



Integrating IP/TV with an ACNS Network

This appendix describes the steps involved in setting up IP/TV-ACNS network interoperability and contains the following sections:

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Configuring IP/TV Program Manager

To set up interaction between IP/TV and an ACNS network, you must enter the ACNS network information in the Preferences window of IP/TV Program Manager.

To enter ACNS network information in the IP/TV Program Manager Preferences window, follow these steps:

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- Step 1** Go to the Preferences window of IP/TV Program Manager, and scroll down to the ACNS Network Information section.
 - Step 2** Under the ACNS Network Information section, enter the IP address or host name of the Content Distribution Manager in the CDM Host Name/IP Address field.
 - Step 3** Enter a valid username for the Content Distribution Manager in the CDM Username field.



Note The user must have the admin user role assigned from the Content Distribution Manager. For more information on assigning roles, refer to *Cisco ACNS Software Deployment and Configuration Guide, Release 5.4*.

- Step 4** In the CDM Password field, enter the password to validate the user on the Content Distribution Manager.
- Step 5** Repeat the password in the Confirm CDM Password field.
- Step 6** Enter the time interval (in seconds) at which you want IP/TV Program Manager to poll the Content Distribution Manager for channel information.
Valid values are between 10 and 600 seconds. The default value is 60 seconds.
- Step 7** In the PM FQDN List field, enter the fully qualified domain names by which this IP/TV Program Manager is known in the network. You can enter multiple names separated by commas. You can use either the IP address or the domain name of the IP/TV Program Manager host.



Note The name of the origin server for the ACNS network channels must match the entries in the IP/TV Program Manager FQDN List field.

- Step 8** Click the **Revise Preferences** button to submit the ACNS network information. Entering the ACNS network information in the ACNS Network Information section of the IP/TV Program Manager Preferences window configures IP/TV Program Manager so that it is integrated with the ACNS network.
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Creating ACNS Network Websites and Channels

To distribute IP/TV programs over the ACNS network, you need ACNS network websites and channels that use IP/TV Program Manager as the origin server. IP/TV programs are then associated with the ACNS network channels for distributing over the ACNS network. The following sections describe creating ACNS network websites and channels and assigning IP/TV programs to an ACNS network channel.

Creating an ACNS Network Website with Content Routing Support

To use the content routing feature of the Cisco ACNS network, you must have the fully qualified domain name (FQDN) of the Content Router configured in the CR FQDN field of the New Channel Creation window in the ACNS Content Distribution Manager GUI. You can configure the Content Router while creating a new website or configure it later by editing the settings for an existing website.

To create an ACNS network website with content routing for IP/TV programs, follow these steps:

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- Step 1** From the Content Distribution Manager GUI, choose **Channels > Web Sites**. The Web Sites window appears.
- Step 2** Click the **Create New Web Site** icon in the taskbar. The Creating New Web Site window appears.
- Step 3** Enter a unique name for the website in the Name field.
- Step 4** Choose a content provider from the drop-down list.



Note The content provider must be predefined in the Creating New Content Provider window. For more information on content providers, refer to the *Cisco ACNS Software Deployment and Configuration Guide, Release 5.4*.

Step 5 Enter the IP address or host name of your IP/TV Program Manager in the Origin Server field.



Note Make sure that the entry in the Origin Server field matches the entry in the PM FQDN list field in your IP/TV Program Manager Preferences window.

Step 6 Enter the host name or IP address of the Content Router in the Request Routed FQDN field.

Step 7 Click **Submit** to create a new ACNS network website.

For more information about creating and editing ACNS network websites, refer to *Cisco ACNS Software Deployment and Configuration Guide, Release 5.4*.

To add a Content Router to an existing website, follow these steps:

Step 1 From the Content Distribution Manager GUI, choose **Channels > Channels**.

The Channels window appears.

Step 2 Click the **Edit** icon next to the name of the channel that is associated with the website you want to modify. The Modifying Channel window appears.

Step 3 Click the **Edit Website** icon in the Modifying Channel window. The Modifying Website window appears.

Step 4 Enter the host name or IP address of the Content Router in the Request Routed FQDN field.

Step 5 Click **Submit** to save the changes.

