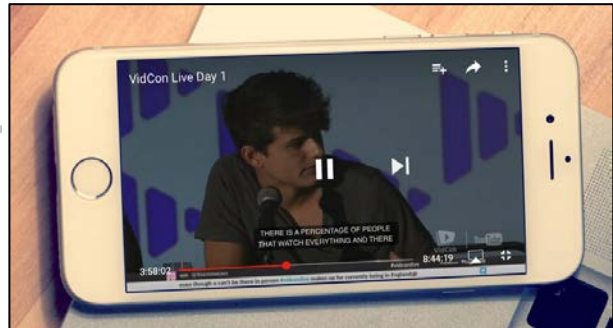


Falcon

User Guide



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What is Falcon?

Falcon is a cloud-hosted caption encoder used for captioning live news, sporting events, e-learning classrooms, corporate webinars, municipal meetings, and more. This hardware-free captioning solution makes live closed captioning much more accessible and affordable for streaming-only media producers, as it completely eliminates the expense of a hardware encoder when an SDI signal path is not required. If you have any questions during the setup process please reach out EEG Support at by e-mailing support@eegent.com or calling 516-293-7472 x207.

RTMP vs. HTTP Uplink Only

Falcon offers two methods for captioning live streams - RTMP or HTTP Uplink Only. Select a method to begin setting up your Falcon stream. Each option has its own steps which are outlined in future sections of this document.

- **RTMP (Recommended)** – *Compatible with all major streaming services including YouTube Live Events, Wowza, UStream, Facebook Live, and more.* This method receives your live video stream, provides audio reference to your choice of captioner over iCap, encodes incoming live caption data into the stream, and delivers the fully captioned video to the desired end streaming destination.

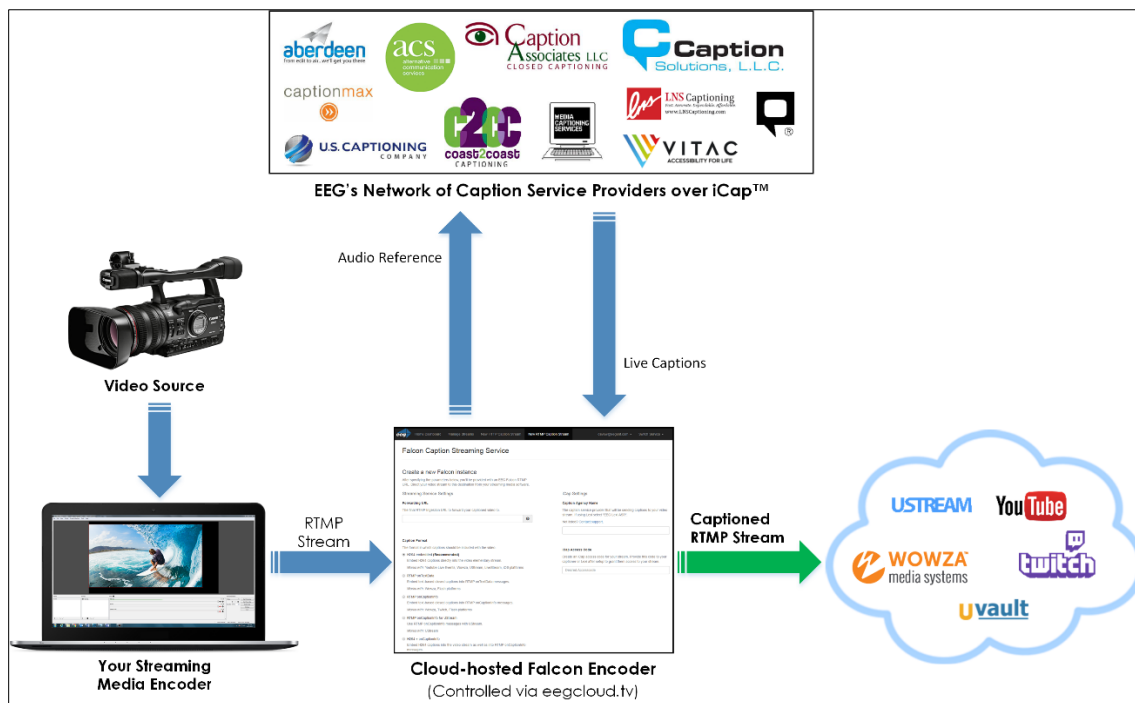


Figure 1: RTMP Falcon Workflow (Compatible with ALL Streaming Services)

- **HTTP Uplink Only** – *Only compatible with YouTube, Wowza, Uvualt, and Videolinq services.* This option delivers caption text data to your streaming endpoint where it is then merged with the video by the streaming service provider. Because Falcon does not handle the stream directly with this method, an additional iCap Webcast Audio software component is required to be installed onsite in order to submit audio reference to your captioner. If streaming to Wowza, a plugin must first be downloaded and installed on your Wowza server.

