



# Live WMV Stream from Cisco TelePresence Content Server to Cisco MXE 3500 to Cisco Digital Media Player

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## Prerequisites

- Cisco TelePresence Content Server (TCS) Release 5.0 or later.
- Cisco Media Experience Engine (MXE) 3500 Release 3.2 or later.
- Cisco Digital Media Player (DMP) Device Manager 5.0 or later.
- Administrator login credentials for the Cisco TCS, Cisco MXE 3500, and Cisco DMP
- To view a multicast stream, your network must be multicast enabled.
- The Cisco MXE 3500 must have a Live Streaming feature license installed.

## Cisco TelePresence Content Server Configuration

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## Content Server Configuration for a WMV Unicast Stream

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- [Testing the Configuration for a WMV Unicast Stream, page 3](#)

## Configuring the Publishing Point for a WMV Unicast Stream

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- Step 1** RDC (remote desktop connection) to the Cisco TCS.
- Step 2** Click **Start > All Programs > Administrative Tools > Windows Media Services**.
- Step 3** From the Windows Media Services window, navigate to **Publishing Points > TCSUnicastTemplate**.
- Step 4** Right-click **TCSUnicastTemplate**, select **Duplicate**.
- Step 5** Enter **mxe-unicast** as the new Publishing Point Name. You have now created a new static publishing point called mxe-unicast.
- Step 6** Go to the [“Configuring the Media Server for a WMV Unicast Stream” section on page 2](#).

## Configuring the Media Server for a WMV Unicast Stream

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- Step 1** Open up a browser session and log in as administrator to the Cisco TCS.
- Step 2** Click the Management tab.
- Step 3** Click **Recording Setup > Media Server Configurations**.
- Step 4** Click **+ Add Windows Media Streaming Server Configuration**.
- Step 5** Enter a unique name.
- Step 6** In the Server Settings section, click **Support Live Unicast Streaming**. The Live Unicast Streaming Settings section displays below the Server Settings section.
- Step 7** In the Live Unicast Streaming Settings section, enter the following information:
  - For Server Push port, enter **8080**.
  - For the Publishing Point, select **Use Existing**.
  - Enter the new publishing point **mxe-unicast**.
- Step 8** Click **Save**.
- Step 9** Go to the [“Configuring the Recording Alias and Template for a WMV Unicast Stream” section on page 2](#).

## Configuring the Recording Alias and Template for a WMV Unicast Stream

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- Step 1** Click on Management tab.
- Step 2** Click **Recording Setup > Recording Aliases**.
- Step 3** Click **+ Add Recording Alias**.
- Step 4** On the Add recording alias page, enter the following information:
  - In the Recording alias section, enter a Name for the recording alias, such as **TCS-3500 Live WMV**, and choose **Personal** for the Recording alias type.



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**Note** The System Administrator must own this recording alias.

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- b. In the dialing properties section, enter the H323ID, e164alias, SIP URI, and SIP display name.
  - c. Click **Save**.
  - d. In the Recordings Settings section, click **Add** at the end of the Template line. The add template window appears.
- Step 5** On the Add a template page, enter the following information:
- a. In the Template section, enter a template name, such as **TCS-3500 Live Template**, and check **Viewable in the Content Server web interface**.
  - b. In the Outputs to view in the Content Server web interface section, choose **Switching, Windows Media as the On-demand Format**, and Large as the Size.
  - c. In the On demand media server configuration settings section, select **Local Windows Media Streaming Server** from the Windows Media drop down list.
  - d. In the Live Stream section, check the **Live Stream** check box to enable live streaming and then select **Windows Media** as the Format and **Large** as the Size.
  - e. In the Live media server configuration settings section, select **mx-e-unicast** as the media server configuration. This is the media server that you created in the [“Configuring the Media Server for a WMV Unicast Stream”](#) section on page 2.
  - f. Click **Save** and then click **Return**. The Add Recording Alias page displays the TCS-3500 WMV Live recording alias that was being configured before creating a template.
- Step 6** Make sure the newly added template is selected in the Template drop down list.
- Step 7** Check **Show countdown before recording** option.
- Step 8** In the Default recording information, enter a name and a description.
- Step 9** In the Default recording permissions section, check **Automatically publish finished recordings** and **Allow access to all users, including guests**.
- Step 10** Scroll to the top or bottom and click **Save** and then click **Return**.
- Step 11** Go to the [“Testing the Configuration for a WMV Unicast Stream”](#) section on page 3.

