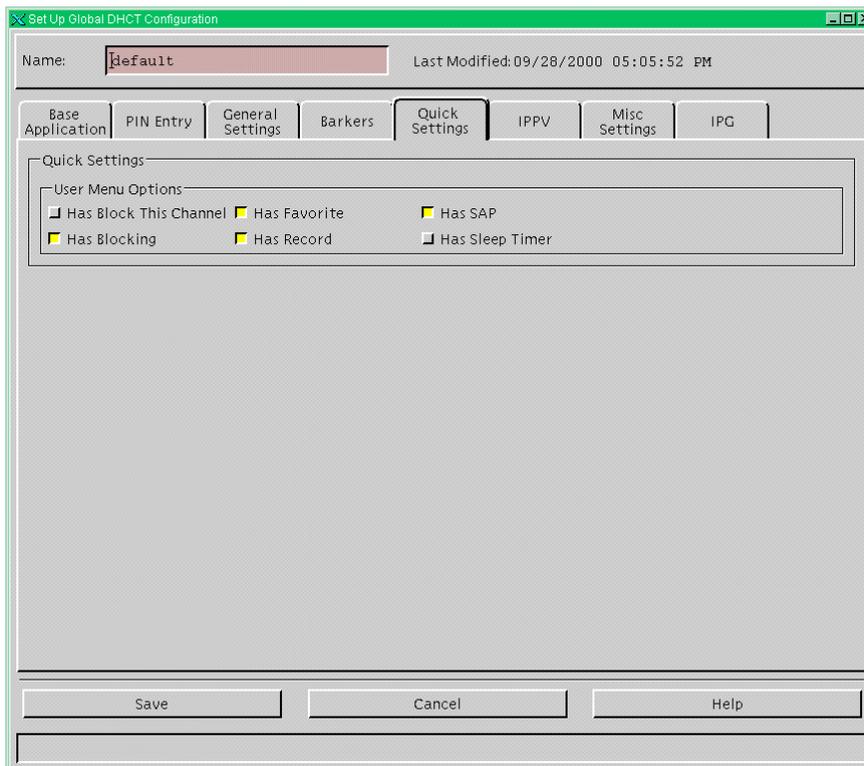
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## Introduction

The Quick Settings tab lets you select the items to display on the Quick Settings menu of the DHCT. The Quick Settings menu displays the most frequently used functions that a subscriber would want to perform, such as blocking a channel or setting a sleep timer. Subscribers access the Quick Settings menu by pressing the Settings button on the remote control.

**Note:** This tab only appears if you are sending a global DHCT configuration.

This section describes the fields on the Quick Settings tab.



## Has Block This Channel

If this field is enabled, subscribers can use Parental Control to block or unblock the current channel from the Quick Settings menu on the DHCT.

If this field is not enabled, the Quick Settings menu does not contain an option to block the current channel.

## Quick Settings Tab Configuration Options, Continued

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### Has Blocking

If this field is enabled, subscribers can turn on or turn off Parental Control from the Quick Settings menu on the DHCT.

If this field is not enabled, the Quick Settings menu does not contain an option to turn Parental Control on and off.

### Has Favorite

If this field is enabled, subscribers can add or remove the currently tuned channel to their Favorite Channel list on the Quick Settings menu.

If this field is not enabled, the Quick Settings menu does not contain an option to use the Favorite Channel list.

### Has Record

If this field is enabled, subscribers can record a currently viewed program using the Record Now function of the VCR Commander.

**Note:** This locks out all keys except Power and Exit.

If this field is not enabled, the Quick Settings menu does not contain an option to record the current program through the VCR Commander.

### Has SAP (Secondary Audio Program)

If this field is enabled, subscribers can select to hear audio in a different language for any digital program that provides a secondary audio track. Subscribers can also enable or disable the SAP audio track for analog programs from the Quick Settings menu.

If this field is not enabled, the Quick Settings menu does not contain an option to hear the SAP audio track.

### Has Sleep Timer

If this field is enabled, subscribers can access the Sleep Timer from the Quick Settings menu. The Sleep Timer allows a subscriber to set a timer to automatically turn off the TV after a specified period of time (such as 30 or 60 minutes).

If this field is not enabled, the Quick Settings menu does not contain an option to turn on the Sleep Timer.

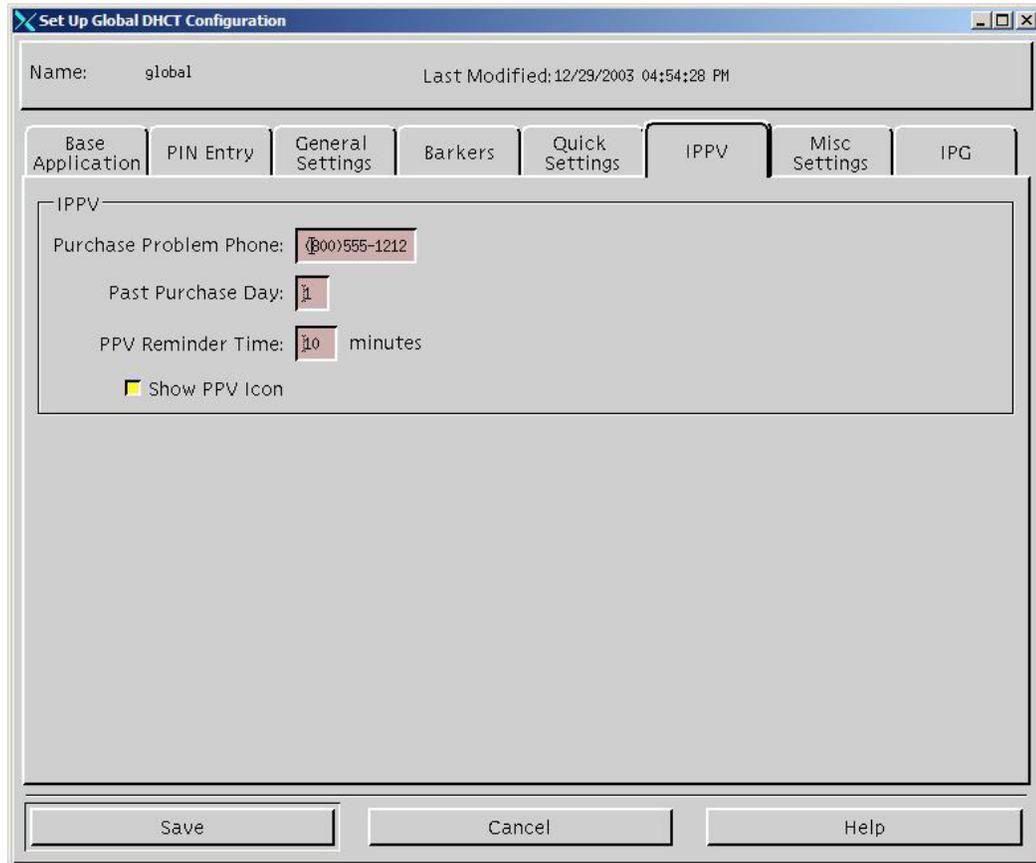
# IPPV Tab Configuration Options

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## Introduction

The IPPV tab lets you set up various items for purchasing IPPV events. This section describes the fields on the IPPV tab.

**Note:** This tab only appears if you are sending a global DHCT configuration.



The screenshot shows a window titled "Set Up Global DHCT Configuration". At the top, it displays "Name: global" and "Last Modified: 12/29/2003 04:54:28 PM". Below this is a tabbed interface with the following tabs: "Base Application", "PIN Entry", "General Settings", "Barkers", "Quick Settings", "IPPV" (which is the active tab), "Misc Settings", and "IPG". The "IPPV" tab contains the following fields:

- "Purchase Problem Phone:" with a text box containing "000555-1212".
- "Past Purchase Day:" with a spin box containing "1".
- "PPV Reminder Time:" with a spin box containing "10" and the text "minutes".
- A checkbox labeled "Show PPV Icon" which is checked.

At the bottom of the dialog are three buttons: "Save", "Cancel", and "Help".

## Purchase Problem Phone

This field lets you specify the telephone number that displays on the purchase or channel Barker for subscribers to call if they are having problems purchasing IPPV events.

## Past Purchase Day

This field lets you specify the day of the month when past purchases disappear from the PPV Purchases list on the General Settings menu of the DHCT. For example, if this field contains 1, then the PPV Purchase list in the General Settings menu is cleared on the first day of every month.

## IPPV Tab Configuration Options, Continued

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### PPV Reminder Time

This field lets you specify how long (in minutes) before an event begins that a message appears to remind subscribers that an event they have purchased is about to begin. Typically, this value is set to 5 minutes.

