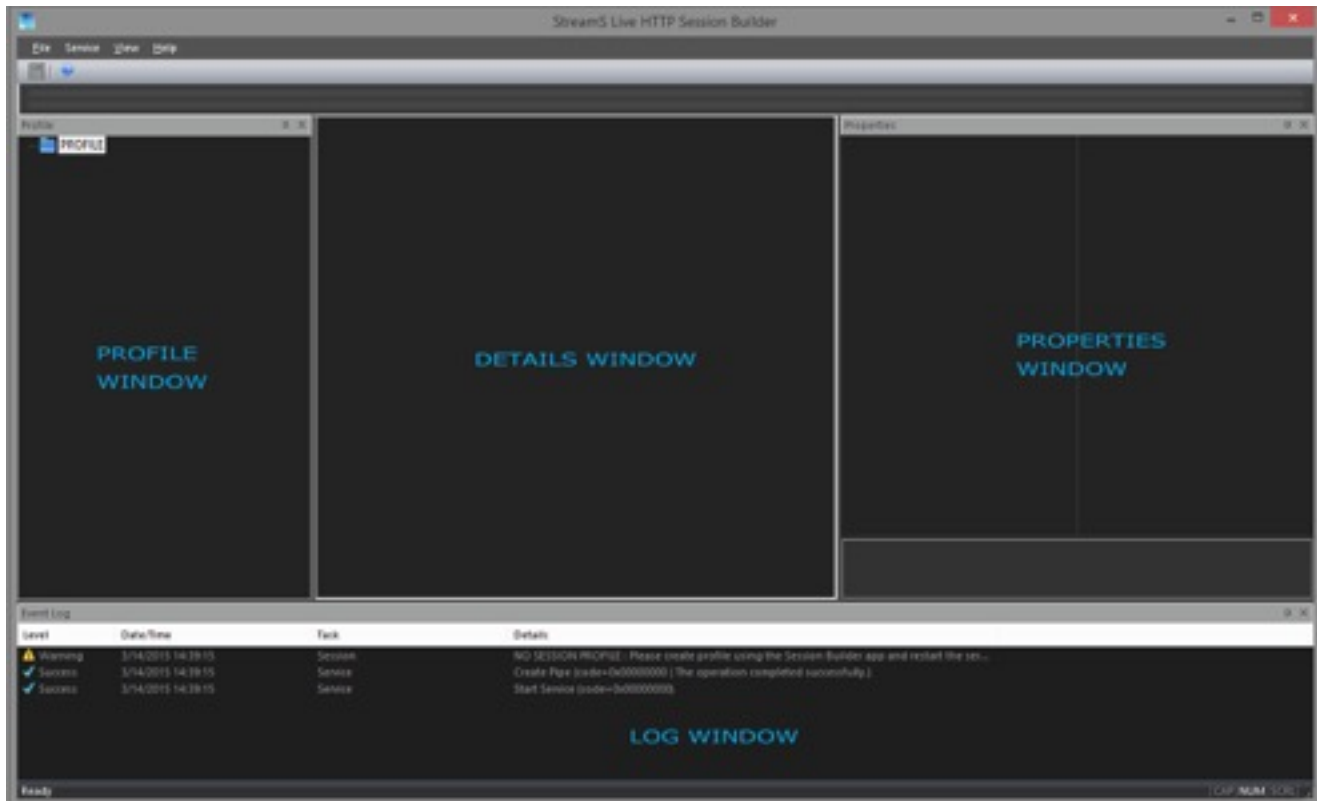# QUICK GUIDE

StreamS Live HTTP Service Encoder

StreamS Live Encoder is a Windows service application that operates in the background similar to a Unix daemon. StreamS Live Encoder starts as soon as Windows finishes loading without having to logon to a user account. Because StreamS Live Encoder has no user interface, it relies on StreamS Session Builder to manage a profile and communicate with the encoder.

Initially, the encoding profile is empty. To add sessions (and streams) to a profile, launch the Session Builder (a user account with administrative rights is required).

The log window (in Figure 1) displays the status of the Live Encoder as read from the system log.

Figure 1.