Creating an ACNS Network Channel

To create an ACNS network channel to carry IP/TV programs, follow these steps:

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- Step 1** From the Content Distribution Manager GUI, choose **Channels > Channels**.
The Channels window appears, listing all the channels in your ACNS network.
- Step 2** Click the **Create New Channel** icon in the taskbar.
The Creating New Channel window appears.
- Step 3** Enter a unique name for the channel in the Name field.
- Step 4** Choose a content provider from the drop-down list.
- Step 5** From the drop-down list, choose the ACNS network website with which you want to associate the channel.



Note When creating an ACNS channel to carry IP/TV programs, you must associate it with an ACNS network website that has IP/TV Program Manager as the origin server.

- Step 6** Take one of these actions:
- If the channel is being created for carrying IP/TV scheduled programs, check the **Live Channel** check box, and go directly to [Step 14](#).
 - If the channel is being created for IP/TV on-demand programs, do not check the Live Channel check box. Follow [Step 7](#) through [Step 13](#).
- Step 7** Choose the appropriate options in the Acquisition and Distribution Properties section. [Table B-1](#) describes the options.

Table B-1 Acquisition and Distribution Properties

Option	Description
Distribution Priority	Sets the content distribution priority. Available options are High, Normal, and Low. The default value is normal. This field is mandatory.
Multicast only, Multicast/Unicast, or Unicast only	Sets the mode of delivery. Available options are Multicast only, Multicast/Unicast, or Unicast only. This field is mandatory.
Disable Encryption for Distribution	Disables encryption for distribution when checked. This field is optional.

- Step 8** Enter a valid file path in the Manifest File URL field as shown in this example:
`http://programmanagerhost/manifest/optional_path/manifest_file_name.xml`
 where *programmanagerhost* is the IP address or host name of IP/TV Program Manager, *manifest_file_name.xml* is the name of the manifest file, and *optional_path* denotes any subdirectories that you want to create.



Note The top-level directory should be named *manifest*.

- Step 9** In the Channel Quota field, enter the maximum content size in megabytes for pre-positioning content on the channel.
- Step 10** In the Update Interval field, enter the time interval for Content Engines subscribed to the channel to update the manifest file information. Valid values are between 0 and 52560000 minutes.



Note We recommend that you set a reasonably low value for update interval to enable frequent update of manifest file information.

- Step 11** In the Manifest Username field, enter an administrative username for IP/TV Program Manager.

- Step 12** In the Manifest Password field, enter the password to validate the user on IP/TV Program Manager.
- Step 13** In the Confirm Password field, reenter the password for confirmation.
- Step 14** Click **Submit** to submit the new channel information to the Content Distribution Manager.



Note Only fields specific to IP/TV in the Creating New Channel window are discussed in this section. For more information about ACNS network channels, refer to the *Cisco ACNS Software Deployment and Configuration Guide, Release 5.4*.

Setting Up FTP Access on IP/TV Server

When IP/TV is set up as part of an ACNS network, the root Content Engine fetches on-demand content from IP/TV Broadcast Server and distributes it to other Content Engines subscribed to that channel. If the root Content Engine fails, one of the other Content Engines at the root location takes over as root Content Engine and makes sure that the failure does not affect the functioning of the ACNS network. For this situation to occur, the root Content Engine and other Content Engines at the root location must have access to Cisco FTP Server. Therefore, when IP/TV is integrated with an ACNS network you must provide FTP access for the root Content Engine and the other Content Engines at the root location to IP/TV Broadcast Server. To do this, you must add the IP address of the root Content Engine as well as other Content Engines at the root location to the Allowed Hosts pane of the Cisco FTP Server window. If you have multiple Content Engines at the root location, you can use a subnet mask to configure access privileges.

To configure host access privileges on Cisco FTP Server, follow these steps:

Step 1 Double-click the Cisco FTP Server icon in the system tray of your device to open the Cisco FTP Server window. Alternatively, choose **Start > Programs > Cisco FTP Server > Cisco FTP Server**.

The Cisco FTP Server window opens.

Step 2 Navigate to the Security tab.

Step 3 Uncheck the **Automatically Match IP/TV Privileged Hosts** check box.

The Allowed Hosts pane and the Add button become enabled.

Step 4 Click **Add**.

The FTP Allowed Hosts dialog box appears.

Step 5 In the FTP Allowed Hosts dialog box, click **Host**, and enter the IP address or name of a host, or click **Subnet**, and enter the IP address and significant bits of a subnet mask.