### Show PPV Icon

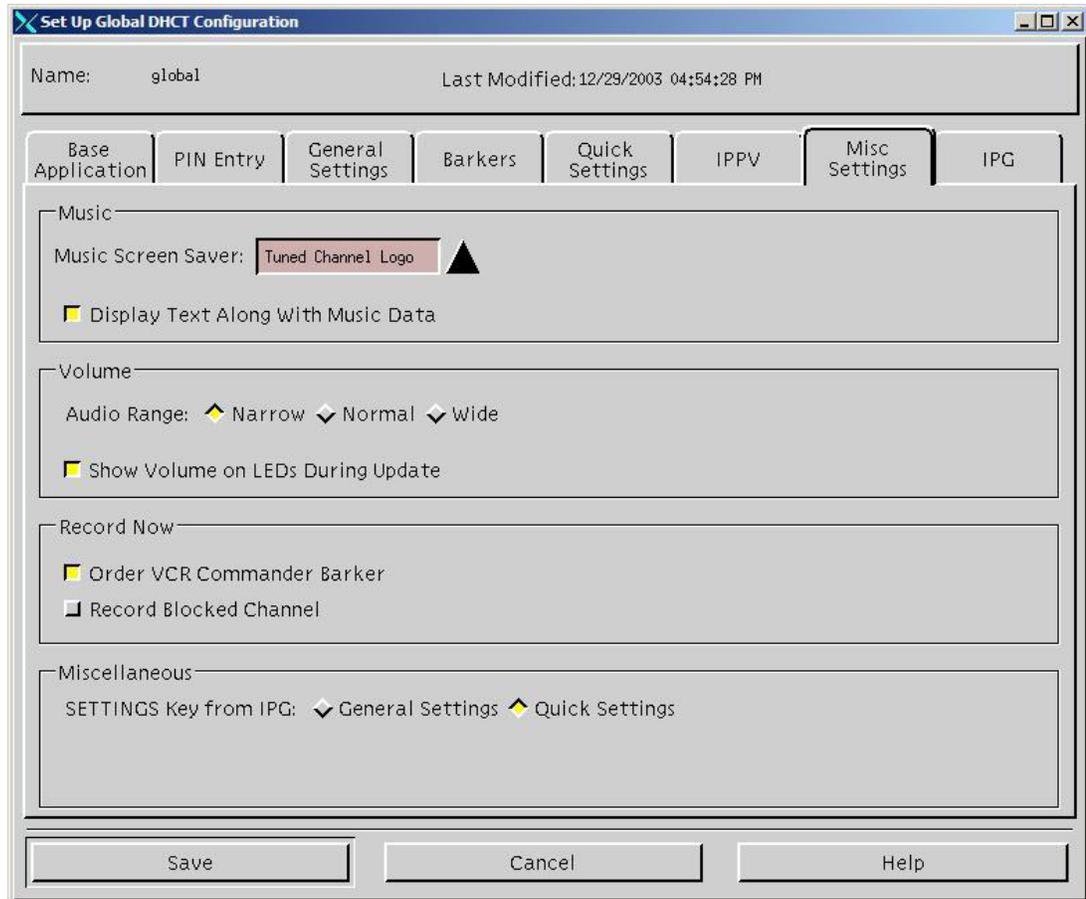
This field lets you specify whether the PPV channels in the IPG display a yellow PPV icon to indicate that the channel shows PPV programming.

# Misc Settings Tab Configuration Options

## Introduction

The Misc (Miscellaneous) Settings tab lets you set various configuration items for the DHCTs. Several of the audio settings in the Misc Settings are only available if enabled in the General Settings tab. If you enable items in the General Settings tab, the subscriber will be able to control those items. If you disable them, subscribers will not be able to control them individually.

This section describes the fields on the Misc Settings tab.



## Misc Settings Tab Configuration Options, Continued

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### Music Area

The fields in this area let you specify options for the operation of the music channels.

**Note:** The fields in this area only affect channels that use the music application. They do not affect channels that use the watchtv application.

#### Music Screen Saver

This field lets you specify the screen saver that will appear on music channels when the subscriber does not touch the DHCT or the remote control for 5 minutes. Select one of the following options:

- **None** means that information about the current selection will appear over the music channel background.
- **Plain** means that the music channel background appears with no text.
- **Black Screen** means that the screen will go blank after 5 minutes. The music will continue to play.
- **MSO Logo** means that your cable service provider logo will appear in various places on the screen.
- **Tuned Channel Logo** means that a channel logo will appear in various places on the screen. If you select this option, the Channel Logo Number field appears. This option allows you to specify the channel number of the logo that you want to appear.

#### Channel Logo Number

This field only appears if the Music Screen Saver field is set to Tuned Channel Logo.

This field lets you specify the channel number of the logo that you want to appear as the screen saver for music channels.

#### Display Text Along With Music Data

This field lets you specify whether or not to display text, such as song titles and artist information, on music channels while the music is playing. Select this field to display this text.

## Misc Settings Tab Configuration Options, Continued

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### Volume Area

The fields in this section let you specify options for audio operation.

#### Audio Digital Output

This field lets you specify the kind of digital audio signal that the DHCT will produce through the digital audio port. This field appears on this tab only if **Audio: Digital Output** is disabled on the General Settings tab.

Select one of the following options:

- **Dolby Digital™** passes the compressed Dolby Digital bit stream, exactly as provided by the source.
- **Two Channel Only** sends two channels of Pulse Code Modulation (PCM), an uncompressed digital audio format used widely in consumer electronics since the introduction of the compact disc. External digital decoders recognize this format and reproduce the two-channel audio program.

For more information on audio digital output, refer to *Operating Audio Outputs on the Explorer® DHCT Technical Bulletin*.

#### Audio Range

This field lets you specify the dynamic audio range for digital channels. This field appears on this tab only if **Audio: Range** is disabled on the General Settings tab.

Select one of the following options:

- **Narrow** applies the highest level of audio compression to the sound. The volume difference between soft and loud sounds is minimal; the sound level is almost constant. Many subscribers prefer this setting for channel surfing and program viewing because it minimizes the difference in volume level from channel to channel or between programs and commercials.
- **Normal** applies a moderate level of audio compression but still preserves a large dynamic range. This level is suitable for most home theater installations. The volume difference between soft and loud is similar to the levels typically used for analog programming. In this mode, dialog levels may be noticeably quieter, and loud noises will be noticeably louder.
- **Wide** preserves the complete dynamic range of the source with no compression. This setting provides the most significant difference between loud and quiet sounds. This mode is useful only in installations with well-controlled background noise and for viewers that prefer the widest possible dynamic range.

For more information on audio range, refer to *Operating Audio Outputs on the Explorer® DHCT Technical Bulletin*.

## Misc Settings Tab Configuration Options, Continued

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### Audio Volume Control

This field lets you specify the audio volume control for the DHCT. This field appears on this tab only if **Audio: Volume Control** is disabled on the General Settings tab.

Select one of the following options:

- **Fixed** sets the volume output to its maximum setting (30) and disables volume control on the DHCT. With this setting, the subscriber will control the volume on the TV instead of the DHCT.
- **Variable** allows the subscriber to control the volume for the DHCT from the remote control.

For more information on audio volume control, refer to *Operating Audio Outputs on the Explorer® DHCT Technical Bulletin*.

### Show Volume on LEDs During Update

This field lets you specify whether the LED on the front of the DHCT displays the volume level indicator when the subscriber changes the volume. If this field is enabled, the LED displays the volume when the subscriber changes the volume.

## Record Now Area

The fields in this area let you specify what occurs when subscribers use the Record Now feature from the Quick Settings menu.

### Order VCR Commander Barker

If this field is enabled, the DHCT displays a VCR Commander barker when a subscriber tries to record a program on the DHCT without setting up a VCR Commander, or when the subscriber does not have authorization for a VCR Commander.

The VCR Commander barker does not prevent recording. Instead, the barker informs subscribers that they can order a VCR Commander. It also instructs subscribers to start the VCR recording manually and explains where to tune the VCR.

### Record Blocked Channel

This field lets you specify whether subscribers can record blocked channels without manually unblocking them. If this field is enabled, subscribers can record blocked channels without unblocking them.

## Misc Settings Tab Configuration Options, Continued

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### Miscellaneous Area

The fields in this area let you specify various other configuration items for the DHCTs. This area contains one field.

#### SETTINGS Key from IPG

This field lets you specify whether subscribers can view settings menus directly from the IPG screen. Select one of the following options:

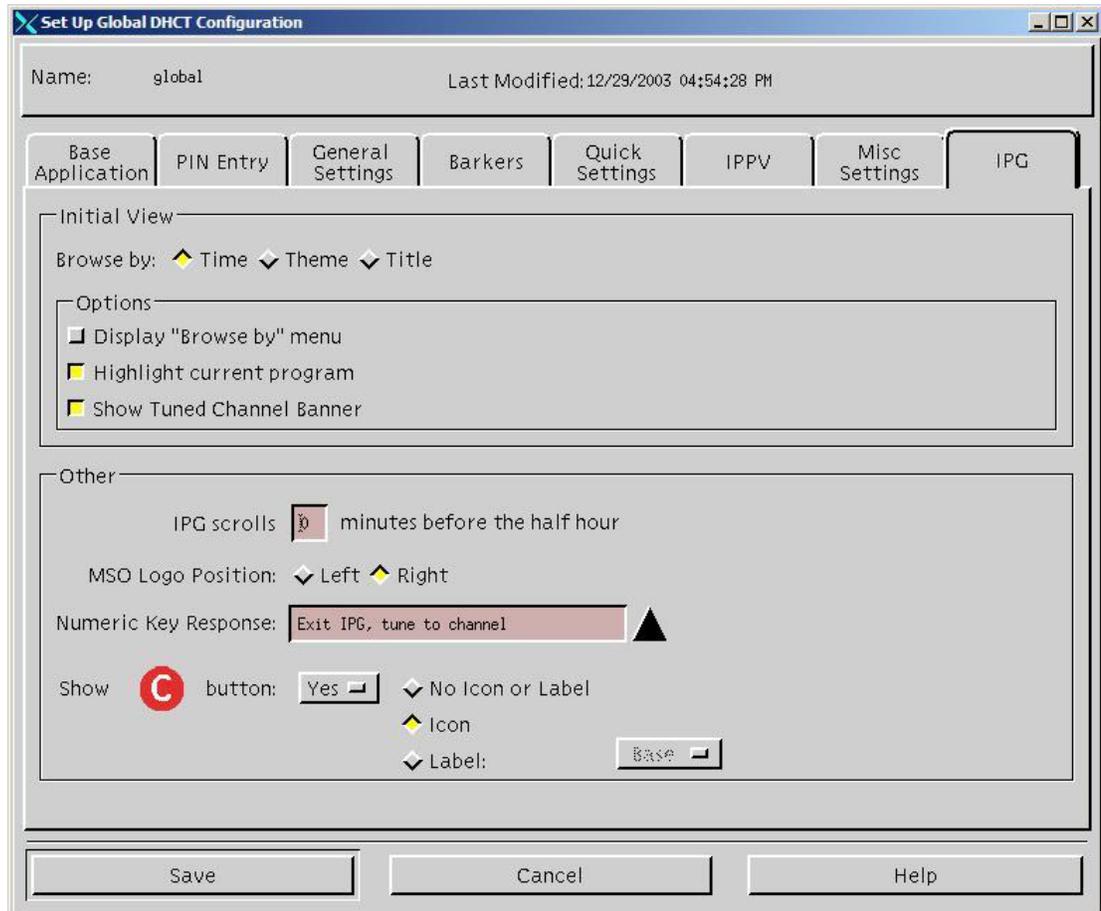
- **General Settings** - If enabled, subscribers can view the General Settings menu from the IPG screen by pressing the Settings key on the remote control. The subscriber can press the Settings key again to return to the IPG.
- **Quick Settings** - If enabled, subscribers can browse from the IPG to Quick Settings by pressing the Settings key on the remote control. The subscriber can press the Settings key again to return to the IPG.