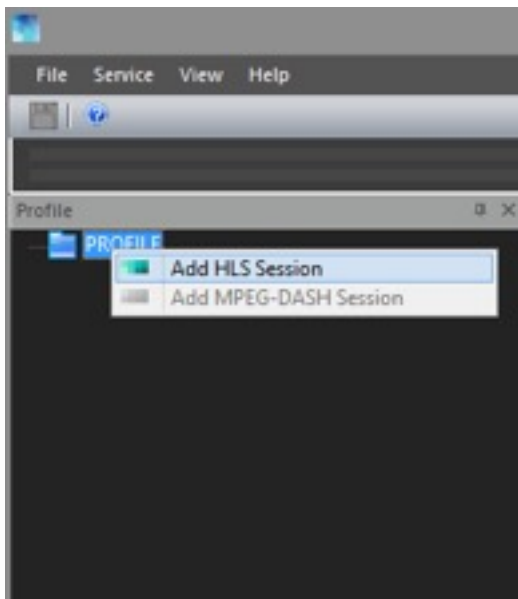**StreamS Session Builder User Interface**

Figure 2

ADDING A SESSION

1. Right click on the profile icon in the profile window (Figure 2) and select "Add HLS Session". You can add up to 4 or 8 sessions (unique audio program sources) depending on the license you've acquired.
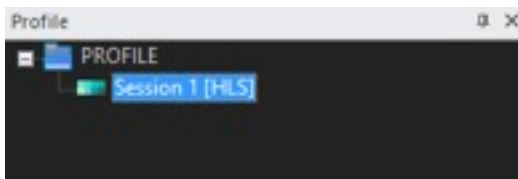

Figure 3

2. Select Session (Figure 3) for the session summary to display in the details window and the session properties in the Properties window (Figure 4). If you click on the highlighted session title, you will be able to rename it (optional). Please note a session requires a unique name for system identification purpose only.

Properties	✕
■ Audio	
Device	Wave In 1 11012004 (Orban Optimod 1101) ▾
Sample Rate	48000
■ HLS	
■ Session	
Type	FTP
Segment Duration (seconds)	10
Number of Segments	6
Playlist Duration (minutes)	01:00
File Management	Live/Auto
■ Session M3U Location	
Address	10.1.1.11
Port	21
Path	kpop
Filename	program
User/Key	username
Password/Secret	password
■ Program Associated Data (PAD)	
■ Initial PAD	
Artist	StreamS Streaming Encoder
Title	케이팝 - HiFi Internet Stream
Station Website	
Small Artwork URL	
Medium Artwork URL	
Large Artwork URL	
■ Live PAD	
Connection	UDP
Delay (secs)	5
■ UDP/IP Settings	
Incoming Addresses	127.0.0.1;localhost
Listening Port	21105
PAD Format	XML
■ XML Settings	
Artist Path	//Event//artist
Title Path	//Event//title
Small Artwork URL Path	//Event//image_small
Medium Artwork URL Path	//Event//image_medium
Large Artwork URL Path	//Event//image_large
XML format	Node

Device
Select audio recording device.

Figure 4

3. In the Properties window

- Select an input device from the *Audio Device* field.

- Select *Sample Rate*. The recommended value is 48000.

- Select a *Server Type*.
  We highly recommend FTP (if your encoder and web server are on the same network behind the firewall) or FTPS (if your encoder and web server are on the different network). FTPS requires a valid SSL certificate installed on the FTP server. The account must allow "Read", "Write", "Delete", "Make Directory" and "Remove Directory" commands.

DAV or DAVS (DAV over SSL) are a recommended alternative to FTP or FTPS. DAV/DAVS account must allow OPTIONS, MKCOL, PUT and DELETE commands.

We do not recommend HTTP POST or HTTP PUT because they usually do not support file management and ultimately the server disk will be full. This option should only be used when the server is capable of performing its own periodic file management accurately. Akamai customers will be using this option.

- *Segment Duration* between 10-60 seconds. The recommended value is 10.

- *Number of Segments* between 3-15. The recommended value is 6.

- Select *Live/Auto* for File Management. The server must allows folder creations, file upload and file deletion. The StreamS encoder will automatically delete expired segment files from the server.

  Only select *Archived/Manual* when you wish to leave all segments on the server (or when using HTTP POST or HTTP PUT). Eventually the disk will be full therefore a regular manual file management (i.e. deleting or moving files) is required.

- Enter the A*ddress* and *Port* (without *ftp://* or *http://*) such as *ftp.server.com* and *21*.

- Enter the *Path* for the program and program index.

- Enter the *Name* of the program index (without the extension *.m3u8*).

- Enter *username* and *password*

- Enter the Initial PAD (Program Associate Data). Leave blank if not desired. Do include http:// for the artwork URLs.

- Under *Live PAD*, select *None*, *Serial TCP* or *UDP*. We highly recommend *UDP* since it adds the least overhead to the encoder.

  If *UDP* is chosen, leave the Incoming Address field blank to accept *PAD* from any source.

  Enter a series of IP addresses separated by a semicolon such as *192.168.0.1;127.0.0.1;localhost* to indicate a white list of data source IP addresses to accept. A listening port is required.

  Set delay to *0* for no delay to immediately transmit PAD.

