

EEG Application Note

Streaming HTTP Uplink to Wowza Streaming Engine

Applies to Products: HD480/490/491, DE285, iCap

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The HD480/490/491 Closed Caption Encoders, and the DE285 Ancillary Data Monitor include a Streaming HTTP Uplink module that posts decoded real-time caption data to an external web service for delivering high-quality web-based closed captioning. EEG provides a plugin module for servers running Wowza Streaming Engine that enables real-time caption uplink to the Wowza server over HTTP. The caption text is then integrated with realtime streaming video, and can be displayed on a variety of compatible players, including JWPlayer and Apple iOS devices.

Installation of the EEG Wowza Streaming Engine Module

For the initial installation of the captioning module, you will need configuration access to your Wowza server, and basic knowledge of your live application settings. If the terms in this section do not seem familiar, or you do not know how to access the configuration files on your server, please consult your systems administrator and/or the detailed support pages at www.wowza.com.

The following directions are specifically tested with Wowza Streaming Engine version 4.0.5, though they should also work with later versions at least up to the revision data of this document.

If possible, we recommend stopping your Wowza Streaming Engine instance before beginning this configuration. You **MUST** restart Wowza Streaming Engine at the end of the configuration in order for the changes to fully apply.

Consistent with the Wowza documentation, this section will refer to the base directory of your Wowza installation as **[installdir]**. This directory may vary on your server, but on many Linux-based systems it will be **/usr/local/WowzaStreamingEngine**.

1. Install the EEG-provided caption module on to your server. Copy the file "eegwowzmodules.jar" to the server, and move it into the directory **[installdir]/lib/**. Ensure that the eegwowzmodules.jar file has proper 'execute' permissions set for your environment.

2. Enable HTTP access to the Caption Uplink module. Edit the file `[installdir]/conf/VHost.xml`, making a copy of your old settings for safe keeping first. Find the section of the file that contains **<HTTPProvider>** XML tags. Add a new HTTPProvider section like:

```
<HTTPProvider>
    <BaseClass>com.eeg.wms.module.CaptionUplinkHTTPProvider</BaseClass>
    <RequestFilters>*captionuplink</RequestFilters>
    <AuthenticationMethod>none</AuthenticationMethod>
</HTTPProvider>
```

If you wish to require HTTP authentication to upload captions, you also set the **<HTTPProvider>** tag to “admin-basic” or “admin-digest”. You will then need to configure your uplink device or software with an “Admin”-level username and password registered with Wowza in the “Users” tab of the Wowza Streaming Engine Manager, or added manually in the `[installdir]/conf/admin.password` file.

Save the VHost.xml file when you are finished editing.

3. The Caption Uplink provider injects AMF “OnTextData” captioning events into your Wowza stream. To ensure that captions are also visible on players such as Apple devices that support CEA-608 style captions, go to your live streaming “application” in Wowza (the default application is simple called “live”), and edit the file at `[installdir]/conf/[application-name]/Application.xml`, making a copy of your old settings for safe keeping first. Find the section of the file that contains **<Module>** XML tags. Add a new Module section like:

```
<Module>
    <Name>ModuleOnTextDataToCEA608</Name>
    <Description>ModuleOnTextDataToCEA608</Description>
    <Class>com.wowza.wms.timedtext.live.module.ModuleOnTextDataToCEA608</Class>
</Module>
```

Save the Application.xml file when you are finished editing.

4. Restart the Wowza Streaming Engine application. You are now ready to uplink real-time captions to your Wowza live streaming application.

For further background on live captions with Wowza, and testing instructions for JWPlayer, iOS, and a variety of other player applications, see <http://www.wowza.com/forums/content.php?447>

Operation of the Streaming Uplink Module on EEG Devices or Software

Once the Wowza server is ready to accept live closed captioning, you can setup your EEG device or software to send captions to a particular live stream application on that server. You will need to know the Wowza server IP address or DNS name, and the live application name that the caption text is targeting. For an EEG hardware device, you will also need a path to the server through the Internet or a local network, including a valid IP address, subnet mask, and gateway router setting on the device front panel.

This document will primarily show configuration examples from the HD490 encoder software, but the interfaces for the HD480, DE285, and iCap HTTP Software Encoders use similar terminology and formats.

First ensure that your device has a compatible version of the “Streaming” software module update installed. To determine if you have the correct software installed, check your HD490 web configuration page for the module labelled “Streaming” (Figure 1). If the Streaming module is not installed or is unlicensed, contact EEG Support to receive your update. Wowza Streaming Engine is support in version 2.0 and up of the module.

