Matrox[®] Maevex[™] 5100 Series Configuring Wowza Streaming Engine[™] With The Maevex Encoder

Reference document

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www.matrox.com/graphics

Overview

The following document provides step-by-step instructions on how to configure Wowza server with the Maevex Encoder as a source input to the Wowza streaming server and to play back the stream using the Maevex decoder or a software player.

Note: This document assumes you're using version 1.04 or higher of Matrox PowerStream software and firmware and Wowza Streaming Engine 4.3 or higher. You should are also be generally familiar with the PowerStream and Wowza Streaming Engine applications.

More Information

The following documentation and Maevex software Help feature provides additional documentation such as installation, connection setup, the hardware information, and general software features and configuration details for the Matrox Maevex hardware and software discussed in this document.

- <u>Matrox Maevex 5100 Series User Guide</u> provides information on installing and connecting your Maevex 5100 Series products.
- Matrox PowerStream Help located in the Maevex PowerStream software. It
 provides information on PowerStream software features and options.
- <u>Matrox Maevex I/O Guide</u> provides information on how to determine which display modes are used from the source device to monitors connected to your encoder and decoder units.

Accessing Matrox PowerStream

- Windows 10 Click Start ->All apps->Matrox PowerStream->Matrox PowerStream
- Windows 8.1 From the Start screen, click Matrox PowerStream
- Windows 7 Click Start-> All Programs (or Programs)-> Matrox PowerStream-> Matrox PowerStream

Functional Steps for enabling Wowza Streaming Engine with Maevex

- 1. Configure the Maevex Host Stream file within Wowza
- 2. Activate the stream
- 3. View and verify the test stream
- 4. Setup Maevex decoders to view the Wowza stream.
- 5. Conclusion

1. Configure the Maevex Host Stream file within Wowza

1a. You will need to configure the Wowza Streaming Engine to accept an input from the Maevex Encoder. To do this, once you login to the Wowza Streaming Engine, you will click on "Server". Next, click on the "Stream Files" option.

| Wowza Streaming Engine | A Home Server > Applications - | | 🛔 matrox 🏼 🛛 Help 🕞 Sign Ou |
|------------------------|--------------------------------|-------------|--|
| SERVER Server Setup | Virtual Host Stream Files | | |
| Server Monitoring | Steam Files | Hide Help > | About Stream Files |
| /irtual Host Setup | Stream Files | | Stream files provide a method to reniace |
| Artual Host Monitoring | + Add Stream File | | (alias) complex stream names that are |
| ranscoder | | | published to a Wowza Streaming Engine" |
| Aedia Cache | | | encoders and IP cameras. For example, if |
| Isers | | | your complex stream name on the origin |
| ource Authentication | | | server is udp://0.0.0.0:10000, you can cre a stream file named mycoolevent.stream |
| enformance Tuning • | | | and set the contents to the complex stream |
| ogs | | | name. Players can then use mycoolevent stream in playback URLs in |
| bout | | | place of the more complex stream name. |
| TREAMS | | | Stream files are stored in an application's streaming file directory and have a stream of the store of the st |
| tartuo Skeams | | | file name extension. |
| tream Files | | | To add a stream file, click Add Stream Fil |
| | | | the Add Stream File dialog box, do the |

1b. You will now need to configure the Maevex host stream file by clicking on the "Add Stream File".

| 🖄 Wowza Streaming Engine | # Home Server & Applications - | | 👗 matrox 🗿 Help 🕞 Sign Out |
|--|--------------------------------|-------------|--|
| MANAGER SERVER Server Setup Server Moniform | Virtual Host Stream Files | | |
| Server multiluting | Stream Files | Hide Help > | About Stream Files |
| Virtual Host Monitoring Transcoder | + Add Stream File | | Stream files provide a method to replace (alias) complex stream names that are published to a Wowza Streaming Engine ^{tw} |
| Media Cache | | | encoders and IP cameras. For example, if |
| Users | | | your complex stream name on the origin |
| Source Authentication | | | a stream file named mycoolevent.stream |
| Performance Tuning - | | | and set the contents to the complex stream |
| Logs | | | mycoolevent.stream in playback URLs in |
| About | | | place of the more complex stream name. |
| STREAMS | | | Stream files are stored in an application's streaming file directory and have a .stream |
| Startup Streams | | | file name extension. |
| Stream Files | | | To add a stream file, click Add Stream File. In |
| SMIL Files | | | the Add Stream File dialog box, do the |

