Configure and Troubleshoot TCS Live streaming and Video on Demand with VBrick DME and VBrick Rev

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Introduction

This document describes the steps to configure and troubleshoot Cisco Telepresence Content Server (TCS) Live Streaming and Video on Demand (VoD) integration with VBrick Distributed Media Engine (DME) server and VBrick Rev server. VBrick integration with TCS has been added from version s6.2.1 and up.

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Prerequisites

Requirements

- Cisco TCS s6.2.1 and above
- VBrick DME
- VBrick Rev (required for VoD integration)

  Caution: Cisco TCS s7.2 and above is required for FTP over SSL (FTPS) VoD configuration

Components Used

The information on this document is based on these software and hardware versions:

1. TCS 7.2
2. VBrick DME 3.15.0 Rhel7
3. VBrick Rev 7.14 (for VoD integration)
The information in this document was created from the devices in a specific lab environment. All of the devices used in here started with cleared (default) configurations. If your network is live, make sure that you understand the potential impact of any command.

**Background Information**

There are two types of integration that can be configured:

1. Live Streaming  (Webcast) and

2. VoD

Live Streaming integration with VBrick DME allow users to watch any live streamed TCS conference anywhere inside the network from different devices, additionally when VBrick Rev is used along VBrick DME this extends this capability for viewing from outside the network for every VBrick Rev authorized user.

VoD integration with VBrick DME and VBrick Rev allow VBrick Rev authorized users to watch any submitted recording created by TCS anywhere inside and outside the network from different devices.

**Configure**

**Network Diagram**
Configurations

1. Live Streaming (Webcast) Integration.

1a Add VBrick Live Server Configuration.

In TCS web interface go to Management > Recording setup > Media server configurations and click on the '+ Add VBrick Live Server Configuration' link:
Fill in the fields for the Media server configuration:

<table>
<thead>
<tr>
<th>Name</th>
<th>Name to identify the media server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server address</td>
<td>IP or FQDN of Vbrick DME</td>
</tr>
<tr>
<td>RTSP Port</td>
<td>Multi-Protocol Server RTSP port number configured in Vbrick. Default is 5544.</td>
</tr>
<tr>
<td>User name</td>
<td>Stream Input Authentication User Name configured in Vbrick. Default username is 'broadcast'</td>
</tr>
<tr>
<td>Password</td>
<td>Stream Input Authentication Password configured in Vbrick. Default password is 'broadcast'</td>
</tr>
<tr>
<td>Password confirm</td>
<td>Confirm the password</td>
</tr>
<tr>
<td>Static Stream Name</td>
<td>The name with you will identify the stream in the network. If this is not filled TCS will append a random name for the stream when created. Even when the web interface suggests this is optional, it is strongly recommended to configure it. Also if Vbrick Rev is used along with VBrick DME then configuration of this field is mandatory.</td>
</tr>
</tbody>
</table>
If the connection is successful to VBrick DME you will receive the following confirmation message: "RTSP test successful to server 'Your DME IP address or hostname'. The server is a VBrick Server."

1b Add Template to use with VBrick Live streaming:

In TCS web interface go to Management > Recording setup > Templates and click on the '+ Add template' link:

Fill and select in the fields for the VBrick Live template configuration:

Name
Choose how you want to make

Name to identify the Vbrick Live Template.
Check the 'Viewable in the Content Server web interface' option only.
any recordings made with this template available and edit your options below:
Outputs to view in the Content Server web interface > Outputs to view in the Content Server web interface
Select one of your choice according to your recording and streaming needs.

Formats: Select 'MPEG-4 for Flash' format (Required as Vbrick will only work with it) Optional to choose additional format type(s) as long as 'MPEG-4 for Flash' format is selected too. Sizes: Select one of your choice according to your recording and streaming needs.

MPEG-4 for Flash will be automatically selected and the Windows Media and MPEG-4 for QuickTime will be grayed out when you select the 'MPEG-4 for Flash' format above. 'Optimize for motion' checkbox is optional.

Outputs to view in the Content Server web interface > On demand media server configuration settings
Enable Live Stream. Format: Confirm MPEG-4 for Flash is selected. Size: Choose one of your choice. Re-transcode realtime movies: Optional. Media server configuration: Confirm your media server configuration for Vbrick is selected.