# IPG Tab Configuration Options

## Introduction

The IPG tab provides the options on how you want to set up and present the Interactive Program Guide to subscribers. This section describes the fields on the IPG tab.

**Note:** This tab only appears if you are sending a global DHCT configuration.



## IPG Tab Configuration Options, Continued

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### Initial View Area

The fields in this area let you specify what subscribers see each time they view the IPG.

#### Browse by

This field lets you specify the default browse option when the subscriber views the IPG. This field identifies the view that subscribers will see first each time they view the IPG. Select one of the following options:

- **Time** means that the IPG first appears in Time View
- **Theme** means that the IPG first appears in Theme View
- **Title** means that the IPG first appears in Title View

If the **Display “Browse by” menu** option is enabled, subscribers can browse in any of these views.

#### Options Area

The fields in this area let you specify other parameters that affect what subscribers see each time they view the IPG.

#### *Display “Browse by” menu*

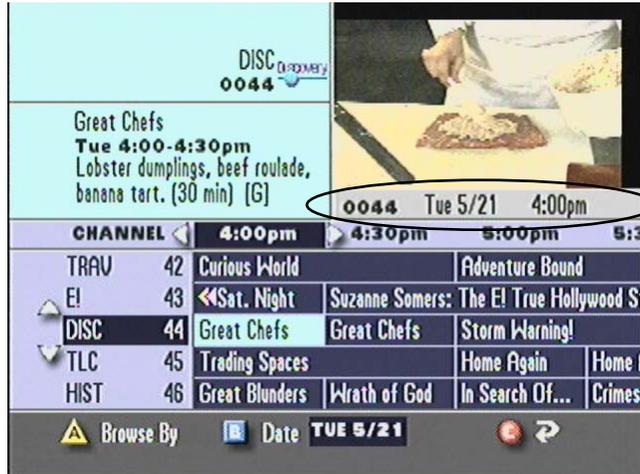
This field lets you specify whether the Browse by menu is active when the subscriber tunes to the IPG. If this field is enabled, the Browse by menu is active each time the subscriber tunes to the IPG. To navigate through the IPG, the subscriber must press the C key on the remote control.

If this field is not enabled, the subscriber must press the A key on the remote control to activate the Browse by menu.

## IPG Tab Configuration Options, Continued

### Show Tuned Channel Banner

This field lets you specify whether the Tuned Channel Banner appears in the IPG. If this field is enabled, a banner appears at the bottom of the live video feed in the upper right corner of the screen. This banner indicates the current channel and the time of day.



### Other Area

The fields in this area let you specify other parameters that affect the operation of the IPG.

IPG scrolls \_\_\_ minutes before the half hour

This field lets you specify how soon before each half-hour period the IPG automatically scrolls to the next half-hour slot. For example, if this field contains 10, the IPG automatically scrolls to the 7:30 PM slot at 7:20 PM and to the 8:00 PM slot at 7:50 PM.

### MSO Logo Position

This field lets you specify where your logo appears in relation to the channel banner that appears in the upper left corner of the IPG screen. Select one of the following options:

- **Left** means that the logo appears on the left side of the channel banner on the IPG.
- **Right** means that the logo appears on the right side of the channel banner on the IPG.

## IPG Tab Configuration Options, Continued

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### Numeric Key Response

This field lets you specify what happens when a subscriber presses a numeric key on the remote control while the IPG is displayed. Select one of the following options:

- **Exit IPG, tune to channel** means that the IPG disappears and tunes to the current channel when the subscriber presses a numeric key
- **Switch to Time View, highlight channel** means that the IPG changes to Time View (if not already in Time View) and highlights the channel that the subscriber entered. For example, suppose the IPG is in Title View. If the subscriber presses 2 and 7 on the remote control, the IPG changes to Time View and highlights the programming for channel 27.

### Show button

This field lets you specify what happens when the subscriber presses the  key from the IPG screen. Select one of the following options:

- **No** means that nothing happens when the subscriber presses the  key. The  key does not appear on the menu.
- **Yes** means that the subscriber can press the  key in the IPG to change to the current time and tuned channel. This option also lets you specify which of the following items appear on the IPG screen:
  - **No Icon or Label** means that the  key appears on the IPG screen without a “return” icon or a text label
  - **Icon** means that the “return” icon appears beside the  key in the IPG
  - **Label** means that the word “Back” appears beside the  key in the IPG

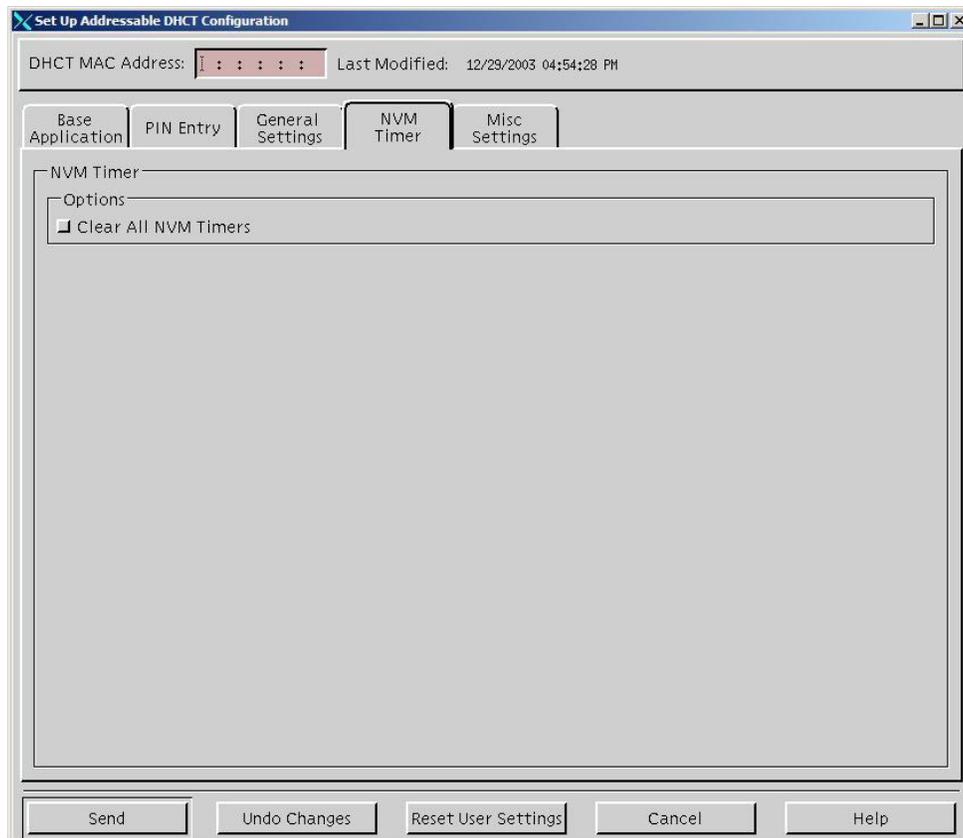
**Note:** The Base button is not currently enabled.

# NVM Tab Configuration Options

## Introduction

The **NVM Timer** tab contains options for timers that the Cisco Resident Application (SARA) in the DHCT has stored in non-volatile memory. This tab only contains one field.

**Note:** This tab only appears if you are sending an addressable DHCT configuration or setting staging defaults.



## Clear All NVM Timers

This field lets you clear any timers that SARA has stored in non-volatile memory, such as:

- PPV purchase timers
- Reminder timers
- Sleep timers
- Recording

If you select this option, all of the timers on the DHCT will be cleared when you send the configuration.

# Chapter 7

## Setting Up a Virtual Channel Service

### Overview

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#### Introduction

Virtual channels are channels that display text (using a special limited HTML command set) when a subscriber tunes to them. The file that contains the information must be on the Application Server. This information may include announcements of civic organizations, community organizations, or local businesses.

Cable service providers use this service to provide a variety of information to subscribers. Virtual channels are typically available to all subscribers. These are not “real” RF channels. They allow the cable operators to create text channels (usually information channels) without using RF spectrum.

The Virtual Channel Server (VCS) interacts with the BFS, SAM, and Channel Map to provide services to the DHCTs that display text information. This section describes how to configure the VCS BFS, how to build or edit a virtual channel source file, and how to set up virtual channels and register them with the SAM and BFS to make the service available to subscribers.

#### In This Chapter

This chapter contains the following topics.

Topic	See Page
Configure the VCS Broadcast File System (BFS)	7-2
Build a Virtual Channel Source File	7-12
Set Up a Virtual Channel Service	7-15

# Configure the VCS Broadcast File System (BFS)

---

## Introduction

Typically during a system upgrade, the installer configures the BFS source ID for the virtual channel server on your system. However, if this procedure was not performed at the time of upgrade, use the following procedures to check or configure a BFS server for the virtual channel service.

In earlier releases of the Application Server, virtual channel files could only exist on BFS Source ID 2 (inband) with other OSM files such as PowerTV® and SARA ROM. With recent modifications to the arrangement of alternating BFS files, small virtual channel server files now circulate very slowly, and leave the virtual channels practically useless. To resolve this issue, you must move the virtual channel files to a new source. Doing so allows the BFS to update the information it sends to the DHCTs and the virtual channels can then appear faster.

**Note:** Although you can move the files more than once, it should not be necessary.

To move virtual channel files you must complete the following tasks.

1. Create a new digital source and the source definition.
2. Add the source to the Selected Sources List on the BFS Server.
3. Configure the new BFS server source ID on the virtual channel server.

## Configure the VCS Broadcast File System (BFS), Continued

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### Creating a New Digital Source

Perform the following steps to create a new source.

1. On the DNCS Administrative Console, select the **DNCS** tab.
2. Select the **System Provisioning** tab.
3. Click **Source**.

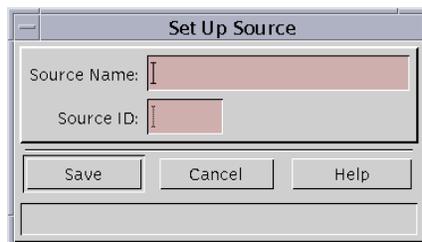
**Result:** The Source List window opens.