1c. The "Add Stream File" window will appear and you need to enter a name in the "Enter a name for the new Stream File:"

| 🛞 🗳 http://localhost.8088 | /engineman: 🔎 🕆 🗘 🗳 Virtual Host Stream Files 🛛 🛛 | |
|----------------------------|---|---------------------------------|
| Wowza Streaming MANAGER | Engine # Home Server & Applications - | 🛔 matrox 🛛 Help 🕞 Sign Out |
| | Add Stream File | X |
| SERVER Server Setup | * = required field | |
| Server Monitoring | This will create a new Stream File. | |
| Virtual Host Setup | Enter a name for the new Stream File: " | |
| Virtual Host Monitoring | maevex × | |
| Transcoder | Stream URI * | About Stream Files |
| Media Cache | | tream files provide a method to |
| Users | | ames that are published to a |
| Source Authentication | | Vowza Streaming Engine™ server |
| Performance Tuning • | | ncoders and IP cameras. For |
| Logs | Cancel + Add | xample, if your complex stream |
| About | | ame on the origin server is |

1d. You will be required to enter the streaming address in the "Stream URI". The streaming address can be obtained from the Maevex PowerStream software as illustrated below.

i. Start the Maevex PowerStream software and select the encoder for the source.

| PowerStream | | | | | - = × |
|---|--|-----------------------------|---|-------------------------------------|-------|
| Environment Settings | | | | | |
| (+) | | | | | ? |
| | | | | | • |
| Encoders | | | | | |
| Foodcourt - News S Ready | S/W Hall - News/Ads At Encoding 15/41 Mb/s | rium - Mall Events Ready | S/W Entrance - Ads ¹ Ready Ready | nce - Ads ecording 16.16 Mb/s | |
| Decedera | | | | | |
| Decoders | | | | | |
| Southwest Hallway Decoding 13/63 Mb/s | Northeast Entrance Sc Ready | uthwest Entrance Ready | Atrium Decoding 13.48 Mb/s | | |

| Encoder Settings | | | | × |
|---|--|--|--|---|
| Encoder BP20666 | | | | 3 |
| Encoder BP20666 s/m: BP20666 v 1.04,00,080 IP: 192168,155,183 Time: 10/13/2015 2:12:44 PM Encoding Name BP20666 Control Stop encoding Reboot Apply Cancel Avg. Bit rate: 11.49 Mb/s Bit rate: 11.49 Mb/s Avg. Frame rate: 59,72 fps Frame rate: 60,00 fps | Processing Output Network RS232 Capture ✓ Stop capture if no HDMI input after 2 \$ | Encoding Video Use specific video size 128 × 96 ° Target bit rate 10 Mb/s Strategy Favor speed - Group of pictures (GOP) GOP length © Use constant bit rate (CBR) Ø Use constant bit rate (CBR) Ø Allow filling bits to sustain bit rate Use variable bit rate (VBR) Insert P-frame every 1 frames Quantization Parameters Bit rate 192 kbps | Streaming / Recording (*) Stream to network Stream address (uncast do Multicast) rtsp/1922.168.155.183.8554/ Port #554 ** Folder Multicast Group address [224.2.0.1 Time to live 16 ° Record to network storage Network shared folder File name prefix File duration 0 h 2 m 0 s Schedule recording Start recording Start recording 0 h 1 m 0 s | <pre> rtsp://192.168.15,5.183:8554 </pre> |
| | | | | 9 |

ii. From the encoder settings page, copy the stream address as illustrated below;

1e. You will need to add the stream address from step 1d-ii above to the "Stream URI" entry. Once completed click on the "+Add" button.