Click on the 'Save' button to save configuration.
1c Add Recording Alias to use with VBrick Live streaming:
Fill and select in the fields for the VBrick Live recording alias configuration:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recording alias</td>
<td>Name': Name to identify the Vbrick Recording alias. 'Personal recording alias owner': Choose the user that will have editing permissions for this recordings.</td>
</tr>
<tr>
<td>Dialing Properties</td>
<td>According to the dial plan in your video network. Enter the H.323 and/or SIP dialing information.</td>
</tr>
<tr>
<td>Recording settings</td>
<td>In template, please select the Vbrick Live Template created in 1b. All other settings in this section can be left in default or customized according to your needs.</td>
</tr>
<tr>
<td>Default recording information</td>
<td>Can be left blank or customized according to your needs.</td>
</tr>
<tr>
<td>Default recording permissions</td>
<td>Can left the default settings or customized them as necessary.</td>
</tr>
</tbody>
</table>

Click on the 'Save' button to save configuration.
If configuring Live Streaming (Webcast) Integration only, you are done. You can skip the following steps all the way to our ‘Verify’ section so you can begin testing this integration. If you are configuring VoD (Video on Demand) too, please follow to the next steps.

2. VBric VoD (Video on Demand) integration.
2a. Add VBrick VoD server configuration.

In TCS web interface go to Management > Recording setup > Media server configurations and click on the '+ Add VBrick VoD server configuration' link:

There are two options to configure the VoD media server: You can configure it to connect via FTP or FTPS (Secure FTP using SSL).

FTP configuration.

- To configure it to use FTP, fill in the fields for the Media server configuration like below:
  
  - **Name**: Name to identify the Vbrick VoD media server
  - **Server address**: IP or FQDN of Vbrick DME
  - **File Transfer Protocol**: Choose FTP
  - **Command Port**: Field disabled when FTP is chosen
  - **User name**: Admin user for Vbrick DME server. Default is 'admin'
  - **Password** and **Password confirm**: Password for the admin user in Vbrick DME server. Default is 'admin'

  Before saving the configuration you can use 'Test FTP' button to confirm you reach the server and that admin credentials are correct, if you get a green checkmark with the message: 'FTP test successful to server YourDMEServer:21' then you are good to save the media server configuration:
FTPS Configuration:

- To configure it to use FTPS (Secure FTP using SSL), fill in the fields for the Media server configuration like below, please note that this option is available only in TCS s7.2 and up:
  
  **Name**  
  Name to identify the Vbrick VoD media server

  **Server address**  
  IP or FQDN of Vbrick DME

  **File Transfer Protocol**  
  Choose FTPS

  **Command Port**  
  This needs to match with the 'FTP Command Port' configured in Vbrick DME web interface: System Configuration > Ports.

  **User name**  
  Admin user for Vbrick DME server. Default is 'admin'

  **Password**  
  Password for the admin user in Vbrick DME server. Default is 'admin'

  **Password confirm**  
  Confirm password set in the previous field.

Before saving the configuration you can use 'Test FTPS' button to confirm you reach the server and that admin credentials are correct, if you get a green checkmark with the message: 'FTPS test successful to server YourDMEServer:YourCommandPortNumber' then you are good to save the media server configuration:
Note: In order for FTPS to work VBrick DME server has to have FTPS enabled, command port configured different from default 21 and SSL certificate uploaded.

Enable FTPS in VBrick DME using the web interface under System Configuration > Security:

Specify a different port for FTPS to work under System Configuration > Ports:
Upload a SSL certificate to the VBrick server under System Configuration > SSL Certificates, for detailed information on how to upload and sign your certificate, please refer to VBrick documentation: VBrick Admin Guide.
2b. Add Template to use with VBrick VoD:

In TCS web interface go to Management > Recording setup > Templates and click on the '+ Add template' link:
Fill and select in the fields for the VBrick Live template configuration:

<table>
<thead>
<tr>
<th>Name</th>
<th>Name to identify the Vbrick VoD Template.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Check the 'Distributed to Media Experience Engine 3500, VBrick, Show and Share, Podcast Producer or iTunes U' option only.</td>
</tr>
<tr>
<td>Outputs for distribution to Media Experience Engine 3500, Show and Share, VBrick, Podcast Producer or iTunes U</td>
<td>For the outputs select one of your choice according to your recording and streaming needs, then select the Vbrick checkbox, choose the 'Media server configuration' created for Vbrick VoD in the previous step. Select a size for the streaming.</td>
</tr>
</tbody>
</table>

