Live Video Encoder – Command Line / XML Interface

NOTE: SDK / Developer license is needed for this functionality.

Running the Live Video Encoder from the Command Line

The Live Video Encoder is available as a GUI based application and a console based application for batch processing.
The encoder options can be controlled by an XML configuration file.

Usage:

LiveEnc.exe /p <XML-Profile> /l <log file>
LiveEncCmd.exe /p <XML-Profile> /l <log file> /a <authentication>

Parameters:

/p <XML-Profile>	XML-Profile is a xml text file with the encoder configuration (see below)
/l <log file>	log file collects debugging/log information during encoding
/a <authentication>	RTMP Authentication in the form “user:password”

How to use XML files to configure the Live Video Encoder

Sample XML file

```
<?xml version="1.0" encoding="utf-8"?>

<profile>

    <capture>
        <video>
            <device>0</device>
            <frame_rate>25.00</frame_rate>
            <size>
                <width>352</width>
                <height>288</height>
            </size>
        </video>
        <audio>
            <device>0</device>
        </audio>
    </capture>

    <encode>
        <video>
            <datarate>600000</datarate>
            <size>
                <width>1280</width>
                <height>720</height>
            </size>
        </video>
        <audio>
            <datarate>32000</datarate>
        </audio>
    </encode>
    <reconnectinterval>
        <attempts>5</attempts>
        <interval>5000</interval>
        <restartgraph>false</restartgraph>
    </reconnectinterval>

    <output>
        <rtmp>
            <url>rtmp://localhost/live</url>
            <stream>myStream</stream>
        </rtmp>
        <file>
            <path>
                c:\multistream.mp4
            </path>
        </file>
    </output>

</profile>
```

XML Tags Explained

- <capture>
  contains the information for video and audio capture devices
  - <video> contains details for the video capture device

  <device> the id number or name of the device
  <device2> optional, same as <device>, a second capture device for mix/3D mode
  <frame_rate> the desired framerate (e.g. 25, 15, 29.97)
  <size> (contains <width> and <height>) capture resolution (needs to be supported by the camera device)
  - <audio> contains details for the audio capture device

  <device> id/name, same meaning as for video device

- <encode>
  contains video/audio encoding options
  <video> video encoding details
  <datarate> bitrate in bits/s
  <size> (optional) resized/rescaled video encoder output, width and height specify the final resolution
  <deinterlacing> deinterlacing mode, available modes: *always*, *auto*, *off*
  <videomixer> mix/3D mode
  available modes: 1 (left/right), 2 (interlaced lines), 3 (top/bottom), 4 (interlaced column), 5 (anaglyph), the rest is for "picture in picture" mode: 17 (top right), 18 (top left), 19 (bottom right), 20 (bottom left)
  - <audio> audio encoding details

  <datarate> bitrate in bits/s
- <reconnectinterval>
  reconnect interval
  - <attempts> how many attempts to connect
  - <interval> wait for connection in milliseconds
  - <restartgraph> if set to false the internal reconnect of the rtmp writer is used, if set to true the graph is completely stopped and started again on reconnect, if not set at all the later method will be used
  - <unlimitedattempts>: if set to true unlimited reconnect attempts are made (attempts is overriden), if set to false the default behaviour is used
- <output>
  output stream/file options. Multiple outputs possible. Three different output types are available
  - <rtmp> specifies streaming to rtmp

  <stream> contains the stream name (only used for rtmp)
  - <file> specifies streaming to a file (e.g. c:\temp\h264.mp4)
  - <stream> used for any other streaming type (e.g. udp or rtsp)
  - <url> contains the destination url or file path
- <option>
  advanced options (“SetConfig” interface)
  - <key> the name of the option

- <value> the value for the option
- Sample H.264 Encoder settings:

```
<option>
    <key>H264IFrameDistance</key>
    <value>100</value>
    <key>H264Profile</key>
    <value>Main</value>
    <key>DeinterlacingMethod</key>
    <value>1</value>
    <key>RemoteControl</key>
    <value>0|1</value>
    <key>RemoteControlPort</key>
    <value>17600</value>
</option>
```

- Sample Authentication settings:

```
<option>
    <key>Auth</key>
    <value>username:password</value>
</option>
```

Sample XML files

Encoding to mp4 (file)

```
<?xml version="1.0" encoding="utf-8"?>
<profile>
        <capture>
                <video>
                        <device>Logitech QuickCam Pro 9000</device>
                        <frame_rate>25.00</frame_rate>
                        <size>
                                <width>352</width>
                                <height>288</height>
                        </size>
                </video>
                <audio>
                        <device>0</device>
                </audio>
        </capture>
        <encode>
                <video>
                        <datarate>600000</datarate>


                </video>
                <audio>
                        <datarate>32000</datarate>
                </audio>
        </encode>
        <reconnectinterval>
                <attempts>5</attempts>
                <interval>5000</interval>
        </reconnectinterval>
        <output>
```

```
                <file>
                        <path>c:\temp\h264.mp4</path>
                </file>
        </output>
</profile>
```

Encoding to mp4 (file) and to rtmp (stream)

Same as above, with this output section:

```
        <output>
                <file>
                        <path>c:\temp\h264.mp4</path>
                </file>
                <rtmp>
                        <url>rtmp://ws1.nanostream.tv/live</url>
                        <stream>myStream</stream>
                </rtmp>
        </output>
```

Streaming to udp (mpeg-2 ts)

```
<?xml version="1.0" encoding="utf-8"?>
<profile>
        <capture>
                <video>
                        <device>Logitech QuickCam Pro 9000</device>
                        <frame_rate>30.00</frame_rate>
                        <size>
                                <width>640</width>
                                <height>480</height>
                        </size>
                </video>
                <audio>
                        <device>Logitech Mic (Pro 9000)</device>
                </audio>
        </capture>
        <encode>
                <video>
                        <datarate>4000000</datarate>
                </video>
                <audio>


                        <datarate>32000</datarate>
                </audio>
        </encode>
        <output>
                <stream>
                        <url>udp://224.0.0.1:1234/1.ts</url>
                </stream>
        </output>
</profile>
```

Streaming to rtmp, using mix/3D

```
<?xml version="1.0" encoding="utf-8"?>
<profile>
	<capture>
		<video>
			<device>0</device>
			<device2>1</device2>
			<frame_rate>25.00</frame_rate>
			<size>
				<width>352</width>
				<height>288</height>
			</size>
		</video>
		<audio>
			<device>0</device>
		</audio>
	</capture>
	<encode>
		<video>
			<datarate>600000</datarate>
			<deinterlacing>auto</deinterlacing>
			<videomixer>1</videomixer>
		</video>
		<audio>
			<datarate>32000</datarate>
		</audio>
	</encode>
	<output>
		<rtmp>
			<url>rtmp://localhost/live</url>
			<stream>myStream</stream>
		</rtmp>
	</output>
</profile>
```

Streaming to rtmp, without audio

```
<?xml version="1.0" encoding="utf-8"?>
<profile>
	<capture>
		<video>
			<device>Logitech QuickCam Pro 9000</device>
			<frame_rate>30.00</frame_rate>
			<size>
				<width>1024</width>
				<height>768</height>
			</size>
		</video>
	</capture>
	<encode>
		<video>
			<datarate>4000000</datarate>
		</video>
	</encode>
```

```
        <output>
                <rtmp>
                        <url>rtmp://localhost/live</url>
                        <stream>myStream</stream>
                </rtmp>
        </output>
</profile>
```