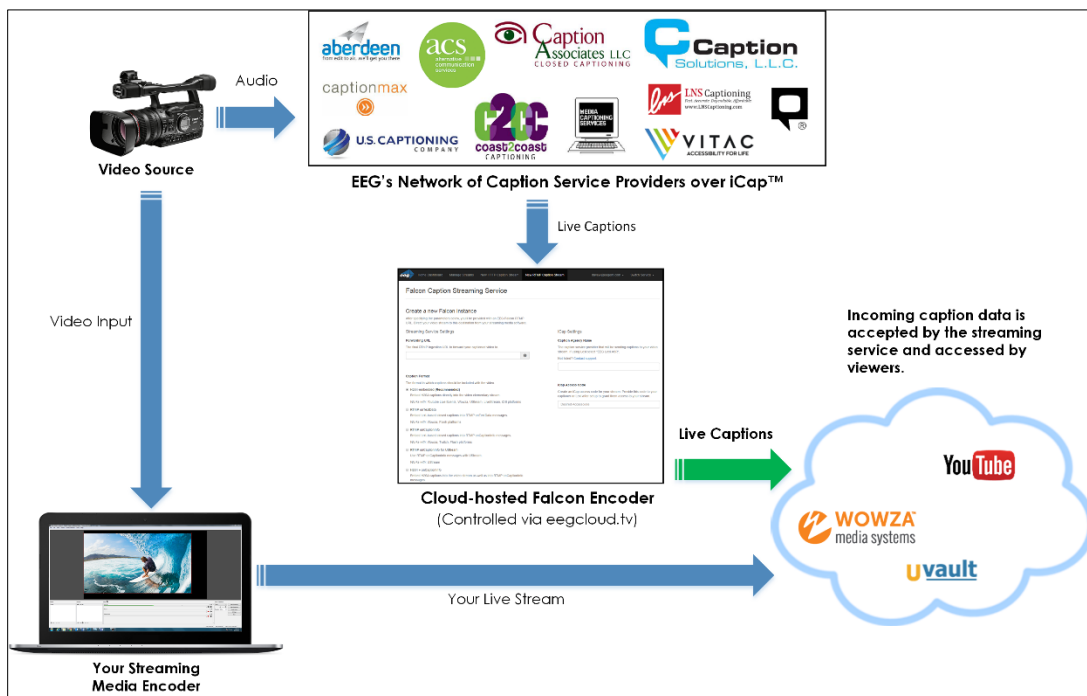


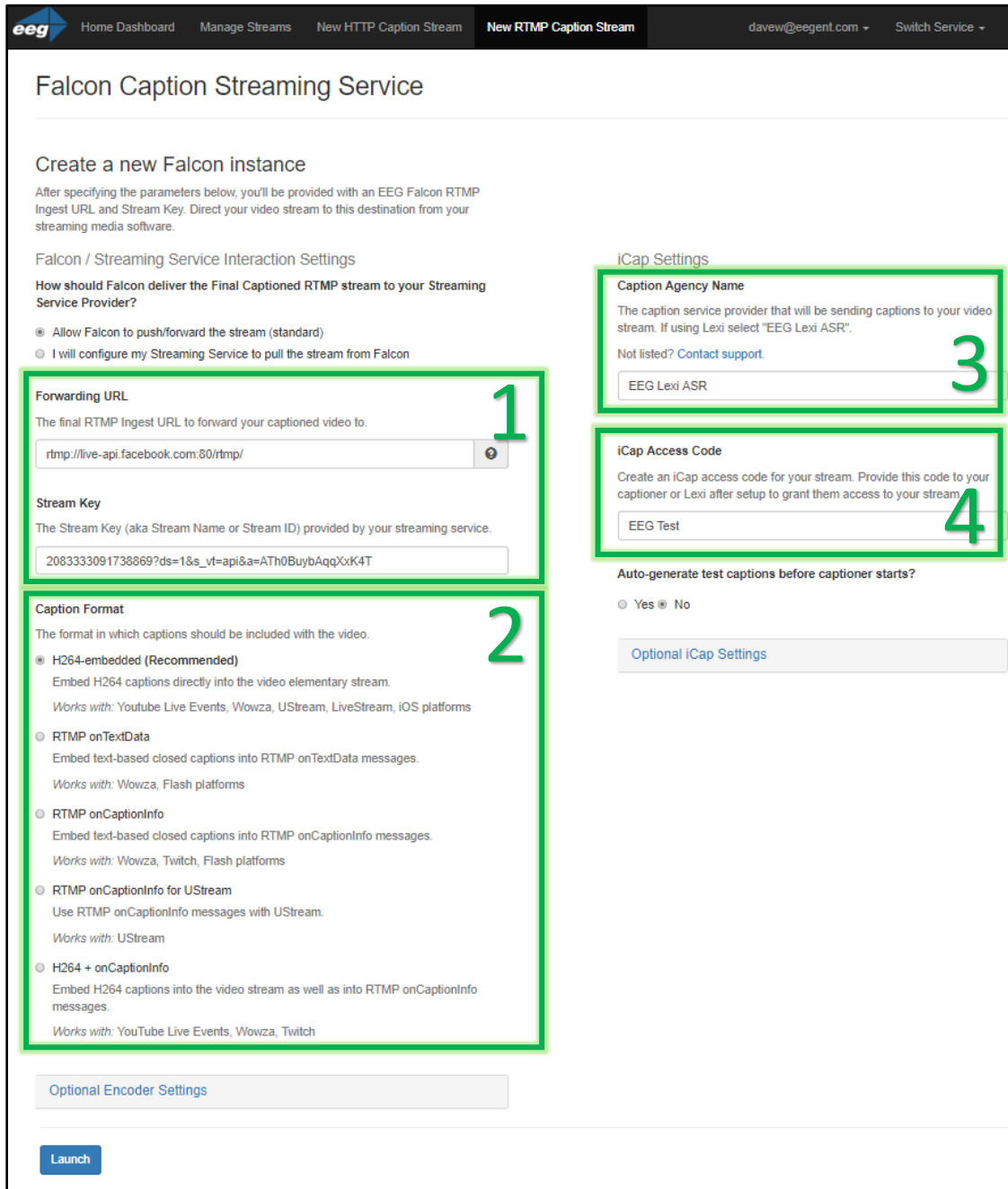
Figure 2: HTTP Falcon Workflow (Compatible only with Select Streaming Services)

Creating an RTMP Falcon Stream

The RTMP Falcon app requires the following information to initialize as detailed in Figure 3:

1. **Forwarding URL and Stream Key** – This is the URL of the ultimate streaming destination that you would like Falcon to forward your fully captioned stream to and the “Stream Key” associated with it.
2. **Caption Format** – The format you would like the captions to be included with the video. The pre-selected option *H264-embedded* is most commonly used.

3. **Caption Agency Name** – Select the Caption Service Provider you are using to caption your stream. If using Lexi, select “EEG Lexi ASR”.
4. **iCap Access Code** – This can be anything you want. We recommend something descriptive of your application, easy to remember, and unique. You will give this code to your captioner to access your stream’s audio after setup is complete.



Falcon Caption Streaming Service

Create a new Falcon instance

After specifying the parameters below, you'll be provided with an EEG Falcon RTMP Ingest URL and Stream Key. Direct your video stream to this destination from your streaming media software.

Falcon / Streaming Service Interaction Settings

How should Falcon deliver the Final Captioned RTMP stream to your Streaming Service Provider?

☒ Allow Falcon to push/forward the stream (standard)

☐ I will configure my Streaming Service to pull the stream from Falcon

Forwarding URL

The final RTMP Ingest URL to forward your captioned video to.

Stream Key

The Stream Key (aka Stream Name or Stream ID) provided by your streaming service.

Caption Format

The format in which captions should be included with the video.

☒ H264-embedded (Recommended)

Embed H264 captions directly into the video elementary stream.

Works with: Youtube Live Events, Wowza, UStream, LiveStream, iOS platforms

☐ RTMP onTextData

Embed text-based closed captions into RTMP onTextData messages.