Click on the ‘Save’ button to save configuration.
2c. Add Recording Alias to use with VBrick VoD:
Fill and select in the fields for the VBrick VoD recording alias configuration:

**Recording alias**
- Name': Name to identify the Vbrick VoD Recording alias.  
- ‘Personal recording alias owner': The user selected here needs to match exactly with a user that exists in VBrick Rev server.

**Dialing Properties**
- According to the dial plan in your video network. Enter the H.323 and/or SIP dialing information.

**Recording settings**
- In template, please select the Vbrick VoD Template created in 2b. All other settings in this section can be left in default or customized according to your needs.

**Default recording information**
- Can be left blank or customized according to your needs.

**Default recording permissions**
- Can left the default settings or customized them as necessary.

**Note:** If the user chosen as the Personal recording alias owner does not match exactly with a user with all 'Media' assigned roles that exists in VBrick Rev Server, the VoD integration will not work. This user will be the uploader of the video to Rev and needs to be recognized by it.

Please refer to the Troubleshoot section of this document for detailed information on how to:
Create a user in TCS that matches an existing user in Rev and/or how to create a user in Rev that matches exactly our user selected in TCS.

Click on the ‘Save' button to save configuration.
If all these settings have been configured please proceed to the ‘Verify’ section of this document.

Verify
Use this section in order to confirm that your configuration works properly.

**VBrick Live Streaming:** To verify this is working correctly, please verify the following:

When connecting a call to the Live Streaming Recording SIP or H.323 alias in TCS, you should see the recording taking place in TCS web interface in the 'View Recordings' tab:

In the VBrick DME server web interface go to Monitor and Logs >Multi-Protocol Connections, if the streaming is going successfully from TCS to DME, you should see all the details of the stream in there:

Use any streamer player like VLC Player to catch the stream and test audio and video work.
properly using the rtsp or rtmp links seen in VBrick web interface Monitor and Logs >Multi-Protocol Connections.

If any of these steps are not showing the correct behavior, please refer to the "Troubleshoot" section of this document to see possible causes and actions to correct them.

**VBrick VoD**: To verify this is working correctly, please verify the following:

After the recording has finished, go to TCS web interface and go to the 'Management' tab and verify the recording has finished transcoding, it is only after the recording has been transcoded entirely that it will begin to be uploaded to VBrick Rev server:
After the transcode job finishes in TCS, go to the VBrick DME server web interface and go to Monitor and Logs > Upload Log, if the upload goes smoothly you will see messages confirming the video ingest and upload have successfully completed to the Rev server:
After that go to the VBrick Rev server web interface to verify your video has uploaded correctly and that it plays correctly, remember that the video will show as inactive until it is activated for viewing.

If any of these steps are not showing the correct behavior, please refer to the Troubleshoot section of this document to see possible causes and actions to correct them.

**Troubleshoot**

*Packet captures* from TCS and DME will help you in most of the issues related to communication.
TCS: Use Wireshark or similar in the Windows Server where TCS is installed to retrieve packet captures.

DME: Use the web interface in the Diagnostics > Trace Capture, press the 'Start capture' button. Press the 'Stop capture' button to stop the tracing. Press the 'Download trace file' to download the packet capture.

Verify ports are configured correctly.

VBrick DME ports used for streaming and FTP(S) can be checked and configured in the DME server web interface under System Configuration > Ports:
TCS Live Streaming to VBrick most common issues:

Media Server configuration issues:

Error message: "Failed to connect to server".

Cause: Wrong RTSP port.

Solution: Please check the 'Multi-Protocol Server RTSP port' configured in System Configuration > Ports in VBrick DME web interface is the same.

Error message: 'Authentication failed on RTSP announce to server'.

Cause: wrong username and/or password.

Solution: Please check the 'Stream Input Authentication User Name' in User Configuration --> Stream Input Authentication in VBrick DME web interface is the same.

