

June 25, 2025

**Extron Media Processors and Encoders  
Streaming to third parties using RTMP**



The following notes provide guidance on setting up Extron Media Processors and Encoders for publishing live streams to third party services such as Zoom Events and Zoom Session Webinars via RTMP. For more information, please consult your Extron Application Engineer.

**Extron Products Affected:**

SMP 111	60-1594-01
SME 211	60-1763-01
SMP 351	60-1324-01 / 60-1324-11
SMP 351 3G-SDI	60-1324-02 / 60-1324-12
SMP 352	60-1634-01 / 60-1634-11
SMP 352 3G-SDI	60-1634-12
SMP 401	60-1825-01
SMP 401 12G-SDI	60-1825-02

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**SPECIAL NOTES**

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Streaming to third-party services requires a user to have an account with those services. Accounts with third-party providers are the responsibility of those maintaining the stream, and its content.

## TECH NOTE

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The Encoders support RTMP push streaming for publishing live video to third party services like Zoom, MSTeams, YouTube, Facebook Live, Wowza Cloud, Twitch, and others, as well as support for RTMPS for secure live video streaming.

**Note:** The examples in this document show the interface of the **SMP 401, SMP 300 Series, SMP 111** and **SME 211**, which may look different, but the same settings apply. Specific instructions apply only to the **SMP 401**.

## Configuration

To configure the Encoder for RTMP Push streaming to a live streaming provider:

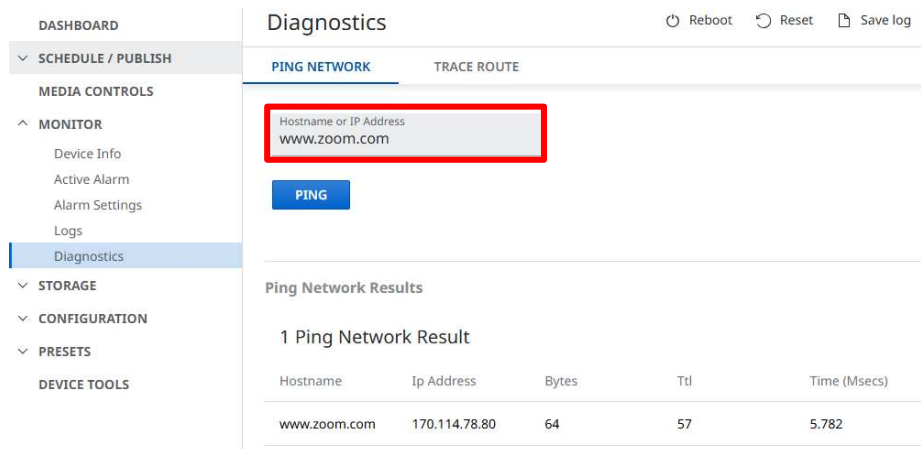
1. Ensure your Encoder is connected to the network and has access to the internet.
  - a. Open the web browser of the Encoder, **Troubleshooting, Diagnostic Tools**.
  - b. Ping your live service, such as [Zoom.com].
    - i. If successful, a green checkmark is shown.



- ii. If results fail, verify network and DNS settings.

### For SMP 401

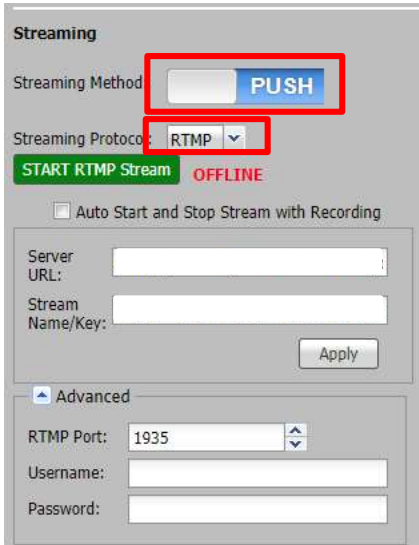
- a. Open the web browser of the SMP 401, **Monitor, Diagnostics**.
- b. Ping Network, Hostname or IP Address such as [zoom.com].
  - i. If successful, results shown.