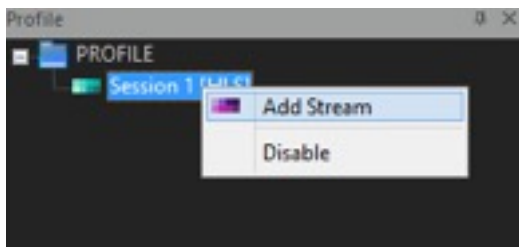 For additional information, please refer to the Program Associated Data documentation.

Figure 5

4. Right click on the Session Name in the Profile window and select "Add Stream" (Figure 5). You can add 1-4 streams per session. All streams in a session will have the same audio source and metadata/PAD content. The multiple bitrate streams in the session allows a media player to choose appropriately. A good player is capable of switching between bitrates dynamically given its current network traffic. We recommend *32kbps HE-AAC Parametric Stereo* (to support congested cellular network), *64kbps HE-AAC Stereo* (for LTE cellular network) and *128 AAC Stereo* (for reliable WiFi or LAN).
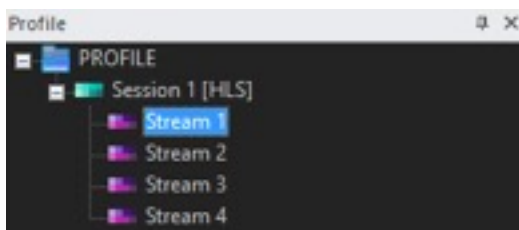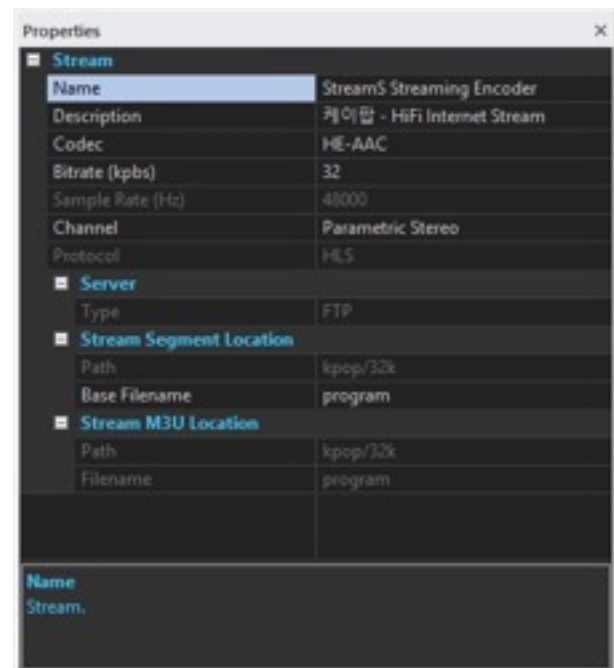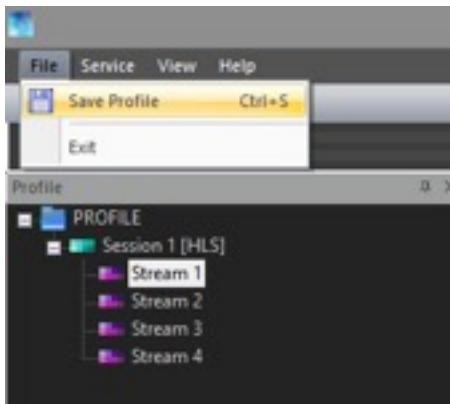

Figure 6

Figure 7

5. Select a stream in the Profile window (Figure 6) to display Stream Properties. (Figure 7). Click on selected Stream Name to rename (optional). A stream within a session requires a unique name for system identification purpose only.

- In the Stream Properties window, enter *Stream Name* and *Description*. The Live Encoder allows each stream in a session to have unique names and descriptions, but they can all be identical.

- *Select Codec*, *Bit Rate* and *Channel Type*.

- *Sample Rate* is displayed but can not be changed because all streams in the same session must have the *Sample Rate*. Changing the sample rate in the session properties and will affect all streams in that session.

- Enter the *Base File Name* of audio segments for this stream. The path for this stream is automatically generated using the Base Path (entered in the Session Properties) followed by the Bit Rate (i.e. 32k for 32 kbps stream).

- Repeat the process for all the streams in this session.

6. Note that each stream in a session requires a unique bitrate such as *32k HE-AAC Parametric Stereo*, *64k HE-AAC Stereo* and *128k LC-AAC Stereo*.