Source Name	Source ID	Current Security Mode
A002 DVD	1002	Clear
A007 TBS	1007	Clear
A008 GTV	1008	Clear
A009 UPA	1009	Clear
A010 WGN	1010	Clear
A011 PXA	1011	Clear
A012 PBA	1012	Clear
A013 ATC	1013	Clear
A014 TBN	1014	Clear
A015 UVG	1015	Clear

4. Scroll through the list and check for the existence of a virtual channel source. Does a virtual channel source appear in the list?
  - If **yes**, go to step 9.
  - If **no**, go to step 5.
5. Click the **File** menu and select **New**.

**Result:** The Set Up Source window opens.



Source Name:	<input type="text"/>
Source ID:	<input type="text"/>
Save Cancel Help	

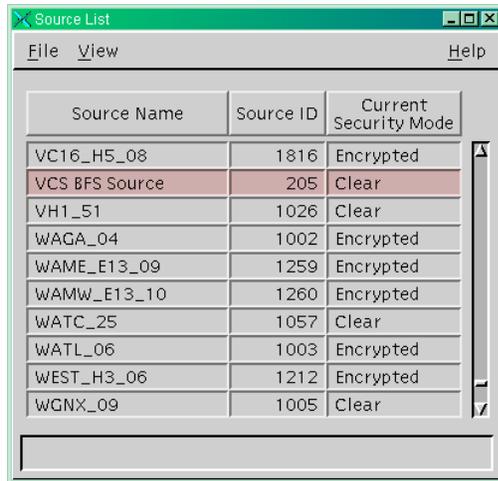
6. In the Source Name field, type a source name, for example, **VCS BFS Source**.
7. In the Source ID field, type a source ID greater than **200**.

## Configure the VCS Broadcast File System (BFS), Continued

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- Click **Save**.

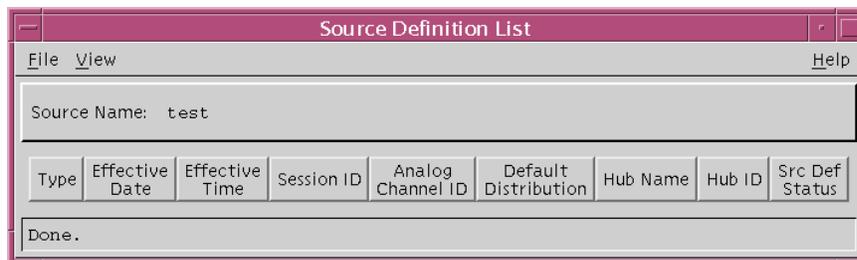
**Result:** The new source appears on the Source List window.



Source Name	Source ID	Current Security Mode
VC16_H5_08	1816	Encrypted
VCS BFS Source	205	Clear
VH1_51	1026	Clear
WAGA_04	1002	Encrypted
WAME_E13_09	1259	Encrypted
WAMW_E13_10	1260	Encrypted
WATC_25	1057	Clear
WATL_06	1003	Encrypted
WEST_H3_06	1212	Encrypted
WGNX_09	1005	Clear

- Select the virtual channel source.
- Click the **File** menu and select **Source Definitions**.

**Result:** The Source Definition List window opens with no source definitions listed.



Type	Effective Date	Effective Time	Session ID	Analog Channel ID	Default Distribution	Hub Name	Hub ID	Src Def Status
Done.								

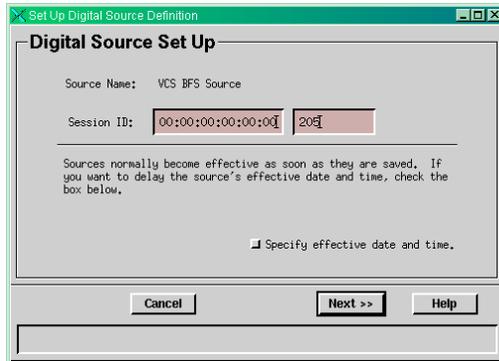
- On the Source Definition List window, check for the existence of a virtual channel source definition. Does a source definition appear on the list for the virtual channel source?
  - If **yes**, go to **Adding the Source to the Selected Sources List**, next in this section.
  - If **no**, go to step 12.

## Configure the VCS Broadcast File System (BFS), Continued

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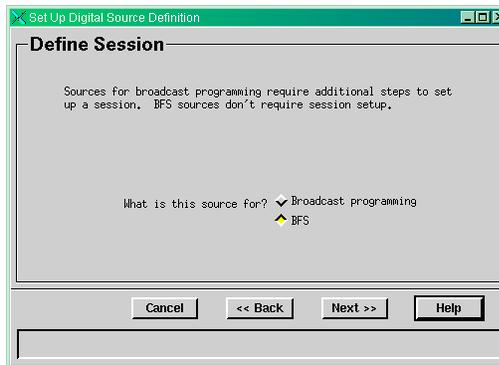
- Click the **File** menu and select **New Digital**.

**Result:** The Digital Source Set Up area of the window appears.



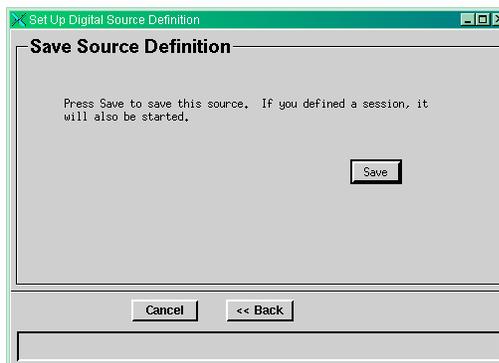
- Type **00:00:00:00:00** followed by the exact number for the source ID you just created, and then click **Next**.

**Result:** The Define Session area of the window appears.



- Select **BFS**, and then click **Next**.

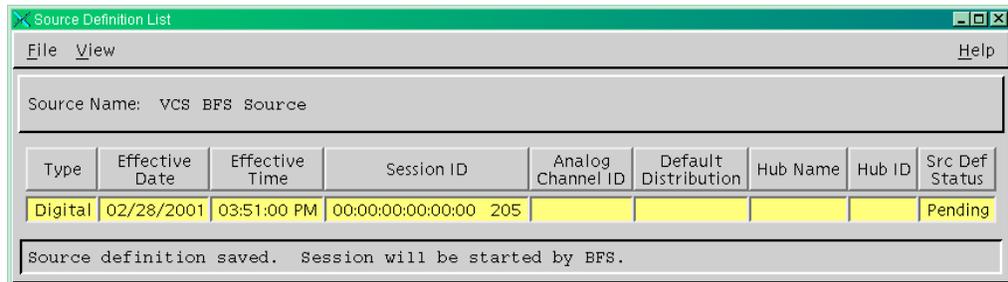
**Result:** The Save Source Definition area of the window appears.



## Configure the VCS Broadcast File System (BFS), Continued

15. Click **Save**.

**Result:** The Save Source Definition window disappears, and your new digital source appears on the Source Definition List window.

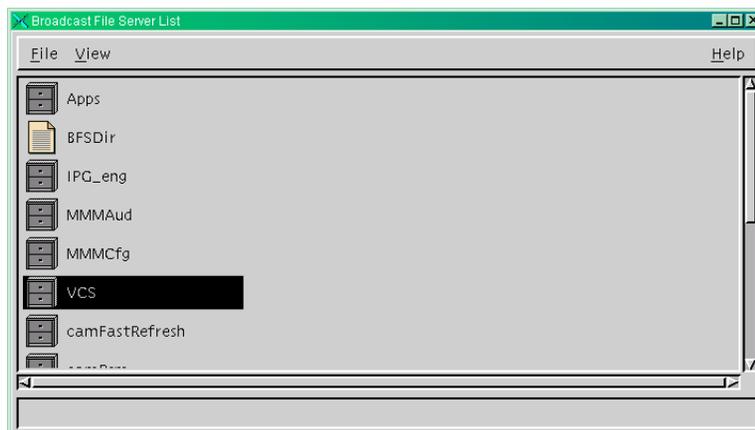


### Adding the Source to the Selected Sources List

After creating a source and a source definition, the next step is to add the source to the Selected Sources List on the BFS Server. Use the following steps to add the source to the Selected Sources List.

1. On the DNCS Administrative Console, select the **Applications Interface Modules** tab.
2. Click **BFS Client**.

**Result:** The Broadcast File Server List window opens.



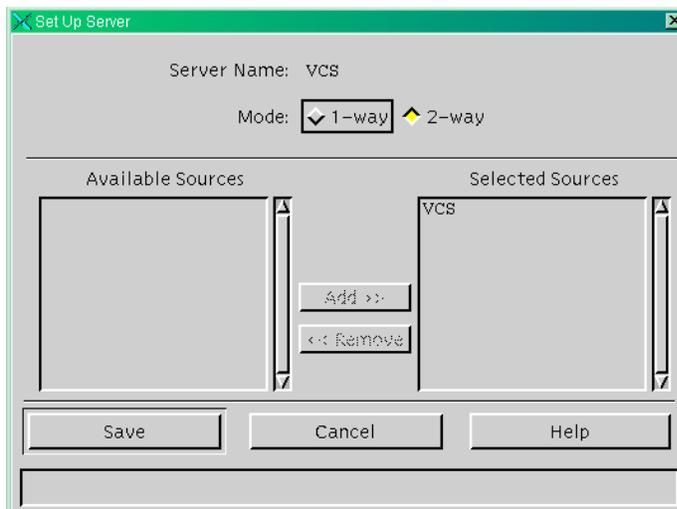
3. Select the **VCS** file cabinet.

## Configure the VCS Broadcast File System (BFS), Continued

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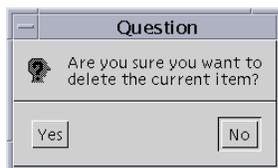
- Click the **File** menu and select **Open**.

**Result:** The Set Up Server window opens.



- Verify that **VCS** is the source listed in the Selected Sources field. Does VCS appear in the Selected Sources field?
  - If **yes**, click **Cancel** to close the window, and then go to **Configuring the New BFS Server Source ID**, next in this section.
  - If **no**, click **Cancel** to close the window, and then go to step 6.
- On the Broadcast File Server List window, select the **VCS** file cabinet.
- Click the **File** menu and select **Delete**.