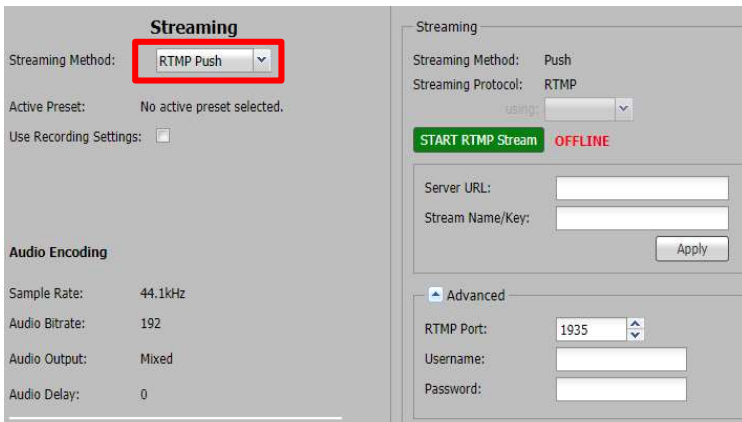
2. Open a web browser of the Encoder, **Configuration, Encoding & Metadata, Encoding Presets**:



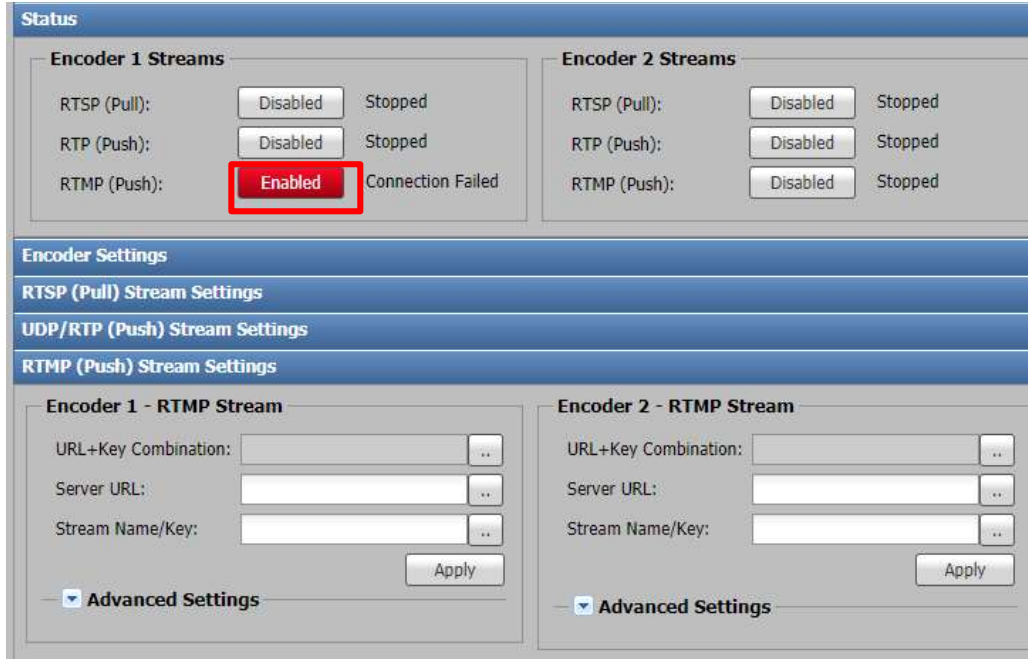
3. Confirm the Encoder is in **Stop Mode**. If needed, press stop on the front panel.
4. Select **PUSH** and **RTMP** from the streaming method and protocol options.