7. Observe information in the Summary windows, each time a session or a stream is selected to keep track of changes.

8. Once done, select the save icon from the tool bar or from the File menu (Figure 8). The session builder then validates the profile and alerts with warnings (no crucial mistakes and can be auto-corrected) or errors (incomplete or incorrect settings) and ask if you want to see the list of warnings or errors. If nothing is wrong, the profile is transmitted to the StreamS Live Encoder via the communication pipe and the live encoder will save it in the correct location.
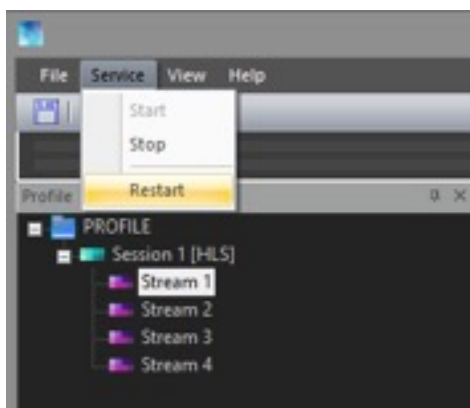
Figure 9

9. For the encoder to take effect, select Restart from the Service menu (Figure 9). Each time the profile has been modified or disabled, the StreamS Live Encoder must be saved and restarted.
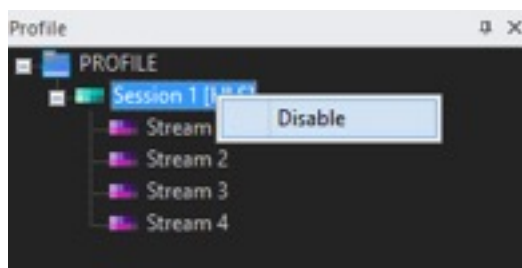

Figure 10

10. If you do not wish to run some or all sessions, simply disable the sessions (Figure 10), re-save the profile and restart the Service.

    1. Right click on the Session Name and select Disable.

    2. Only the entire session and all its streams can be disabled. An individual stream in a session can not be disabled.

    3. None to all sessions can be disabled.

11. In the Log windows, look for any errors and warnings. If s

12. uccess, and there is audio feeding the session, click on the Session to see live audio level metering for that session.

13. Notes:

1. There are many ways to start and stop the Live Encoder Service. Using the Session Builder to start, stop or restart the Service is the simplest one.

2. If the Service was previously stopped and the Session Builder is now launched, the Live Encoder Service will start automatically. If you do not wish the encoder to immediately start streaming the next time the Session Builder is launched and/or the Live Encoder Service is started, make sure all sessions are disabled and the profile is saved before stopping the Live Encoder service. This will prevent the Live Encoder to start streaming even when the Service is started.

3. While the Session Builder is running and the Service is stopped (by the Session Builder itself or other methods), you will not be able to save the profile since the Live Encoder is no longer running. Simply start the Live Encoder Service again (via the Session Builder or other methods.)

4. Simply closing the Session Builder will not stop the Service.

5. Simply logging off will not stop the Service because the Live Encoder is operating in the background as a system process (similar to Unix daemon).

QUICK PROGRAM ASSOCIATED DATA (PAD) GUIDE

Please refer to Program Associated Data documentation for a complete guide and information.

We highly recommend using XML format over UDP for a LIVE PAD because it adds the least overhead to the encoder.

If your PAD xml is in the following format:

```
<?xml version="1.0" encoding="UTF-8" ?>
<Event>
      <artist><![CDATA[Artist]]></artist>
      <title><![CDATA[Title]]></title>
      <image_small>http://www.internet.net/images/logo_small.jpg</image_smally>
</Event>
```


Your session LIVE PAD settings should look like the screenshot on the next page.

Live PAD	
Connection	UDP
Delay (secs)	5
UDP/IP Settings	
Incoming Addresses	127.0.0.1;localhost
Listening Port	21105
PAD Format	XML
XML Settings	
Artist Path	//Event//artist
Title Path	//Event//title
Small Artwork URL Path	//Event//image_small
Medium Artwork URL Path	//Event//image_medium
Large Artwork URL Path	//Event//image_large
XML format	Node

Device
Select audio recording device.

In this example, the encoder will be listening for the dynamic XML on the UDP port 21105 and the encoder will reject all UDP packets unless they come from the same computer as the encoder. Remove I*ncoming Addresses* if you wish to accepts all UDP packets from any source.

The values used for XML Settings are CASE SENSITIVE. In the example notice a capital *E* for *Event* and a lowercase *a* for *artist* in *//Event//artist*. The cases must be identical to the actual XML file.

XML file sent must be UTF-8 encoded. (CDATA tag is not required if the XML is html encoded as well)

The LIVE PAD is highly dynamic and time accurate. Set a delay to 0 for no delay if your system is on time. In some case when the audio is delayed (by audio processor for example), you may set the LIVE PAD delay up to 10 seconds.