Works with: Wowza, Flash platforms

☐ RTMP onCaptionInfo

Embed text-based closed captions into RTMP onCaptionInfo messages.

Works with: Wowza, Twitch, Flash platforms

☐ RTMP onCaptionInfo for UStream

Use RTMP onCaptionInfo messages with UStream.

Works with: UStream

☐ H264 + onCaptionInfo

Embed H264 captions into the video stream as well as into RTMP onCaptionInfo messages.

Works with: YouTube Live Events, Wowza, Twitch

iCap Settings

Caption Agency Name

The caption service provider that will be sending captions to your video stream. If using Lexi select "EEG Lexi ASR".

Not listed? [Contact support.](#)

iCap Access Code

Create an iCap access code for your stream. Provide this code to your captioner or Lexi after setup to grant them access to your stream.

Auto-generate test captions before captioner starts?

☒ Yes ☐ No

[Optional Encoder Settings](#)

[Optional iCap Settings](#)

[Launch](#)

Figure 3: RTMP Falcon setup page

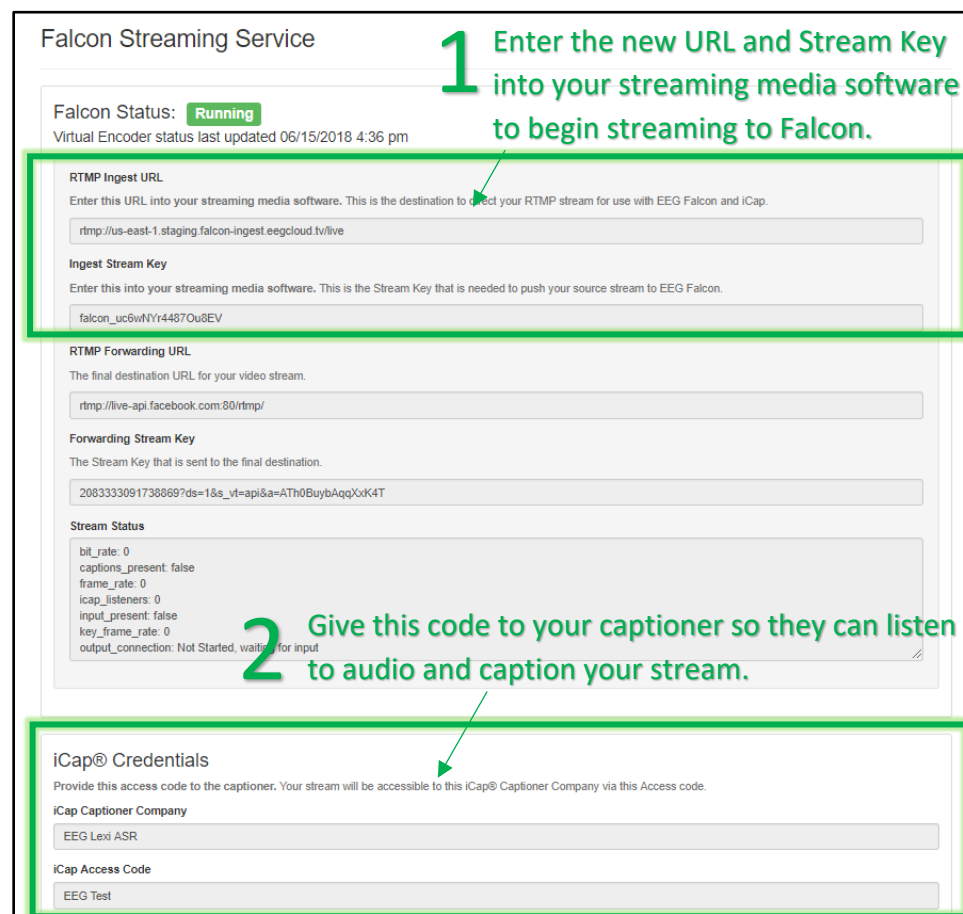
After clicking the “Launch” button a Status page similar to that pictured below in Figure 4 should appear. This means your Falcon instance has been initialized.

Two final steps are required to send your video stream to Falcon and allow your captioner to connect to your stream.

1. **Copy the provided RTMP Ingest URL and Ingest Stream Key** and enter them into your streaming media software’s respective *Streaming URL* and *Stream Key* fields, or similar.