*SMP 352 example*



*SMP 111 example*

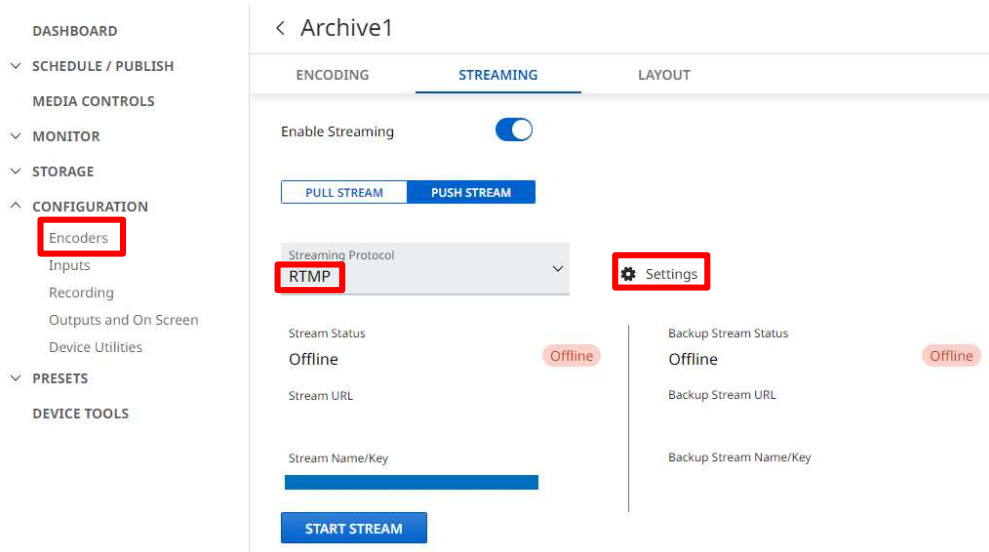


SME211 example

For **SMP 401**

Open the web browser of the SMP, **Configuration, Encoders:**

- Select any of the 4 available encoders or 2 virtual inputs and open **Streaming tab**.
- Select **PUSH STREAM** and select **RTMP** for the Streaming Protocol.
- Open **settings** to input streaming information obtained in the next steps.



RTMP Settings

Enable Auto Start/Stop

Enabled Auto Reconnect

RTMP Port

Username

Password

Full Ingest URL

Server URL

Stream Name/Key

Backup URL

Backup Stream Name/Key

5. The **Server URL, Stream Name/Key** and optionally the **Username, and Password** information is needed.
6. Follow the link and steps in the next section “**Streaming to Zoom**” to obtain the Server URL and Stream Name/Key fields for your Zoom Event or Zoom Sessions Webinar.

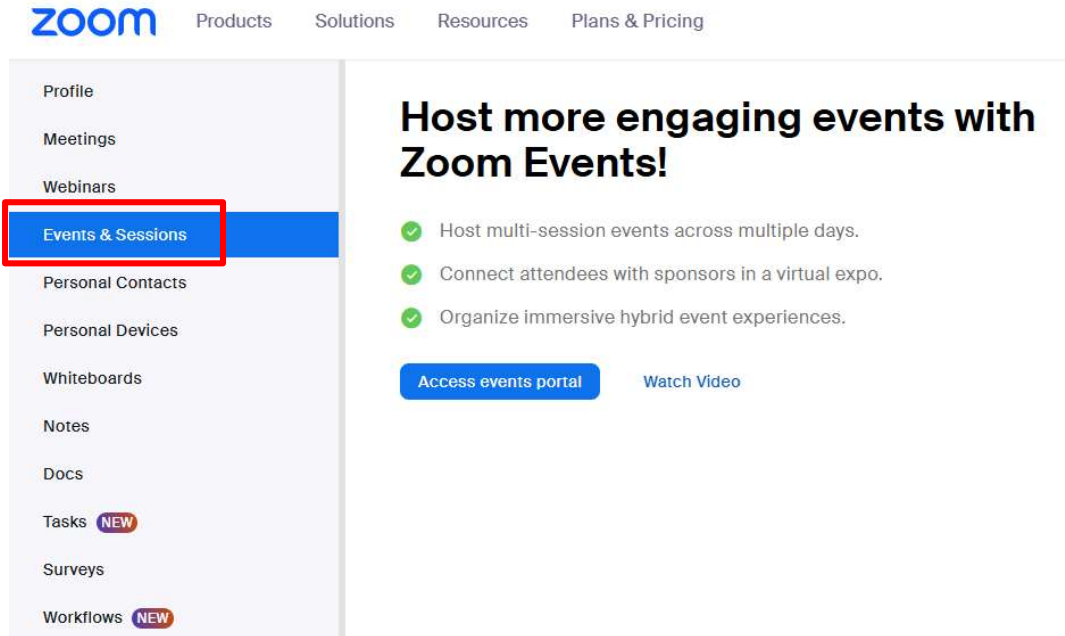
Note: For configuring SMP or SME **encoder settings**, reference the “**Recommended Settings**” section at the end of this guide.