| - (a) 🗳 http://localhost.8088 | 'enginemani 🔎 👻 😋 Virtual Host Stream Files 🗴 | | | |
|---|--|---------------|---|--|
| Wowza Streaming MANAGER | Engine 🕢 Home 🖵 Server 😂 Ac | polications + | x | A matrox 🛛 Help 🕞 Sign Out 🛆 |
| SERVER Server Setup Server Monitoring Virtual Host Setup Virtual Host Monitoring Transcoder Media Cache | * = required field This will create a new Stream File. Enter a name for the new Stream File: * maevex Stream URI * | | | About Stream Files tream files provide a method to eplace (alias) complex stream ames that are published to a Vowza Streaming Engine™ server fom sources such as MPEG-TS |
| Users Source Authentication Performance Tuning + Logs | rsp.//192.168.155.163.8554 | Cancel +Ad | k | am sources such as MPEG-TS neoders and IP cameras. For xample, if your complex stream ame on the origin server is pullo.o.0.0:10000, you can create is tream file named picoolevent.stream and set the others to the complex stream |

2. Activate the stream

2a. You will now need to activate the stream. Click on the "arrow" from the illustration below (this should be the screen on the interface after the last step);

| Wowza Streaming En | gine 🖷 Home 🖵 Server 🛸 Applications 🗣 | | 🎄 matrox 💿 Help 🛭 🚱 Sign Out |
|--|---------------------------------------|-------------|--|
| SERVER Server Setup | Virtual Host Stream Files | | |
| Server Monitoring Virtual Host Setup Virtual Host Monitoring | Stream Files | Hide Help » | About Stream Files Stream files provide a method to replace (alias) complex stream name |
| Transcoder Media Cache | Name | Actions | that are published to a Wowza Streaming Engine™ server from sources such as MPEG-TS encoder |
| Users Source Authentication Performance Tuning + | maevex.stream | +) + ∥ ₪ | and IP cameras. For example, if you complex stream name on the origin server is udp://0.0.0.3:10000, you c create a stream file named |

2b. The following window will appear. For the "Application Name", select "live" from the dropdown menu. For the rest of the options leave the default values. Click on "OK".

| MANAGER | Home Server & Applications - | 🛔 matrox 😧 Help 🔄 Sign Ou |
|-------------------------|---|---|
| | Connect a Stream File X | |
| SERVER | | |
| Server Setup | Stream Name maevex stream | |
| Server Monitoring | | About Stream Files |
| Virtual Host Setup | appreador name | About Stream Files |
| Virtual Host Monitoring | live 🗸 | replace (alias) complex stream nam |
| Transcoder | Application Instance | that are published to a Wowza |
| Media Cache | Connect to default application instance: _definst_ | Streaming Engine™ server from sources such as MPEG-TS encode |
| Users | Connect to application instance: | and IP cameras. For example, if yo |
| Source Authentication | | complex stream name on the origin server is udp://0.0.0.0:10000, you |
| Performance Tuning + | Enter an existing application instance name. The application instance will be | create a stream file named |
| Logs | created if it does not exist. | mycoolevent.stream and set the contents to the complex stream nar |
| About | MediaCaster Type | Players can then use |
| STREAMS | dh dh | URLs in place of the more complex |
| Startup Streams | | stream name. Stream files are store |
| | | in an application's streaming file |

2c. The highlighted annotation will appear in the Wowza Streaming Engine UI. If the configuration is done correctly you will see the "Connection successful Maevex.stream" message.

| Manager Wowza Streaming Engine | 🖷 Home 🖵 Server 🖕 Applications 🕞 | 🏝 matrox 😧 Help 🔅 Sign O |
|--------------------------------|-------------------------------------|--------------------------|
| SERVER | Connection successful maevex.stream | |
| Server Setup | | |
| Server Monitoring | Virtual Host Stream Files | |
| | | |

3. View and verify the test stream

3a. Once steps 1 to 3 are completed, you are now able to view the stream in the Wowza Streaming Engine UI. To be able to see and access the stream, click on "Application" as illustrated below;

| Wowza Streaming Eng | ine 🖷 Home 🖵 Server 🖻 Appl | ications 👻 | 🎄 matrox 🧿 Help 🛭 😔 Sign Out |
|---|--------------------------------|------------------------|--|
| + Add Application | Add Application | | |
| SELECTED APPLICATION Select an application below | Select an Application Type. | Hide Help > | About Applications An application is a set of configuration |
| LIVE APPLICATIONS | Live | Video On Demand | options in Wowza Streaming Engine that supports a specific use case for the delivery of streaming content. You |
| VOD APPLICATIONS | Single server or origin | G VOD Single server | can use these options and configurable properties to tune and modify an application's default |
| | Live Edge | ⊖ VOD Edge | functionality can be extended by modules, which are Java classes that |
| | Not available for your license | OD HTTP Origin | are loaded dynamically when an application instance is loaded. Many AddOn packages provide addition: functionally through the use of modules. For host anotication |