***LiveStream Studio Users Only** – when entering the Falcon URL into LiveStream Studio you must add “/app” at the end of the URL. Example: `rtmp://falconingest.eegcloud.tv:portnumber/app`
Without the addition of “/app” you will receive an “Invalid URL” error.

2. **Copy the iCap Access Code you created** and provide it to your captioner or captioning service.



The screenshot shows the 'Falcon Streaming Service' status page. It includes sections for 'Falcon Status' (Running), 'RTMP Ingest URL' (rtmp://us-east-1.staging.falcon-ingest.eegcloud.tv/live), 'Ingest Stream Key' (falcon_uc6wNYr4487Ou8EV), 'RTMP Forwarding URL' (rtmp://live-api.facebook.com:80/rtmp/), 'Forwarding Stream Key' (2083333091738869?ds=1&a_vt=api&a=ATH0BuybAqgXcK4T), 'Stream Status' (bit_rate: 0, captions_present: false, frame_rate: 0, icap_listeners: 0, input_present: false, key_frame_rate: 0, output_connection: Not Started, waiting for input), and 'iCap® Credentials' (iCap Captioner Company: EEG Lexi ASR, iCap Access Code: EEG Test). Two green annotations with arrows point to the RTMP Ingest URL and Ingest Stream Key fields, and the iCap Access Code field.

1 Enter the new URL and Stream Key into your streaming media software to begin streaming to Falcon.

2 Give this code to your captioner so they can listen to audio and caption your stream.

Figure 4: RTMP Falcon status page



Creating an HTTP Uplink Falcon Stream

Two important notes before getting started with Falcon's HTTP Uplink workflow.

- You must first [Download the Free iCap Webcast Audio Tool](#) and install it to an onsite computer connected to the program audio source. This software will capture audio from any audio input (such as the PC MIC input) and direct realtime audio reference to your captioner via iCap.*

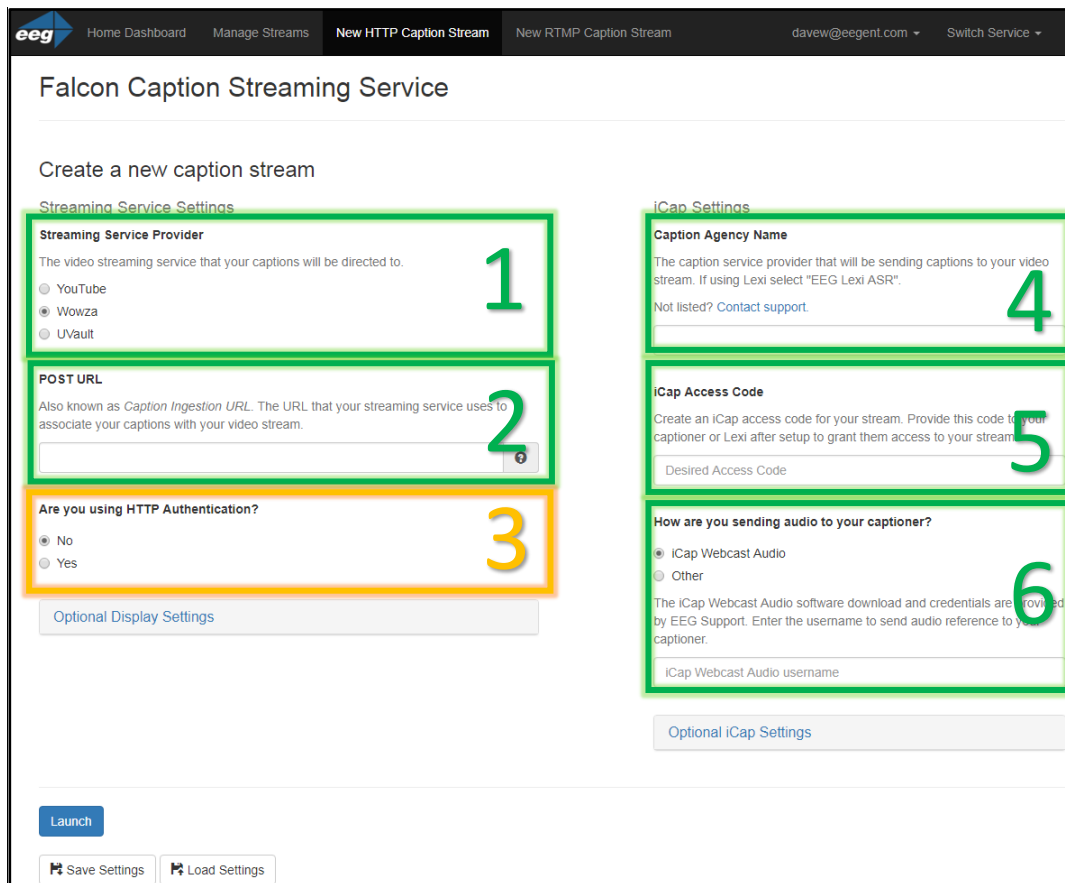
**You must contact EEG Support to obtain login credentials for the iCap Webcast Audio tool by e-mailing support@eegent.com or calling 516-293-7472 x207. If not using the EEG provided tool, make sure you have another method in place to provide the captioner with audio reference such as a Barix Instreamer or an audio coupler used in conjunction with an analog telephone line.*