**Result:** A Question window opens, prompting you to confirm that you want to delete the current item.



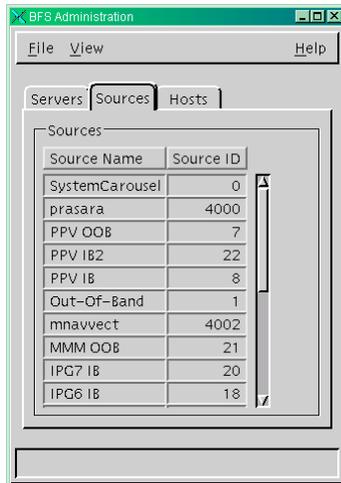
- Click **Yes** to confirm that you want to delete the virtual channel server.
- Click the **File** menu and select **Close** to exit the **Broadcast File Server List** window.
- On the DNCS Administrative Console, select the **Application Interface Modules** tab.

## Configure the VCS Broadcast File System (BFS), Continued

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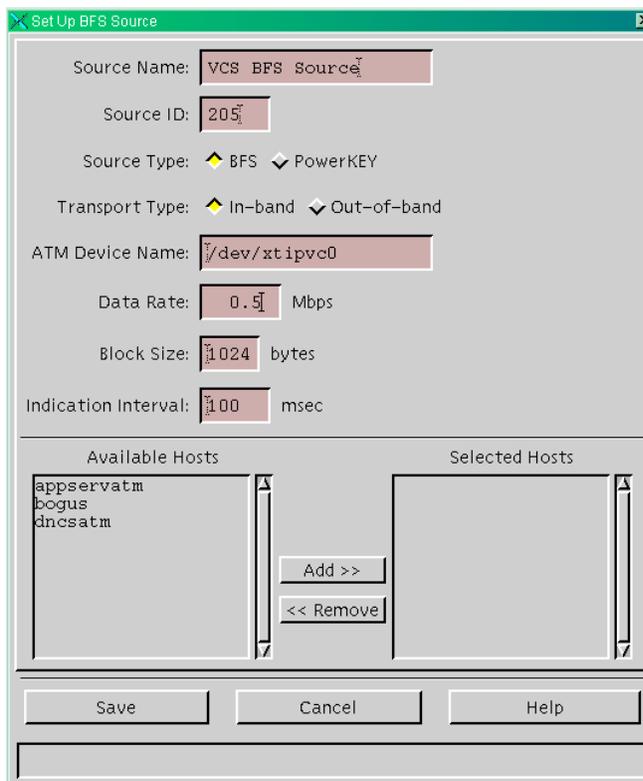
11. Click **BFS Admin**.

**Result:** The BFS Administration window opens.



12. Select the **Sources** tab.
13. Click the **File** menu and select **New**.

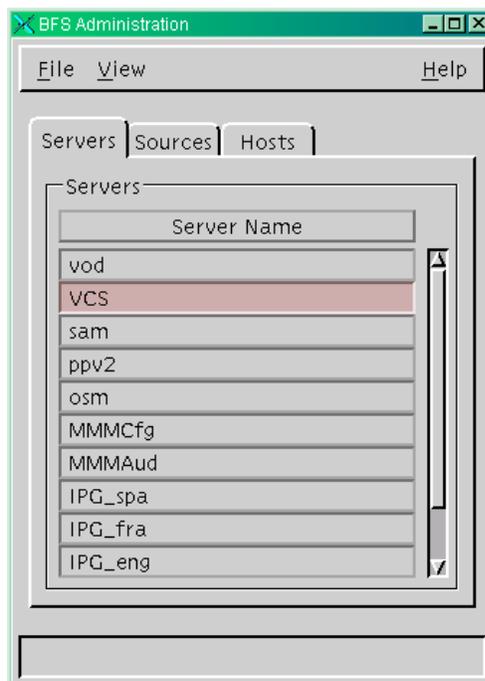
**Result:** The Set Up BFS Source window opens.



## Configure the VCS Broadcast File System (BFS), Continued

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14. In the Source Name field, type the same source name you used when you set up the BFS source. In our example, we used **VCS BFS Source**.
15. In the Source ID field, type the same source ID you set up in step 8 of **Creating a New Digital Source**, earlier in this section.
16. For the Source Type option, select **BFS**.
17. For the Transport Type option, select **In-band**.
18. In the Data Rate field, type **0.5** because virtual channel files are small.  
**Note:** You may also use a value as low as 0.1. The maximum rate you can enter for inband data is 2.00 Mbps.
19. In the Available Hosts list, select **dnscatm** and click **Add**.  
**Result:** The **dnscatm** host moves to the Selected Hosts list.
20. Click **Save**.
21. On the BFS Administration window, select the **Servers** tab.

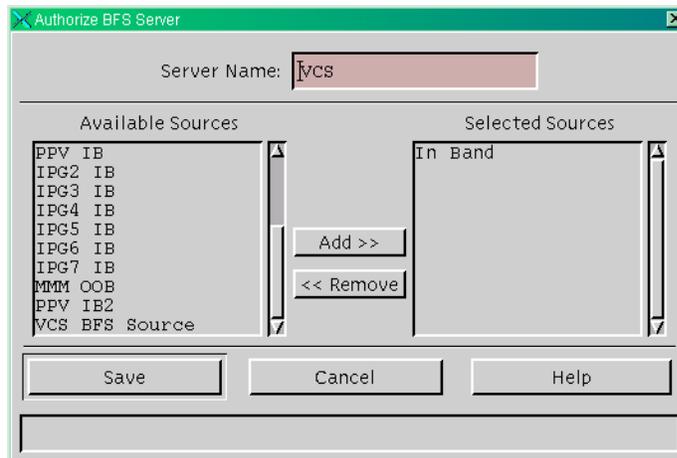


## Configure the VCS Broadcast File System (BFS), Continued

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22. Scroll through the list and double-click on **VCS**.

**Result:** The Authorize BFS Server window opens.



23. In the Available Sources list, select the virtual channel source and click **Add**.  
**Result:** The VCS source moves to the Selected Sources list.
24. In the Selected Sources list, select the old **In-Band** source, and click **Remove**.  
**Result:** **In-Band** moves to the Available Sources list.
25. Click **Save** to save the new BFS source and return to the BFS Administration window.
26. Click the **File** menu and select **Close** to close the BFS Administration window.

## Configure the VCS Broadcast File System (BFS), Continued

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### Configuring the New BFS Server Source ID

The final step in configuring the BFS source ID is to configure the new BFS server source ID on the server. Perform the following steps to configure the BFS server source ID.

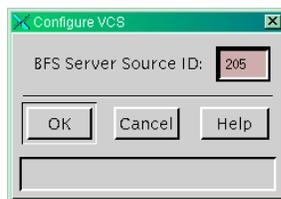
1. On the DNCS Administrative Console, select the **Server Applications** tab.
2. Click **VCS**.

**Result:** The VCS List window opens.



3. Click the **File** menu and select **Configure**.

**Result:** The Configure VCS window opens.



4. Verify that the number that appears in the BFS Server Source ID field matches the BFS server source ID you created in step 8 of **Creating a New Digital Source**, then click **OK** to return to the VCS List window.
5. Click the **File** menu and select **Close** to exit the VCS List window.
6. On the **Application Server**, run **appControl**.
7. In the appControl window, stop and restart the **VC** server group.

**Result:** Approximately 1 minute after the server restarts, the BFS sends the updated information to the DHCTs. This update means that the virtual channels take less time to display when a subscriber tunes to the channel.

8. Verify that the virtual channels operate correctly.

# Build a Virtual Channel Source File

---

## Introduction

When building a virtual channel source file, you must first complete the following tasks.

1. Create the source HTML files for the virtual channel client to use.
2. Save the source HTML files to the appropriate directory on the Application Server.

This section provides procedures for completing these tasks.

## Creating the Source HTML Files

These files provide the content for a virtual channel in the same way that a local studio or satellite feed provides content for a clear broadcast. Therefore, by creating the HTML file, you create a source for the virtual channel service.

You can use any HTML editor to create a document that contains the information you want the subscriber to see. However, when formatting the text you can only use the tags in the following table.

**Note:** The behavior of the Virtual Channel client is unpredictable if you use any tags that do not appear in the following table to create an HTML document.

Tag	Meaning
<B></B>	Display text between tags as bold text
<BIG></BIG>	Display text between tags as large text
 	Insert blank rule (line break)
<BR1.5>*	Insert 1.5 blank rules (1.5 line break)
<CENTER></CENTER>	Display text and images between tags as horizontally centered on the line
<IMG SRC="{ <i>image name</i> }">◆	Display one of the following known resident images: ok.img – SELECT button a.img – A button b.img – B button c.img – C button settings.img – SETTINGS button

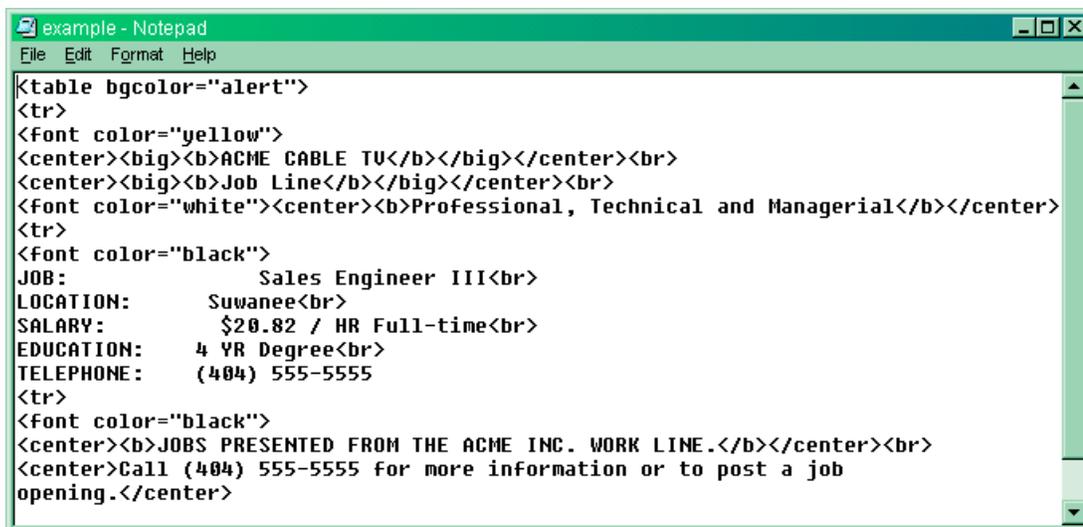
## Build a Virtual Channel Source File, Continued

Tag	Meaning
<FONT COLOR="{color name}">◆	Change font color. Supported font <i>color names</i> include white, black, and yellow
<TABLE BGCOLOR="{color keyword}"></TABLE>◆	Group contained table rows on single page with one of the following background patterns by inserting a <i>color keyword</i> : alert – standard 3 row alert banner background swirl – purple swirl graphic background none – no background (transparent)
<TR>	Define table row. (For alert banner background, there must be at least three rows per table.)