## Testing the Configuration for a WMV Unicast Stream

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- Step 1** Create a recording.
- a. Open up a browser session and log in as administrator to the Cisco TCS.
  - b. Click on **Management** tab.
  - c. Click on **Recording Setup > Create Recording**.
  - d. In the Create Recording section, select the recording alias that you created for unicast.
  - e. Enter a dial number. This can be a conference bridge or an endpoint linking to a video source player.
  - f. Click **+Advanced Call Settings** and choose the appropriate values for bandwidth and call type.
  - g. Click **Place call** button.
- Step 2** Make sure that the publishing point has started automatically.
- a. Open a **Remote Desktop** session and log in to the Cisco TCS.

- b.** Launch Windows Media Services window, and verify that the unicast publishing point has started.
- Step 3** Make sure that you can view the stream from an external device.
- a.** From your local PC, launch Windows Media Player.
- b.** Press **Ctrl-U** to open Open URL dialog.
- c.** Enter the Cisco TCS unicast publishing point URL as follows:  
mms://tcs-ip-or-hostname/publishingpoint-name, such as mms://tcs-ip-or-hostame/mxe-unicast
- Step 4** Verify the video quality.
- a.** Press **Alt** to bring up the menu bar for Windows Media Player, select **View/Statistics**.
- b.** Click the **Advanced** tab and then make sure that there is no packet loss and the video quality is good.

## Content Server Configuration for a WMV Multicast Stream

- [Configuring the Publishing Point for a Multicast Stream, page 4](#)
- [Configuring the Media Server for a Multicast Stream, page 4](#)
- [Configuring the Recording Alias and Template for a Multicast Stream, page 5](#)
- [Testing the Configuration for a Multicast Stream, page 6](#)

### Configuring the Publishing Point for a Multicast Stream

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- Step 1** RDC (remote desktop connection) to the Cisco TCS.
- Step 2** Click **Start > All Programs > Administrative Tools > Windows Media Services**.
- Step 3** From the Windows Media Services window, navigate to **Publishing Points > TCSmulticastTemplate**.
- Step 4** Right-click **TCSmulticastTemplate**, select **Duplicate**.
- Step 5** Enter **mxe-multicast** as the new Publishing Point Name. You have now created a new static publishing point called mxe-multicast.
- Step 6** Enable buffering.
- a.** Select the newly added multicast publishing point and then select the **Properties** tab.
- b.** From the Category pane, select **Networking**.
- c.** From Property pane, select **Enable buffering** and then double-click **Enable buffering** to bring up the Enable Buffering Properties dialog box.
- d.** Choose **Buffer content (reduces startup latency for clients)**.
- e.** Click **OK**.
- Step 7** Go to the [“Configuring the Media Server for a Multicast Stream”](#) section on page 4.

### Configuring the Media Server for a Multicast Stream

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- Step 1** Open up a browser session and log in as administrator to the Cisco TCS.
- Step 2** Click the **Management** tab.
- Step 3** Click **Recording Setup > Media Server Configurations**.

- Step 4** Click **+ Add Windows Media Streaming Server Configuration**.
- Step 5** Enter the name **mxm-multicast**.
- Step 6** In the Server Settings section, click **Support Live Multicast Streaming**. The Live Multicast Streaming Settings section displays below the Server Settings section.
- Step 7** In the Live Multicast Streaming Settings section, enter the following information:
- For Server Push port, enter **8080**.
  - For the Publishing Point, click **Use Existing**.
  - Enter the new publishing point **mxm-multicast**.
  - Click **Save**.
- Step 8** Go to the [“Configuring the Recording Alias and Template for a Multicast Stream”](#) section on page 5.