Can't see the streaming from TCS in the DME web interface Logs >Multi-Protocol Connections:

Cause: Communication issues between TCS and DME.

Solution:

In TCS: Verify the recording is showing as active in the 'Recordings tab' (Red circle showing it is recording) Verify all TCS services are running correctly.

In DME: Verify in the web interface that the RTSP and RTMP services are showing True.
If previous steps are ok then we have a communication issue between TCS and DME and it maybe an issue related to the network or a failure in one of the servers, take packet captures from TCS and DME to narrow down the issue, filter by their respective IP addresses. Verify communication is happening. i.e. TCS packet capture shows TCS sending packets to DME and DME packet capture shows no packets being received from TCS. In this example you will want to check if something in the network is blocking or preventing this communication to happen or if there is a major DME server failure. If you are not very familiar with packet captures, open a TAC case and provide both packet captures so an engineer can assist you in identifying the communication issue between TCS and DME.

Can't catch the Live streaming from a streaming player:

Verify the rtsp link is shown in the VBrick web interface under Monitor and Logs > Multi-Protocol Connections and not only the rtmp. If it is not showing follow the steps mentioned in "Can't see the streaming from TCS in the DME web interface Logs > Multi-Protocol Connections".

If TCS Live streaming details and links are shown in VBrick DME web interface under Monitor and Logs > Multi-Protocol Connections, then a deeper look needs to be taken on the network and VBrick DME server. Please open a case with VBrick support.

TCS VoD with VBrick most common issues:

Media server configuration issues:

Error message: "Failed to connect to FTP(S) server".
Cause: Wrong FTP(S) port.

Solution: Please check the 'FTP Command Port' number configured in 'System Configuration > Ports' in VBrick DME web interface is the same.

Error message: "User 'youruser' failed to log in to FTP(S) server..."

Cause: Wrong username and/or password.

Solution: Please check that your DME admin user and/or password are correct. If this credentials have been lost please contact VBrick support.

Not able to upload VoD from TCS to Rev Server,

Error message: "UploaderUserDoesNotExist UploaderUserDoesNotExist = { UserDoesNotExist = Unable to upload video. Please ensure that video is associated to a valid user..."

04/20/17 14:21:04, .tcs_ingest/O149271454700-30674761fl.mp4, Starting Rev upload
04/20/17 14:21:05, .tcs_ingest/O149263473800-58284370fl.mp4, UploaderUserDoesNotExist
UploaderUserDoesNotExist = { UserDoesNotExist = Unable to upload video. Please ensure that video is associated to a valid user., Uploader = Administrator, accountId = 30dcd8e-ael3-4aae-b0a6-fd8d0ed3b805 }
04/20/17 14:21:05, .tcs_ingest/O149263452400-34534979fl.mp4, UploaderUserDoesNotExist
UploaderUserDoesNotExist = { UserDoesNotExist = Unable to upload video. Please ensure that video is associated to a valid user., Uploader = Administrator, accountId = 30dcd8e-ael3-4aae-b0a6-fd8d0ed3b805 }

Cause: User configured as 'Personal recording alias owner' in the VBrick VoD recording alias in TCS does not match with a user that exists in VBrick Rev server.

Solution: Please create a user in TCS that matches a user with 'Media' rights in Rev server or create a user in Rev with 'Media' rights that matches TCS user configured as the 'Personal recording alias owner' in the recording alias for VBrick VoD.

How to create a user in TCS web interface:

Go to Configuration > Groups and users, in the 'Add users' section write down the username under the 'Creator role' window, remember this username needs to match the username in Rev server. Click the 'Add' button at the bottom of the page. The user will be created and will be available to chose from the drop down list in the 'Personal recording alias owner' configuration.
How to create a user in VBrick Rev:

Creating a user in the Rev Server web interface: Go to Settings > Users > Users and click on the '+ Add User' button. Please verify that the username matches with the username in TCS (it is not case sensitive). Also, please check that the user has all the 'Media' roles assigned. Click the 'Create User' button to create the user. Please remember user will not be active until it hits the activation link after it is created.
Issues playing the video on VBrick Rev:

Error message: "Unable to process video" on VBrick Rev server web interface when trying to play the TCS VoD recording.

Solution: Please contact VBrick support for further troubleshooting as this may be related to the Rev services hosted in the cloud.