- Wowza users ONLY must [Download EEG's Wowza Server Plugin](#) and install on your Wowza server prior to using Falcon in order for your Wowza server to process incoming captions from Falcon. [Instructions for installing the plugin can be found HERE.](#)

The HTTP Uplink Falcon app requires the following information to initialize as detailed in Figure 5:

1. **Streaming Service Provider** – Select the streaming service you would like Falcon to send captions to.
2. **POST URL** – Also known as the caption ingestion URL. This is the URL that your streaming service accepts incoming captions to associate with your stream.
3. **Are you using HTTP Authentication?** – This question appears ONLY when Wowza or Uvult are selected as the Streaming Service Provider. Wowza and Uvult allow their customers to optionally associate a username and password with their stream for added security (HTTP Authentication) – allowing only authorized parties to send data to their streaming destination (Falcon, for instance). Select “no” if you are not using this feature (most common). If using HTTP authentication select “yes” and enter your StreamID and Password as prompted.
4. **Caption Agency Name** – Select the Caption Service Provider you are using to caption your stream. If using EEG's automatic captioning service Lexi, select “EEG Lexi ASR”.

5. **iCap Access Code** – Create a unique access code to provide to your caption service provider. We recommend something descriptive of your application, easy to remember, and unique. Using the access code you create here your captioner will be able to receive audio from your stream and transmit captions to Falcon. You will give this code to your captioner to access your stream’s audio after this setup process is complete.
6. **How are you sending audio to your captioner?** – Enter the username for your iCap Webcast Audio tool to associate audio with your Falcon stream and provide a reference to the captioner. Select “other” if you are using another method – just ensure you have a method in place (such as a Barix Instreamer or an audio coupler used in conjunction with an analog telephone line).



Falcon Caption Streaming Service

Create a new caption stream

Streaming Service Settings

Streaming Service Provider
The video streaming service that your captions will be directed to.

☐ YouTube
☒ Wowza
☐ UVault

POST URL
Also known as *Caption Ingestion URL*. The URL that your streaming service uses to associate your captions with your video stream.

Are you using HTTP Authentication?
☒ No
☐ Yes

[Optional Display Settings](#)

iCap Settings

Caption Agency Name
The caption service provider that will be sending captions to your video stream. If using Lexi select "EEG Lexi ASR".
Not listed? [Contact support](#).

iCap Access Code
Create an iCap access code for your stream. Provide this code to your captioner or Lexi after setup to grant them access to your stream.

How are you sending audio to your captioner?
☒ iCap Webcast Audio
☐ Other
The iCap Webcast Audio software download and credentials are provided by EEG Support. Enter the username to send audio reference to your captioner.

[Optional iCap Settings](#)

[Launch](#)

[Save Settings](#) [Load Settings](#)