**Key:**

- \* tag not HTML 3.2 compliant
- ◆ tag requires keyword given

**Example:** The following is a sample HTML document with the recommended tags for a Virtual Channel client.



```

example - Notepad
File Edit Format Help
<table bgcolor="alert">
<tr>
<font color="yellow">
<center><big><b>ACME CABLE TV</b></big></center><br>
<center><big><b>Job Line</b></big></center><br>
<font color="white"><center><b>Professional, Technical and Managerial</b></center>
<tr>
<font color="black">
JOB:           Sales Engineer III<br>
LOCATION:       Suwanee<br>
SALARY:       $20.82 / HR Full-time<br>
EDUCATION:    4 YR Degree<br>
TELEPHONE:    (404) 555-5555
<tr>
<font color="black">
<center><b>JOBS PRESENTED FROM THE ACME INC. WORK LINE.</b></center><br>
<center>Call (404) 555-5555 for more information or to post a job
opening.</center>
  
```

## Build a Virtual Channel Source File, Continued

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### Saving the Source HTML Files

After creating the source HTML files using the appropriate tags, you must save the files in the `/dvs/appFiles/html` directory on the DNCS. Use the **parse** utility in the `/dvs/AppServ/bin` directory to verify that the Virtual Channel client can display your files.

Perform the following steps to run the **parse** utility.

1. Create two directories.
2. Name one **good** and the other **bad**.
3. Save them in the `/dvs/appFiles/html` directory.

**Result:** The following three directories appear for HTML files:

- `/dvs/appFiles/html`
- `/dvs/appFiles/html/good`
- `/dvs/appFiles/html/bad`

4. In an xterm window, type **parse <filename>** to run the parse utility.

**Note:** Replace the `<filename>` in this entry with the name of the HTML file that you created.

**Result:**

One of the following results occurs:

- If the Virtual Channel can use your HTML file, the parse utility displays the following:  
**Parsed file <file.html>, no errors found.**  
**Moved the file to <good/file.html>.**
- If the Virtual Channel cannot use your HTML file, the **parse** utility displays the following:  
**Parsed file <file.html>, errors found.**  
**Moved the file to <bad/file.html>.**  
**Please look at <bad/file.err> for details**

**Note:** File.err lists line numbers of any lines of text that use HTML tags not recognized by the Virtual Channel client.

# Set Up a Virtual Channel Service

## Introduction

When setting up a virtual channel service, you must first complete the following tasks.

1. Set up the virtual channel service.
2. Place the virtual channel service on the Channel Map.

This section provides procedures for completing these tasks, as well as for modifying a virtual channel configuration, editing a source file, and deleting a virtual channel.

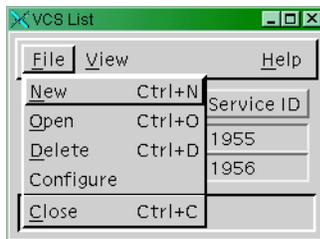
## Setting Up the Virtual Channel Service

Now that you have created your source HTML file and saved it on your DNCS for your virtual channels, you are ready to set up your virtual channel service.

Use the following steps to set up virtual channels.

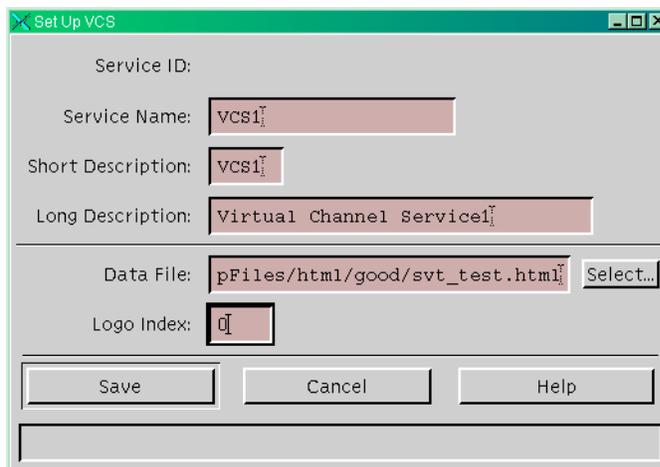
1. On the DNCS Administrative Console, click the **Server Applications** tab.
2. Click **VCS**.

**Result:** The VCS List window opens.



3. Click the **File** menu and select **New**.

**Result:** The Set Up VCS window opens.



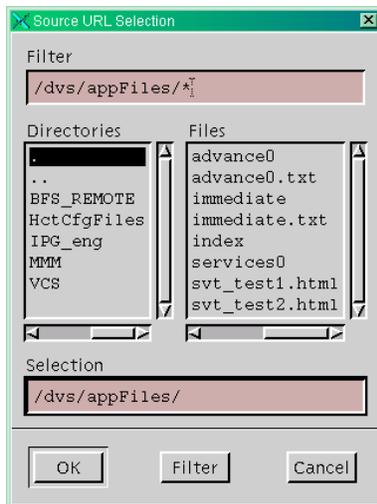
4. Type the service name, short description, and long description in their respective fields.

## Set Up a Virtual Channel Service, Continued

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5. In the Data File field, click **Select**.

**Result:** The Source URL Selection window opens.



**Note:** As part of setting up the virtual channel service, you must define the source that the service uses by linking the new service with an HTML file that you created earlier.

6. Browse to the directory and select the HTML file to display on the virtual channel.

**Note:** The recommended place to save the html files is in **/dvs/appFiles/html/good** or in one of its subdirectories.

7. Click **OK** to return to the Set Up VCS window.
8. Type the logo index in the **Logo Index** field.
9. Click **Save**.

### Placing the Virtual Channel on the Channel Map

After you set up a virtual channel service, you must place the virtual channel on a channel map. Refer to the *Digital Network Control System Online Help (UNIX) Version 3.2.0.3 for SR 2.2/3.2*.

## Set Up a Virtual Channel Service, Continued

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### Modifying a Virtual Channel Configuration

Use the following steps to modify a virtual channel configuration.

1. On the **VCS List** window, select the row of the desired service.
2. Click the **File** menu and select **Open**.
3. Make desired changes on the Set Up VCS window, and click **Save**.

### Editing a Source File

The source files for virtual channels are links. As a result of editing, the source automatically forces the channel to update on the DHCTs.

Use the following steps to edit a source file.

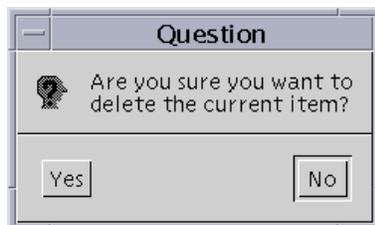
1. Open the source file in the editor and make the changes you require.
2. Use the **parse** utility to verify your changes.
3. Check for updated information.

### Deleting a Virtual Channel

Use the following steps to delete a virtual channel.

1. Select the virtual channel you want to delete in the **VCS List** window.
2. Click the **File** menu and select **Delete**.

**Result:** A Question window opens, prompting you to confirm that you want to delete the current item.



3. Click **Yes** to confirm that you want to delete the virtual channel.

# Chapter 8

## Enabling Tracing on the Application Server

### Overview

---

#### Introduction

The Application Server can track the flow of data messages between the Application Server and other network elements and store those messages in a log file. The process of tracking those data messages is called *tracing*.

This chapter provides procedures to enable and disable the tracing function and to specify the level of detail that you want to include in the log file.

#### In This Chapter

This chapter contains the following topics.

Topic	See Page
Enable Tracing	8-2
View the Log Files	8-6

# Enable Tracing

---

## Introduction

The Application Server includes a tracing function, which tracks the flow of information through Application Server processes. In order to capture this information to a log file, you must enable tracing on the Application Server.

**Important:** Cisco Services may request that you enable tracing so you can capture this information for diagnostic purposes.

## Understanding Trace Levels

You can choose to trace varying information with varying degrees of detail. You do this through the use of **trace levels**. Trace levels let you specify how much information you want to include in the log file. The following table provides valid trace levels:

Trace Level	Definition
0	Reports only errors. This level is always turned on by default whenever tracing is enabled.
1	Reports errors and debug information.
2	Reports errors, debug information, and flow information.

## The trace.cfg File

The Application Server contains a file called `/dvs/appserv/tmp/trace.cfg`. This file contains commands that let you specify the following options:

- Whether to enable or disable tracing for a specific process
- The amount of detail that you want to capture to a log file

In order to enable or disable tracing or to change the trace levels for a process, you must edit the `trace.cfg` file.

After you make changes to the `trace.cfg` file, you can run the `/dvs/appserv/bin/tools/showTracing` utility to put the changes into effect. If you do not run the `showTracing` utility, any changes that you made to the `trace.cfg` file may not take effect immediately. It is not necessary to restart any Application Server processes for changes to take effect.

## Viewing Tracing Options

Complete these steps to view the tracing options contained in the `trace.cfg` file.

1. In an xterm window on the Application Server, type **more trace.cfg** and press **Enter**.  
**Result:** A list of tracing options displays on the screen.
2. Examine the list of tracing options to determine which functions you want to enable.
3. Type the **Ctrl** and **C** keys simultaneously to exist the more utility.
4. Go to **Syntax For the trace.cfg File**, next in this section.