## Streaming to Zoom

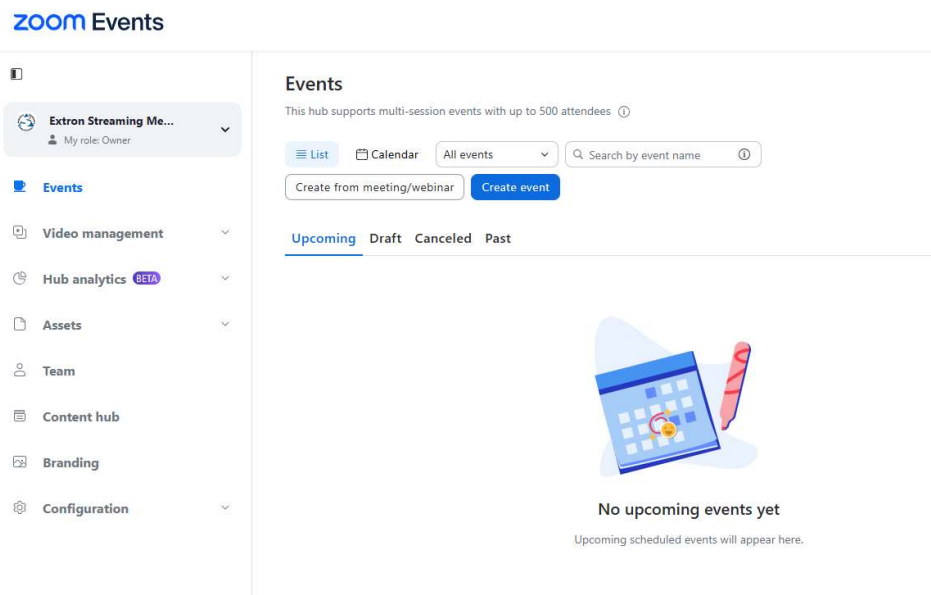
For Zoom Events Webinars and Zoom Session Webinars, Zoom can ingest RTMP streams from Extron SMP, and SME or other third-party encoding tools. There are several license options that Zoom offers. [https://support.zoom.com/hc/en/article?id=zm\\_kb&sysparm\\_article=KB0077038](https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0077038)

The following steps will provide an example of creating a Zoom Event Webinar, creating a stream Key and obtaining a URL for setting up your Extron SMP or SME for RTMP streaming into Zoom. Other types of Events webinars and Session webinars may have slightly different steps. Please refer to the link above for more information.

1. First log into your Zoom Events/Sessions account.



2. Access **Events and Sessions** portal.




3. Create New Event or start from a saved template.

How do you want to start?

Start with a blank event, duplicate an event, create a template, or choose from a default template.


[All](#) [My templates](#) [Default templates](#)



**Blank event**

Build a custom single session, recurring sessions, or a multi-session event based on your needs.


[Create event](#) [Settings](#)



**Duplicate an event or create a template**

Choose specific elements you defined which you can carry over for your next event.

[Start](#)




**SMP 401 Zoom Streaming recommended settings**

[Single-session live event](#) [My template](#)

Event configured with recommended settings by Zoom for ingesting RTMP streams.

[Use template](#) [Delete](#)




**Webinar event**

[Single-session live event](#) [Default template](#)

Host a simple event similar to Zoom webinar with minimal steps and customization.

[Use template](#) [See details](#)




**Marketing showcase**

[Single-session event](#) [Default template](#)

Ideal for a customer engagement event, promote a brand, showcase a product, or a launch party.

[Use template](#) [See details](#)




**Multi-day conference**

[Multi-session event](#) [Default template](#)

Series of keynotes, breakout rooms, networking, sponsor booths, and exhibitors.

[Use template](#) [See details](#)




**Internal company event**

[Single-session event](#) [Default template](#)

Ideal for a company all hands, training, development, or diversity and inclusion activities.

[Use template](#) [See details](#)



**Sales summit or training**

[Multi-session event](#) [Default template](#)

Combination of keynotes, panel discussions, workshops, and networking.

[Use template](#) [See details](#)