3b. Then on the left side of the UI, click on the "Live" option and then click on "Incoming Streams". You will notice that the stream "status" is "Active" which indicates that the Wowza Streaming Engine is receiving the stream from the Maevex encoder. At this point, click on "Maevex.stream" (see blue arrow).

| Add Application SELECTED APPLICATION Ive Monitoring Sources (Live) Stream Files Incoming Streams Default Ins | Incoming Stree | ams | ► Tes | t Players Hide Help | Copy Abou | C Restart | ≘ Delete |
|--|---------------------------------|--------------------|---------|------------------------|---|--|---|
| SELECTED APPLICATION Ive - Active St Monitoring application. Sources (Live) C Refresh Stream Files Incoming Streams Default Ins | View by Streams View b | e for recording vi | a this | Hide Help | > Abou | t Incoming St | treams |
| Denuit Denuit | | y Group | | | About Incoming Streams You can view details about all liv streams published to this application live streams that this application connects to and record the streat video on demand (VOD) files for | | pout all live his application of pplication (the streams to () files for later |
| Stream Targets Stream Source Security Playback Security rtsp./// SMIL Files | x.stream 92.168.155.183.8554 | Status Active | Actions | C× | playba To upd click R Engine list aut publish | ate the list of inc efresh. Wowza s ™ software does comatically as new hed to this applica | coming stream Streaming sn't update the w streams are ation. |

3c. Once you have clicked on the "maevex.stream" from step 3b the following will appear. You can now test the stream by clicking on "Test Players" as illustrated below;

| Wowza Streaming Eng MANAGER | gine 🖷 Home 🖵 Server 🖕 Applications 🔸 | | 🛔 matrox 💿 Help 🕞 Sign Out |
|---|--|------------------|----------------------------|
| + Add Application SELECTED APPLICATION live - Monitoring | live > Incoming Streams > maevex.stream Live Single Server or Origin | ► Test Players Q | g Copy ☎ Restart 會 Delete |
| Sources (Live) | C Refresh Record X Disconnect | Hide Help > | About Live Stream Recordin |

3d. The default test player, Adobe RTMP window will appear. Click on the "Start" button as illustrated below;

| Wowza Stream Test Players O | | | | | 0 | rox 🛛 Help 🔅 Sign Ou |
|------------------------------|---|---------------------|-------------|-----|--------|--|
| + Add Application | Server | 192.168.155.81.1935 | Application | Rve | | C Restart |
| SELECTED APPLICAT | Stream | maevex stream | | | | |
| Monitoring Sources (Live) | MPEG DASH Apple HLS Adobe RTMP Adobe HDS MS Smooth Mobile | | | | Mobile | Live Stream Recordin |
| Incoming Streams | | | | | | record incoming live stream on demand files for later |
| Stream Targets | | | | | | You can split in-process I |
| Source Security | | | | | | me container) files or FLV |
| Playback Security | | | | | | ideo container) files, with th |
| SMIL Files | | | | | | e, or file size. |
| nDVR | | | | | | te the recording details that |
| Transcoder | | | | | | ayed, click Refresh. Wowz |
| DRM | | | | | | be details automatically as |

The video from Maevex encoder will now be playing.



4. Setup Maevex decoders to view the Wowza stream.

Now, you can play back the video using the Maevex decoder. In order to accomplish this click on the "Mobile" option and copy the URL from the "Android/Other" section to the "Stream Address" entry of the Maevex decoder settings page from the Maevex PowerStream and then click on "apply" as illustrated below;



Alternatively, the above procedure can be applied to software players that support RTSP streaming.

5. Conclusion

With the help of this document, you should now be able to setup the Wowza Streaming Engine with the Matrox Maevex encoder. The Wowza Streaming Engine will deliver the Maevex streaming content to third party applications and also to the Maevex decoder.

If there are any issues, please contact Matrox tech support at <u>www.matrox.com/graphics/support</u>.

Thank you for using the Matrox Maevex and the Wowza Streaming Engine.

Special thanks to Wowza for their help and support in putting together this document.

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