## Configuring the Recording Alias and Template for a Multicast Stream

- Step 1** Click on **Management** tab.
- Step 2** Click **Recording Setup > Recording Aliases**.
- Step 3** Click **+ Add Recording Alias**.
- Step 4** On the Add recording alias page, enter the following information:
- In the Recording alias section, enter a Name for the recording alias, such as **TCS-3500 Live WMV**, and choose **Personal** for the Recording alias type. Make sure that the System Administrator owns this recording alias.
  - In the dialing properties section, enter the H323ID, E.164alias, SIP URI, and SIP display name.
  - Click **Save**.
- Step 5** In the Recordings Settings section, click **Add** at the end of the Template line. The add template window appears.
- Step 6** On the Add a template page, enter the following information:
- In the Template section, enter a template name, such as **TCS-3500 Live Template**, and check **Viewable in the Content Server web interface**.
  - In the Outputs to view in the Content Server web interface section, choose **Switching, Windows Media** as the On-demand Format, and **Large** as the Size.
  - In the On demand media server configuration settings section, select **Local Windows Media Streaming Server** in the Windows Media drop down list.
  - In the Live Stream section, check the **Live Stream** check box to enable Live streaming and then select **Windows Media** as the Format and **Large** as the Size.
  - In the Live media server configuration settings section, select **mxm-multicast** as the media server configuration. This is the media server that you created in the [“Configuring the Media Server for a Multicast Stream”](#) section on page 4.
  - Click **Save** and then click **Return**. The Recording Alias page displays the TCS-3500 WMV Live recording alias that was being configured before creating a template.
- Step 7** Make sure the newly added template is selected in the Template drop down list.
- Step 8** Check **Show countdown before recording** option.
- Step 9** In the Default recording information, enter a name and a description.

- Step 10** In the Default recording permissions section, check **Automatically publish finished recordings** and **Allow access to all users, including guests**.
- Step 11** Scroll to the top or bottom and click **Save** and then click **Return**.
- Step 12** Go to the [“Testing the Configuration for a Multicast Stream”](#) section on page 6.

## Testing the Configuration for a Multicast Stream

- Step 1** Create a recording.
- Open up a browser session and log in as administrator to the Cisco TCS.
  - Click on **Management** tab.
  - Click **Recording Setup > Create Recording**.
  - In the Create Recording section, select the recording alias that you created for multicast.
  - Enter a dial number. This can be a conference bridge or a endpoint linking to a video source player.
  - Click **+Advanced Call Settings** and choose the appropriate values for bandwidth and call type.
  - Click **Place call** button.
- Step 2** Make sure that the publishing point has started automatically.
- Open a Remote Desktop session and log in to the Cisco TCS.
  - Launch Windows Media Services window, and verify that the multicast publishing point has started.
- Step 3** Make sure that you can view the stream from an external device.



**Note** Your network must be multicast enabled.

- From a PC on the multicast enabled network, launch Windows Media Player.
  - Press **Ctrl-U** to open Open URL dialog.
  - Enter the Content Server multicast publishing point URL as follows:  
**http://tcs-IP-or-hostname/tcs/data/\_tcs-multicast-publishing-point-name.nsc**
- Step 4** Verify the video quality.
- Press **Alt** to bring up the menu bar for Windows Media Player, select **View/Statistics**.
  - Click the **Advanced** tab and then make sure that there is no packet loss and the video quality is good.

## Cisco MXE 3500 Configuration

The Cisco MXE 3500 ingests the live WMV stream from the Cisco TCS and transcodes it into a MPEG-2 TS stream that is fed live to the Digital Media Player (DMP) for display on a digital sign.



### Activation

The Cisco MXE 3500 appliance (the standalone or the Resource Manager device) must have a Live Streaming feature license installed.

- [Configuring an IP Capture Source on Cisco MXE 3500, page 7](#)
- [Editing the h.264\\_IP\\_Streaming Job Profile on Cisco MXE 3500, page 7](#)

## Configuring an IP Capture Source on Cisco MXE 3500

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- Step 1** From the Toolbox, expand Administration, and click **IP Capture**.
- Step 2** Click New. The New IP Capture Source... pop up appears.
- Step 3** Enter the following information:
- Name—Enter a unique name.
  - Protocol—Choose **HTTP**.
  - Address—Enter the URL for the unicast stream or the path for the .nsc file for the multicast stream.
  - Port—Enter the multicast port.
- Step 4** Click **Create**.