## Enable Tracing, Continued

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### Syntax For the trace.cfg File

You must enter the trace.cfg entries using the following syntax:

**tracename programcontext tracelevel**

The following table explains each component of the trace.cfg entry. Use the components to build entries for the trace.cfg file.

Part	Description
tracename	Identifies the subset of code within an executable file that you want to trace. The <b>tracename</b> component can be the trace name that was registered in the executable code, or it can be the library file name without the lib and .* extensions.  The tracename component is optional. You can include tracename to turn on tracing for a given subset of code, such as a library. If it is omitted, tracing is turned on in all contexts for the tracename.
programcontext	Identifies the process that you want to trace. The <b>programcontext</b> component can be the name of the executable file or the trace name that was registered in the executable code.
tracelevel	Identifies the level of detail that you want to capture for this process.

#### Examples:

**\_ipgui 2**      The programcontext is \_ipgui, and the tracelevel is 2. This entry starts a level 2 trace on the \_ipgui process.

**gui \_ipgui 1**      The tracename is gui, the programcontext is \_ipgui, and the tracelevel is 1. This entry starts a level 1 trace on code labeled gui in the \_ipgui process. (This code may be in the gui library)

**All \_ipgui 1**      The tracename is all, the programcontext is \_ipgui, and the tracelevel is 1. This entry starts a level 1 trace on all code in the \_ipgui process.

**Important:** To enable the tracing function, go to **Enabling the Tracing Function**, next in this section.

## Enable Tracing, Continued

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### Enabling the Tracing Function

In order to enable or disable tracing for an Application Server process, you must edit the `/dvs/appserv/tmp/trace.cfg` file. Each line in this file represents a trace command for an Application Server process.

Lines that begin with a pound sign (`#`) are comments. The tracing function ignores these lines. Therefore, in order to disable tracing, you can simply add a pound sign to the beginning of the corresponding line.

Also, some of these comment lines may contain trace commands that have been disabled. To enable tracing, you can simply remove the pound sign from the beginning of those lines.

Follow these steps to enable the tracing function for an Application Server process:

1. In an xterm window on the Application Server, type `cd /dvs/appserv/tmp` and press **Enter**.  
**Result:** The `/dvs/appserv/tmp` directory becomes the working directory.
2. Type `vi trace.cfg` and press **Enter**.  
**Result:** The `trace.cfg` file opens.
3. Does the file contain any comment lines that correspond with the tracing function you want to enable?
  - If **yes**, remove the `#` from the beginning of that line and go to step 5.
  - If **no**, go to step 4.
4. Use the arrow keys to scroll to the bottom of the file and add the appropriate entry for the tracing function you want to enable. See **The `trace.cfg` File** earlier in this section for more information on writing `trace.cfg` entries.
5. Type `:wq` to save and close the file.
6. Type `dvs/appserv/bin/tools/showTracing` to put the changes into effect.  
**Important:** If you do not perform this step, the changes that you made will not be put into effect.

## Enable Tracing, Continued

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### Disabling the Tracing Function

Follow these steps to disable the tracing function for an Application Server process:

1. In an xterm window on the Application Server, type `cd /dvs/appserv/tmp` and press **Enter**.

**Result:** The /dvs/appserv/tmp directory becomes the working directory.

2. Type `vi trace.cfg` and press **Enter**.

**Result:** The trace.cfg file opens.

3. Find the entry that corresponds with the tracing function you want to disable.

4. Place the cursor at the beginning of the line you want to disable and type `#`.

**Note:** It is a good idea to *comment out* the entry instead of deleting it. By doing so, you can easily enable the command later if necessary. To comment out an entry, add a `#` to the beginning of the line containing the entry.

5. Type `:wq` to save and close the file.

6. Type `dvs/appserv/bin/tools/showTracing` to put the changes into effect.

# View the Log Files

---

## Introduction

The Application Server captures various kinds of trace information to various log files. Those log files are stored in two directories: `/var/log/dnscsLog` and `/dvs/appserv/tmp`.

- The files in `/var/log/dnscsLog` only contain error message and process start/stop messages. The Application Server automatically deletes these log files after three days.
- The files in `/dvs/appserv/tmp` contain all of the process output that is captured. The Application Server automatically deletes these log files after seven days.

## The Logger Utility

The Application Server includes a utility called *Logger* that manages the size, name, and placement of the log files in the `/dvs/appserv/tmp` directory. Logger stores these files for seven days. Logger creates a new log file for each traced process every day or when the previous log file reaches a pre-determined size. When Logger creates a new log file, it closes the old file and compresses it using the `gzip` utility. A compressed file is renamed to include a `.gz` extension.

## Viewing the Log File

To view the data in a zipped log file, type `gzip -dc <filename>.gz` and press **Enter**. In this command, `<filename>` is the name of the file you want to view. When you enter this command, the Application Server creates an unzipped file without the `.gz` extension.

For example, to view the data in `vcServer.101.gz`, type `gzip -dc vcServer.101.gz` and press **Enter**. The Application Server creates an unzipped file called `vcServer.101`.

## View the Log Files, Continued

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### Log File Naming Conventions

Log files for individual processes are stored in the `/dvs/appserv/tmp` directory. These files are named after the process that they traced, and the filename contains a three-character extension. For example, **ppvfileserver.201** contains trace information for the `ppvfileserver` process.

The first character of the three-character extension identifies the day of the week that the information was captured:

Character	Day of the Week
0	Sunday
1	Monday
2	Tuesday
3	Wednesday
4	Thursday
5	Friday
6	Saturday

The second and third characters number the files that were created for a specific process during a specific day, beginning with 00 and going through 99.

Examples:

- The **vcServer.400** file contains the first section of trace information for last Thursday for the `vcServer` process.
- The **bfsRemote.003** file contains the fourth section of trace information for last Sunday for the `bfsRemote` process.

If any processes are running multiple instances, such as the `ipgServer`, the log files will be named after the `programContext` instead the `programName`. For example, **ipgServer-eng.201** contains the second section of trace information for last Tuesday for the `ipgServer-eng` process.

# Chapter 9

## Customer Information

### If You Have Questions

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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.

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# Glossary

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<b>App Server</b>	Application Server. A computer workstation and server used to execute the application programs, which provide an interface for downloading application data to the DHCTs. App Server works in conjunction with the DNCS and the two computers share a common database.
<b>Application Server</b>	<i>See</i> App Server.
<b>ASI</b>	Asynchronous Serial Interface.
<b>ATM</b>	Asynchronous Transfer Mode. A network protocol designed to handle all aspects of multimedia: video, audio, and data.
<b>ATM Switch</b>	A device that receives digital data from the DNCS and AppServer using two separate PVCs. The switch uses classical IP over ATM to send digital data to a router on the forward data channel.
<b>BFS</b>	Broadcast File System. Primary interface (means of communication) between the App Server and the DHCTs that are connected to the network.
<b>BFS BIG</b>	A device that processes the data it receives and sends it to the data QAM modulator.
<b>BIG</b>	Broadband Integrated Gateway. A device that provides a data pipeline from the DNCS to the DHCTs.
<b>Brick mode</b>	A state in which a DHCT displays no video or audio and the front panel LED only displays four dashes (“----”). This state is controlled through the use of a brick mode avoidance package. If the DHCT is not authorized for this package, then the DHCT enters brick mode. Brick mode is sometimes called “Allow Service Disconnect.”
<b>CA</b>	conditional access. Consists of the system, software, and components necessary to provide for selective access or denial of specific services in a network. Establishes means by which a cable service provider can collect subscriptions or other payments for services received.
<b>CableCARD</b>	<i>See</i> POD module.
<b>CAM</b>	Conditional Access Manager. Network encryption control, entitlement definition and management, and authorization control ( <i>see</i> PowerKEY).
<b>CAQAM</b>	Conditional Access Quadrature Amplitude Modulator.

## Glossary, Continued

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<b>carousel</b>	Transports data modules and application server processes from the BFS server to the DHCT. For each new application server process that registers with the BFS, a new data carousel is created and the ID information is updated in the BFS directory structure. <i>Also known as Data Carousel or Data Pump.</i>
<b>CATV</b>	cable television.
<b>Certification Revocation List</b>	<i>See CRL.</i>
<b>CF Session</b>	Continuous Feed Session. Defines and allocates resources that the network uses to deliver a particular service to subscribers. A CF Session will remain intact until the DNCS operator manually tears it down.
<b>Channel</b>	A signal space of a specified bandwidth. The 6 MHz band space used for the video, audio, and game data carriers. Also used to identify the service provided on a particular channel.
<b>Channel Map</b>	A set of channels that specific subscribers are authorized to receive through their DHCTs.
<b>Channel Mapping</b>	Placing an available television channel signal to appear at any desired channel marking on a customer's HCT.
<b>Comment out</b>	To add a # (pound sign) to the beginning of a line in a configuration file. The Application Server ignores any lines that begin with a #.
<b>Copy-protected content</b>	Video and/or audio content that is coded to prevent it from being copied by recording devices, such as digital video recorders or personal computers
<b>CRL</b>	Certification Revocation List; a list of host devices that are not authorized to duplicate copy-protected content.
<b>Data carousel</b>	<i>See carousel.</i>
<b>Data pump</b>	<i>See carousel.</i>
<b>DBDS</b>	Digital Broadband Delivery System. The entire network architecture of Cisco's digital system that ultimately provides signal to and from a subscriber's DHCT. The DBDS consists of five areas: sources, headend, transport network, hub, and access network.