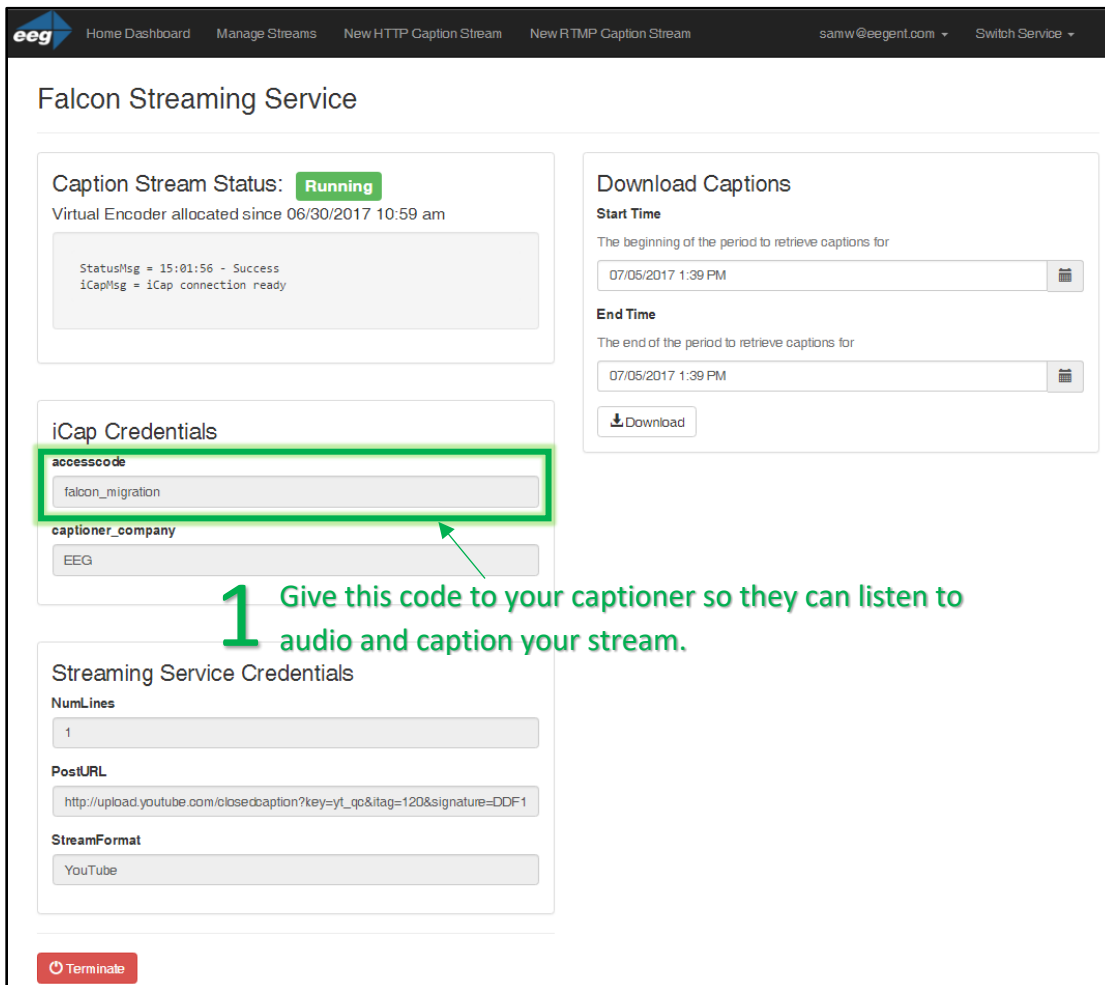
Figure 5: HTTP Falcon setup page

(HTTP Uplink Steps Continued on Page 8)

After clicking the “Launch” button a Status page similar to that pictured in Figure 6 should appear. This means your Falcon instance has been initialized.

One final step is required to allow your captioner to connect to your stream.

1. **Copy the iCap Access Code you created** from this page and provide it to your captioner or caption service provider.



Falcon Streaming Service

Caption Stream Status: Running
Virtual Encoder allocated since 06/30/2017 10:59 am

StatusMsg = 15:01:56 - Success
iCapMsg = iCap connection ready

Download Captions

Start Time
The beginning of the period to retrieve captions for
07/05/2017 1:39 PM

End Time
The end of the period to retrieve captions for
07/05/2017 1:39 PM

[Download](#)

iCap Credentials

accesscode
falcon_migration

captioner_company
EEG

Streaming Service Credentials

NumLines
1

PostURL
http://upload.youtube.com/closedcaption?key=yt_qo&itag=120&signature=DDF1

StreamFormat
YouTube

[Terminate](#)