## Editing the h.264\_IP\_Streaming Job Profile on Cisco MXE 3500

Use the h.264\_IP\_Streaming job profile to ingest a live stream from the Cisco TCS and publish the MPEG-2 output to the Cisco DMP.

Edit the distribution profile with the appropriate multicast IP address and Port number.

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- Step 1** From the Toolbox, expand Profile Management, and click **Open Profile**. The Open Profile pop-up displays.
- Step 2** From the Profile Class drop-down, select **Job**.
- Step 3** Highlight a h.264\_IP\_Streaming, and click the **Open Profile** button.
- Step 4** Highlight Distribution and click **Open Task Profile**. Define the following parameters:
- IP address—Enter multicast IP address
  - Port



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**Note** Specify the same IP address and port for the DMP so that the DMP can ingest the multicast stream from this IP address and then export the stream to digital signage.

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- Step 5** Click **Save**.

## Digital Media Player Configuration

Select UDP as the multicast stream protocol, and enter the multicast IP address and port number configured in the Cisco MXE 3500 h.264\_IP\_Streaming distribution profile.



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**Note** For information about Cisco Digital Signs configuration, see the Guide to Documentation for Cisco Digital Media Suite at [http://www.cisco.com/en/US/products/ps6681/products\\_documentation\\_roadmaps\\_list.html](http://www.cisco.com/en/US/products/ps6681/products_documentation_roadmaps_list.html)

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# User Experience

- [Starting a Unicast Stream on the Cisco TCS, page 8](#)
- [Starting the Multicast Stream on the Cisco TCS, page 8](#)
- [Submitting the Live Job on Cisco MXE 3500, page 9](#)
- [Ending the Call, page 9](#)

## Starting a Unicast Stream on the Cisco TCS

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- Step 1** Create a recording.
- Open up a browser session and log in as administrator to the Cisco TCS.
  - Click the **Management** tab.
  - Click **Recording Setup > Create Recording**.
  - In Create Recording section, select the unicast recording alias.
  - Enter a dial number for a conference bridge.
  - Click **+Advanced Call Settings** and choose the appropriate values for bandwidth and call type.
  - Click **Place call** button.
- Step 2** Start the live stream by dialing in to the same conference bridge from a video enabled endpoint.
- Step 3** Verify that the publishing point has started.
- Open a Remote Desktop session and log in to the Cisco TCS.
  - Launch Windows Media Services window, and verify that the publishing point has started.

## Starting the Multicast Stream on the Cisco TCS

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- Step 1** Create a recording.
- Open up a browser session and log in as administrator to the Content Server.
  - Click the **Management** tab.
  - Click **Recording Setup > Create Recording**.
  - In Create Recording section, select a multicast recording alias.
  - Enter a dial number for a conference bridge.
  - Click **+Advanced Call Settings** and choose the appropriate values for bandwidth and call type.
  - Click **Place call** button.
- Step 2** Start the live stream by dialing in to the same conference bridge from a video enabled endpoint.
- Step 3** Verify that the publishing point has started.
- Open a Remote Desktop session and log in to the Cisco TCS.
  - Launch Windows Media Services window, and verify that the publishing point has started.



## Submitting the Live Job on Cisco MXE 3500

- Step 1** From the Toolbox, click **Submission > Live**.
- a. Choose the **h.264\_IP\_Streaming** job profile for the live job.
  - b. Enter the following information and then submit the job:
    - Base name—Enter a meaningful name.
    - Video Format—Choose **IP capture**.
    - IP Capture Source—Choose the unicast or multicast stream.
    - Start trigger—Choose **now**.
    - Stop trigger—Choose **IP**.



**Tip** Save the job as a template to use again for submitting a live job from Cisco TCS to a Cisco DMP.

**Step 2** Click Submit.

**Step 3** Verify the Live Job.

- Once a Live Job has been submitted, it will appear in the Job Status window.
- To verify a WMV Live Job, open the Windows Media Player on a client PC, and enter a URL that corresponds to the publishing point, such as **mms://streaming\_server/publishing\_point**.

## Ending the Call

- On the Cisco TCS, click **end call**.
- Hang up on the end point.