## Glossary, Continued

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<b>Demodulator</b>	Receives information such as billing and performance monitoring data in a reverse path from the DHCT and returns it to the DNCS for processing.
<b>DHCT</b>	Digital Home Communications Terminal. Cisco's digital set-top converter that is two-way capable for interactive services. <i>See also</i> Explorer.
<b>DNCS</b>	Digital Network Control System. A computer server used to monitor and control the DBDS network elements. Generally located at the DBDS headend, although it may be located elsewhere and remotely connected to the DBDS.
<b>ECM</b>	Entitlement Control Message. System-wide information that "unlocks" an encrypted service by transmitting control words. Each ECM is unique for each service, enables cryptographic partitioning so that different Eas can selectively grant access to their own services.
<b>Element</b>	Refers to DBDS devices, groups of devices, and software components that must be "provisioned" from the DNCS. <i>Also known as</i> system components.
<b>Explorer®</b>	Cisco's trademarked name for the Digital Home Communications Terminal. Also known in the CATV industry as a set-top box.
<b>FAT channel</b>	Forward Application Transport channel. Carries programming information (content data) using MPEG-2 transport streams modulated onto RF signals. These channels transmit data at a fast rate (at least 27 Mbps), and therefore require large amounts of bandwidth; 54 MHz to 860 MHz of the broadband spectrum may be reserved for FAT channels.
<b>FTP</b>	File Transfer Protocol. Ability to download files from or upload files to remote computer systems on a network, such as Internet.
<b>GQAM</b>	gigabit quadrature amplitude modulation.
<b>Headend</b>	A headend is the location of the network elements that processes the signal by receiving and preparing the source signals and making them ready for the transport network. <i>See also</i> network elements.
<b>HFC</b>	hybrid fiber coax. Consists of fiber optic transmission systems extending from a hub to HFC nodes, and a coax bus network extending from the HFC nodes to the DHCTs within the subscriber's home.

## Glossary, Continued

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<b>Hub</b>	Physical locations designed to serve a specific number of subscribers, usually 50 to 15,000. May be collocated with the headend or miles away from the headend. Hubs receive, modulate, and boost the signal prior to sending it to the network of HFC nodes for distribution to the subscriber. Hubs usually contain QPSK modulators/ demodulators that establish the two-way communications with the DHCTs.
<b>Interstitial</b>	Programming that appears on PPV channels between events, such as general programming or an advertisement.
<b>IPG</b>	Interactive Program Guide. Cisco's name for the on-screen program guide provided by the Explorer DHCT.
<b>IPPV</b>	impulse pay-per-view. Service for which cable subscribers can electronically order program events using two-way (or reverse path) methods. Subscribers are charged a user fee for individual program events. <i>See also</i> PPV.
<b>IPPV Event</b>	A segment offered as an IPPV package; a boxing match could be an event offered as an IPPV packet. One IPPV event=one IPPV package.
<b>IPPV Package</b>	A package created to contain only one IPPV event and offered to subscribers.
<b>LED</b>	light-emitting diode. Semiconductor device that converts electrical energy into light.
<b>Logger</b>	A utility on the Application Server that manages the size, name, and placement of the log files in the /dvs/appserv/tmp directory.
<b>MAC address</b>	Media Access Control address. Unique physical address embedded into a network device. Similar to a serial number.
<b>MIB</b>	Management Information Base (SNMP data structure).
<b>Modulator</b>	Sends control and authorization information from the DNCS to the DHCT.
<b>MPEG</b>	Moving Picture Experts Group. An international video compression standards-setting group working under the supervision of the International Standards Organization (ISO) and the International Electrotechnical Commission (IEC). MPEG's mission is to develop standards for compressed full-motion video, still image, audio and other associated information.

## Glossary, Continued

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<b>MPEG-2</b>	International video compression standard supporting the interlaced video format used by the TV industry and allowing a scaling of image quality and transmission bandwidth.
<b>MSO</b>	multiple system operator. A cable company that operates more than one cable system.
<b>Narrowcast</b>	Narrowcast is a term that describes a cable TV signal that is available to only a subset of the subscriber base. Narrowcasting allows cable operators to reuse the same frequency for different content. Narrowcasting is accomplished by placing QAM modulators in the plant closest to the subscribers' homes. For example, operators can offer popular cable TV shows, such as Animal Planet and HGTV, on frequency A in one part of the plant, and offer local programming on the same frequency in another part of the plant.
<b>Network elements</b>	Devices typically located at the headend, which include satellite receivers (IRT, IRD), Real-Time Encoder (RTE), BIG, QAM modulator, DNCS, and AppServer. <i>Also known as system components. See element.</i>
<b>On-demand session</b>	Tangible service, such a movies, that the on-demand network delivers to the subscriber. As the on-demand network matures, the on-demand sessions or MPEG programs routed through the network will broaden to offer services such as music, video conferencing, Internet information, and time-shifted TV, including HDTV.
<b>PIN</b>	personal identification number.
<b>POD module</b>	Point-of-Deployment module; approximately the size of a credit card and inserts into a host device (either a DHCT or cable-ready television) to provide conditional access to secure digital content.
<b>PowerKEY® Conditional Access system</b>	Cisco's trademarked name for the hardware and software encryption and decryption of digital signal. Uses secret key, public key, and private key.
<b>PowerTV®</b>	PowerTV's trademarked name for their operating system software and integrated circuits created for high-speed processing and presentation of interactive graphics and audio for the DHCT.
<b>PPV</b>	pay-per-view. Service for which cable subscribers are charged a user fee for individual program events. <i>See also IPPV.</i>
<b>PPV barker</b>	A screen that the DHCT displays to advertise an event or let a subscriber order a PPV event.

## Glossary, Continued

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<b>PPV window</b>	A period of time during which a PPV action occurs. The period of time that a window is present often determines when the PPV service displays a specific type of advertisement or purchase option.
<b>provision</b>	The process of preparing a device or service so that the DNCS recognizes the device, which allows the device to operate properly.
<b>PSI</b>	program-specific information. Associated with MPEG-2 digital configuration; system data comprised of PAT, PMT, CAT, and NIT.
<b>PVC</b>	permanent virtual circuit. A data path that someone creates manually and that continues to exist on the DBDS until someone manually removes it.
<b>PVR</b>	personal video recorder. A service that automatically and digitally allows television programs to be recorded without the use of videotape and saved to a hard drive located inside the recorder much like a computers hard drive. The program can then be deleted, saved to a tape, or left on the hard drive. A PVR allows you to pause live broadcast for interruption, such as creating your own instant replays.
<b>QAM</b>	quadrature amplitude modulation. A frequency modulation technique primarily used for program audio and video. QAM supports data rates from 27 to 36 Mbps.
<b>QAM modulator</b>	A device that uses QAM techniques to modulate a digital signal onto an HFC network to deliver voice, video, and data to a DHCT.
<b>QPSK</b>	Quadrature Phase-Shift Keying.
<b>QPSK Modulator/ Demodulator</b>	The QPSK modulator works with the QPSK demodulator and the DHCT to provide forward signaling and a reverse communications path for interactive video and data services. The QPSK modulator and demodulator convert digital bit streams to RF format and RF signals to digital bits, respectively.
<b>RF</b>	radio frequency.
<b>RMA</b>	Return material authorization.
<b>RPPV</b>	reservation pay-per-view. Requires the subscriber to use the telephone to reserve a PPV event.
<b>SAM</b>	Service Application Manager. Associates a specific service with an application that defines the medium to be used for that service, such as the World Wide Web. The SAM maintains the application in a specific directory to be used with need by DHCTs.

## Glossary, Continued

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<b>SAP</b>	second audio program. A feature that allows cable service providers to offer subscribers a second language option for their programming.
<b>SARA</b>	Cisco Resident Application. The set of operating programs that is “permanently” loaded into the DHCT. These applications are immediately available to the subscriber upon activation of the DHCT.
<b>Service gateway</b>	Front-end gateway for the delivery of service through the DBDS. Provides DSM-CC signaling as required to establish network resource for service delivery.
<b>Service group</b>	A QAM modulator (or a cluster of QAMs) that is installed for delivering on-demand services to an associated population of DHCTs. The association of a DHCT to a specific service group is determined by first identifying the QAM modulator (or a cluster of QAMs) that a DHCT can receive.
<b>Session</b>	<i>See</i> CF session.
<b>shared key authentication</b>	A type of authentication that assumes each station has received a secret shared key through a secure channel independent from an 802.11 network. Stations authenticate through shared knowledge of the secret key. Use of Shared Key authentication requires implementation of the 802.11 Wireless Equivalent Privacy algorithm.
<b>SI</b>	system information.
<b>source</b>	In the DBDS, a source is the actual program or data that is made available to the DHCT as a service to the subscriber. Sources can include: MPEG-2 digital broadcast services that are non-secure, non-encrypted, audio/video programs; Internet connection from an Internet service provider (ISP); digital PPV that is a secure, encrypted, digital MPEG-2 program; digital music services; analog programs that are modulated in the traditional format or converted into MPEG-2 format
<b>SR</b>	System Release. Cisco’s software release package for components of the DBDS.
<b>Staging</b>	The process of loading the necessary software and security information into the Explorer DHCT prior to deployment in subscriber’s homes.

## Glossary, Continued

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<b>TED</b>	Transaction Encryption Device. Provides Conditional Access control for the PowerKEY software within the DNCS and works directly with the DNCS to maintain security throughout the DBDS.
<b>TED FX</b>	A TED that provides faster transactions. <i>See</i> TED.
<b>Tracing</b>	The process of tracking the flow of data messages between the Application Server and other network elements.
<b>transport network</b>	Provides the communication link enabling audio, video, and data to be transported from the headend to the hub. It involves a network of switching and transmission equipment and may include AM fiber and SONET technologies.
<b>transport stream</b>	An MPEG transport stream is a data communications signal that is formatted in accordance with protocol definition defined in the MPEG-2 specification ISO IEC 13818. An MPEG transport stream may carry voice, video, or data information. The MPEG data transmission protocol transports real-time data.
<b>Un-Config</b>	User-to-network configuration. DNCS to DHCT configuration message.
<b>UNIX</b>	An operating system that is less computer/server-specific than other operating systems. UNIX is widely used in the telecommunications industry and by the Internet.
<b>USB</b>	universal serial bus. A port on a PC or other device that provides connection to peripherals, such as CD-ROM drives, printers, modems, and keyboards.
<b>VCR</b>	videocassette recorder.
<b>VCS</b>	Virtual Channel Server.
<b>VCR Commander™</b>	Cisco's trademarked name for an external device that allows subscribers to record programs on their VCR using their Explorer DHCT.
<b>Virtual channel</b>	A channel that displays text (using a special limited HTML command set) when a subscriber tunes to that channel.

## Glossary, Continued

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<b>VOD</b>	video-on-demand. The ability of a subscriber to select a program event and watch it within moments of selection. VOD allows pausing and rewinding of the event.
<b>VPN</b>	Virtual Private Network. A group of two or more computer systems typically connected to a private network (a network built and maintained by an organization solely for its own use) with limited public-network access that communicates “securely” over a public network.

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