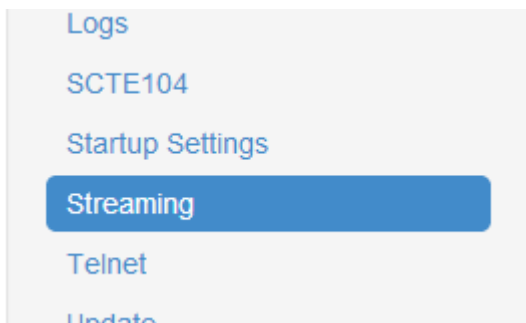


Figure 1 – “Streaming” Menu Item in HD490 SideTab

In the DE285, the HTTP Streaming configuration is located in the “Settings” tab, and may be labelled “UVault Settings” in older models. Devices with the old labelling need to be updated to add Wowza support.

Select “Wowza” for the stream format on the “Streaming” page, and configure the URL, Stream ID/username, and password into the input boxes as shown in Figure 2, then check “Streaming enabled” and hit Save.

The URL for Wowza will generally be of the form:

[http://\[server-address\]:1935/captionuplink?stream-name=\[liveapplicationname\]](http://[server-address]:1935/captionuplink?stream-name=[liveapplicationname])

(Assuming your Wowza server uses the default port of 1935 for HTTPProviders.)

Or, if you configured “admin-basic” HTTP authentication in the first step of this guide; then the form would be

[http://\[username:password\]@\[server-address\]:1935/captionuplink?stream-name=\[liveapplicationname\]](http://[username:password]@[server-address]:1935/captionuplink?stream-name=[liveapplicationname])

For “admin-digest” HTTP authentication, instead of putting the username and password in the URL, use the “Stream ID” and “Stream Password” fields.

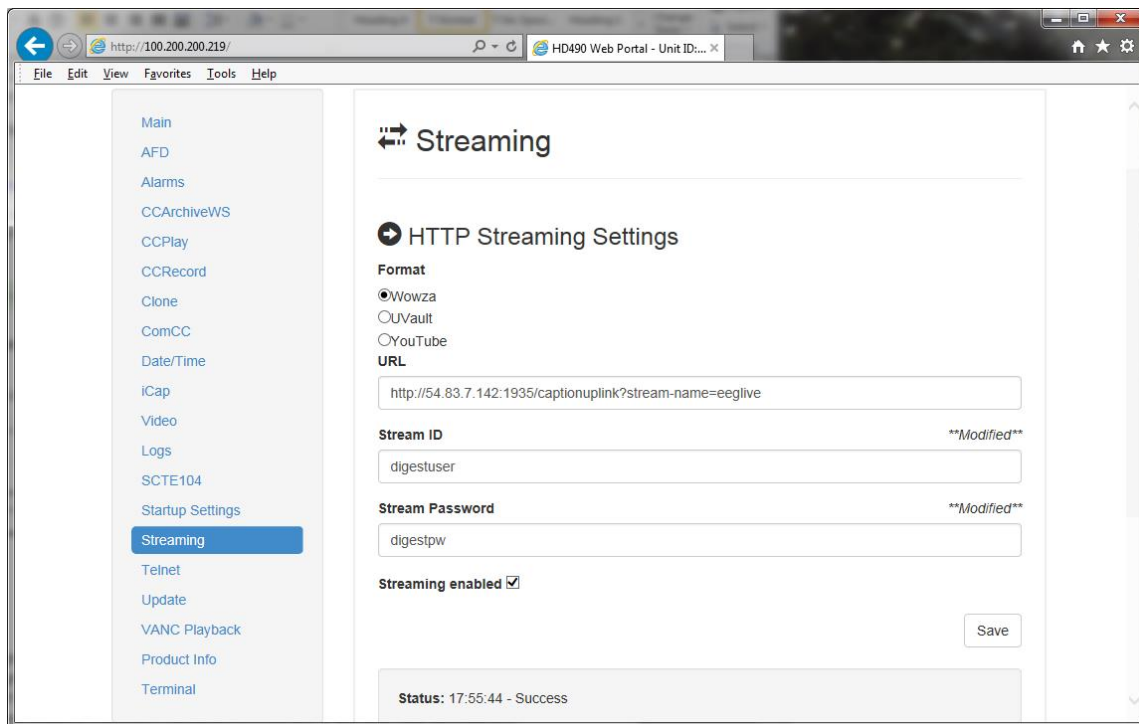


Figure 2 – Stream Configuration Page in HD490

Uplink will begin once the “Streaming enabled” box is checked, and CC1/Service-1 captions begin flowing through the encoder. At this time, you should see a “Success” message and timestamp in the “Status” field if the uplink is successful. Otherwise, you may see a message warning that the URL is unreachable, the Stream ID is unknown, the password is incorrect, or any other issue identified with your caption uplink.

HTTP Streaming Uplink will remain on, including returning after a hardware power-cycle, until the “Streaming enabled” box is unchecked.