Step 6 Click **OK**.

Only the hosts or subnets that you added are allowed to access Cisco FTP Server.

In the Allowed Logins pane of the Cisco FTP Server Security tab, make sure that the Allow Anonymous FTP Logins check box is checked.

For more information on Cisco FTP Server, refer to the *Cisco IP/TV Broadcast Server User Guide, Release 5.1*.

Distributing IP/TV Programs over an ACNS Network

To distribute IP/TV programs over ACNS networks, you must associate IP/TV programs with ACNS network channels. You can associate an IP/TV program with an ACNS network channel by entering the ACNS network website and channel information while creating the program, or at a later stage using the Edit link or Duplicate link in the IP/TV Scheduled Programs window.

For distributing IP/TV on-demand programs on the ACNS network, you must have at least one ACNS network channel that is not a live channel. Based on the information in the manifest file of the channel, the root Content Engine in the ACNS network acquires on-demand content from IP/TV Broadcast Server and distributes it to the edge Content Engines that serve requests from clients for the program.

For scheduled programs, ACNS software considers all scheduled programs as live streams. You must therefore associate scheduled programs with a live channel of the ACNS network in order to be able to distribute them over the ACNS network.

For more information on distributing IP/TV programs over an ACNS network, see [Chapter 6, “Managing Scheduled Programs,”](#) and [Chapter 5, “Managing On-Demand Programs.”](#)

Monitoring ACNS Network Import Status

The import status of IP/TV scheduled programs assigned to an ACNS network channel is displayed in the Scheduled Programs window of IP/TV Program Manager. The ACNS network import status of the program is displayed in the ACNS Network Import Status field corresponding to the program. The import status is displayed as a hyperlink. The ACNS Network Import Status field has three possible values:

- Pending: The import has been initiated but is not yet completed.
- Imported: The import has been completed.
- Failed: The import has failed.

Click the Import Status link to go to the ACNS Network Import Status window that displays detailed information about the content import. The ACNS Network Import Status window displays an error message if the import fails. Click the Retry ACNS Network Import link to retry the import.

Playing IP/TV Programs from an ACNS Network

You can use the IP/TV Viewer Program Listings window or the web-based program guide (WBPG) of IP/TV Program Manager to access the IP/TV programs imported to an ACNS network. To play a program, click the name of the program that you want to play.

Scheduled programs using the live multicast and live-split delivery mode over the ACNS network are listed twice in the Program Listings window and the WBPG of IP/TV Program Manager.

For example, Program1 using live multicast and live-split delivery mode appears twice in the Program Listings:

```
Program1  
Program1 (unicast)
```

In the first instance, the program is served as a multicast, whereas in the second case, it is served as a unicast stream for users who are unable to join the multicast.

Scheduled programs using audio, video, and SlideCast streams have two unicast entries in the program listings. For example, Program1 uses audio, video, and SlideCast streams and is listed as:

```
Program1  
Program1 (unicast audio and video)  
Program1 (unicast slidecast)
```

If you want to receive the program as a unicast, you must choose both unicast entries to watch all three streams. The SlideCast stream appears in a separate window, whereas audio and video streams are played in one window.

If the ACNS network delivery mode is live split only, the program is listed only once in the IP/TV Viewer Program Listings window and the WBPG.

Playing Nonhinted On-Demand Programs over an ACNS Network

The Cisco Streaming Engine supports only hinted files (MOV and hinted MP4 files) for streaming. If you are creating a file-based IP/TV program for streaming over an ACNS network, make sure that you use only hinted files such as those with .mov or .mp4 extensions.



Note

Hinted files contain hint tracks, which store packetization information that tells the streaming server how to package the media data. The streaming server uses the packetization information in the hint tracks to stream the media data to the network.

However, you can pre-position on-demand programs based on nonhinted files such as .mpg files on Content Engines in an ACNS network. Pre-positioned on-demand programs based on nonhinted files are not listed in the IP/TV Viewer program listings or in the web-based program guide.

To watch IP/TV on-demand programs based on nonhinted files when IP/TV is integrated with an ACNS network, use the TV-out feature of the ACNS software. For more information about enabling the TV-out feature and creating playlists, refer *Cisco ACNS Software Configuration Guide for Centrally Managed Deployments, Release 5.4*.