1 Give this code to your captioner so they can listen to audio and caption your stream.

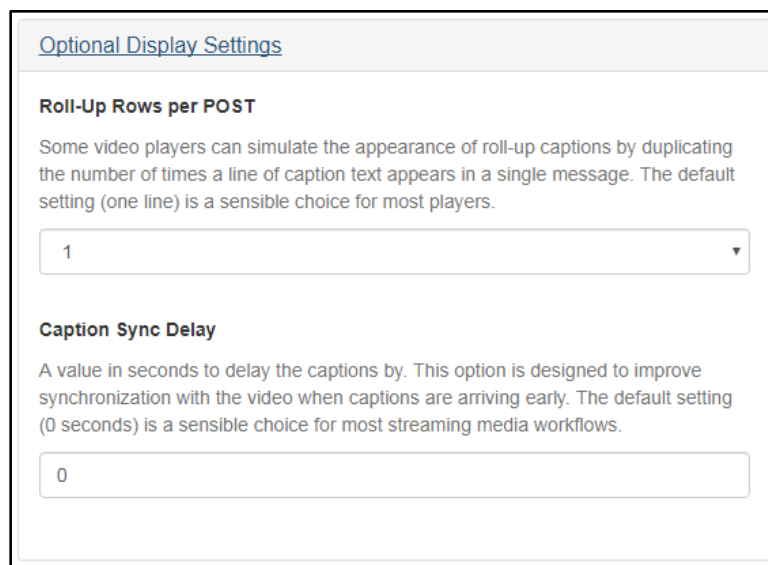
Figure 6: HTTP Falcon status page

Optional Display and iCap Settings (HTTP Uplink Only)

The HTTP Uplink Falcon interface contains two dropdown menus containing optional settings for tweaking caption display preferences and adding a second caption agency for monitoring. These settings are seldom used or changed unless specific circumstances call for them.

Optional Display Settings

1. **Roll-Up Rows per POST** – Adjusting this setting can help simulate a “roll-up style” caption display by sending each line of text to the stream a specified number of times while repositioning them behind subsequent incoming captions. **The default value of 1 is standard in most workflows.**
2. **Caption Sync Delay** – A value in seconds to delay captions by. Adjusting this is beneficial for users experiencing the early arrival of captions due to a delay in their video workflow. **The default value of 0 is standard in most workflows.**



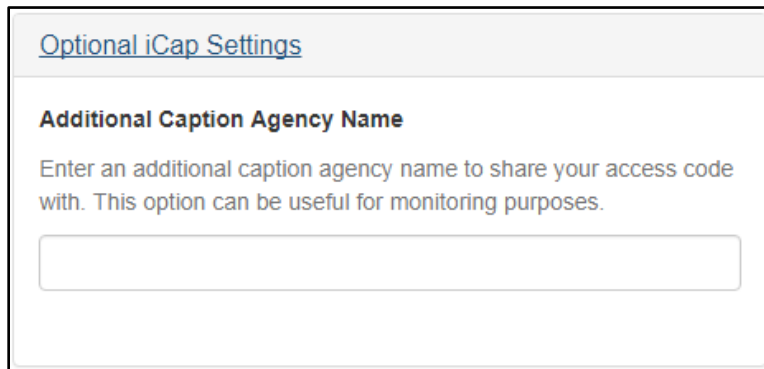
The screenshot shows a web interface titled "Optional Display Settings". It contains two sections. The first section, "Roll-Up Rows per POST", has a description: "Some video players can simulate the appearance of roll-up captions by duplicating the number of times a line of caption text appears in a single message. The default setting (one line) is a sensible choice for most players." Below this is a dropdown menu with the value "1" selected. The second section, "Caption Sync Delay", has a description: "A value in seconds to delay the captions by. This option is designed to improve synchronization with the video when captions are arriving early. The default setting (0 seconds) is a sensible choice for most streaming media workflows." Below this is a text input field with the value "0".

Figure 7: Optional Display Settings

(Optional iCap Settings Continued on Page 10)

Optional iCap Settings

1. **Additional Caption Agency Name** – Use this setting only if you plan to add a second caption agency to your stream for monitoring purposes. **Adding a second agency is not standard in most workflows.**

A screenshot of a web form titled "Optional iCap Settings". The form has a light gray header with the title. Below the header, the section "Additional Caption Agency Name" is displayed. It includes a text input field and a descriptive paragraph: "Enter an additional caption agency name to share your access code with. This option can be useful for monitoring purposes." The form is enclosed in a black border.

[Optional iCap Settings](#)

Additional Caption Agency Name

Enter an additional caption agency name to share your access code with. This option can be useful for monitoring purposes.

Figure 8: Optional iCap Settings