4. Configure Event Name, Date, Time and set Time Zone. Then Save and Continue.

**Event configuration**

**Event name \***

**Session starts \***      **Duration \***

📅

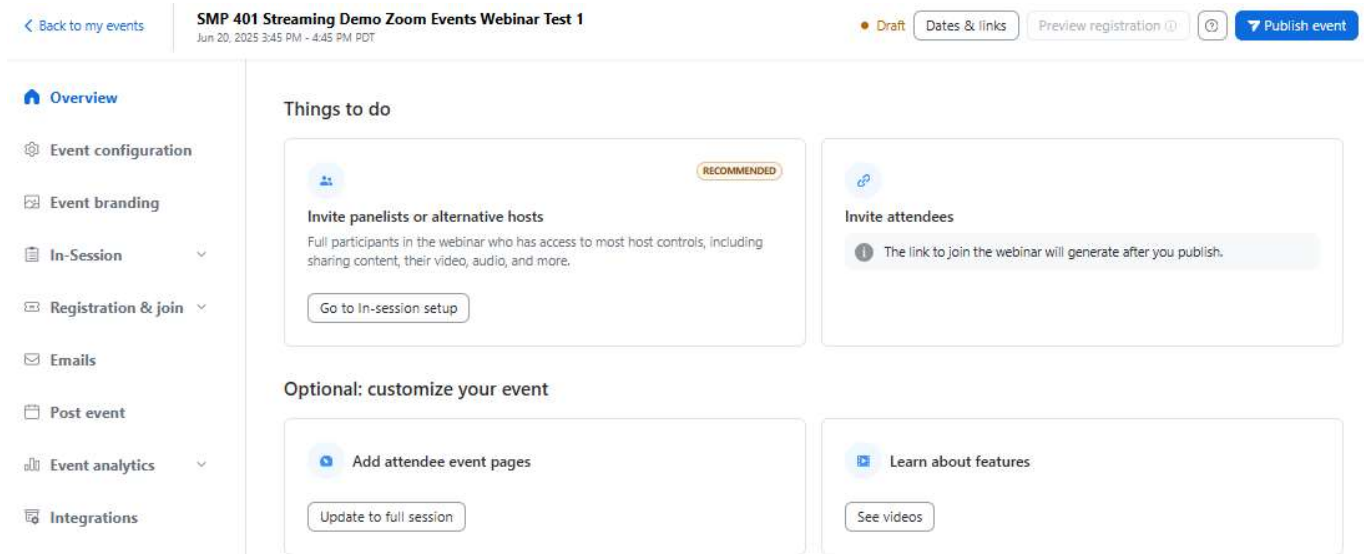
03:45 PM

hr
  min

**Time zone \***

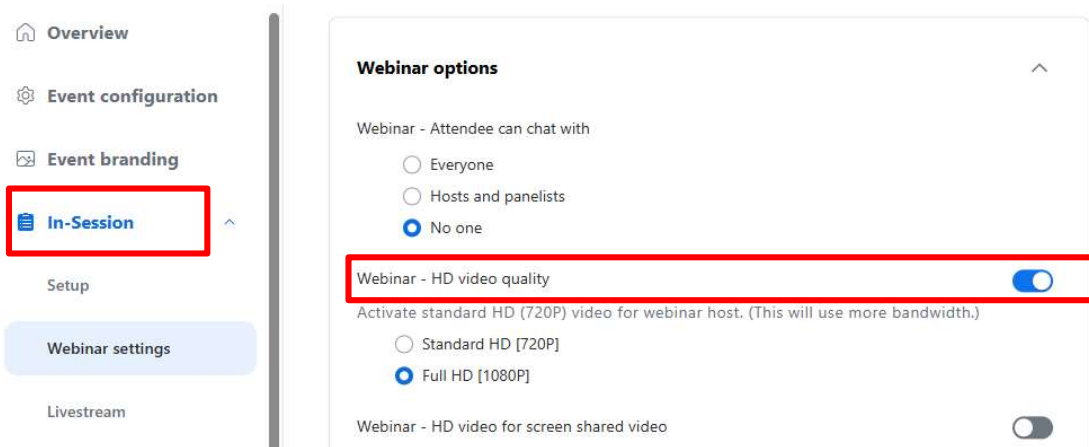
5. The next window is the Events Overview.



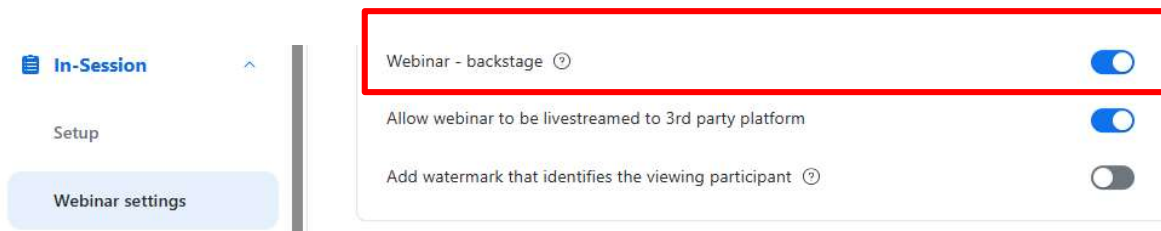
6. Go to **In-Session** to configure the **Webinar Settings** and **Live Stream**.

7. Under **Webinar Settings** – Webinar Options select: **Webinar – HD video quality**. (If your network bandwidth allows for HD video streaming).

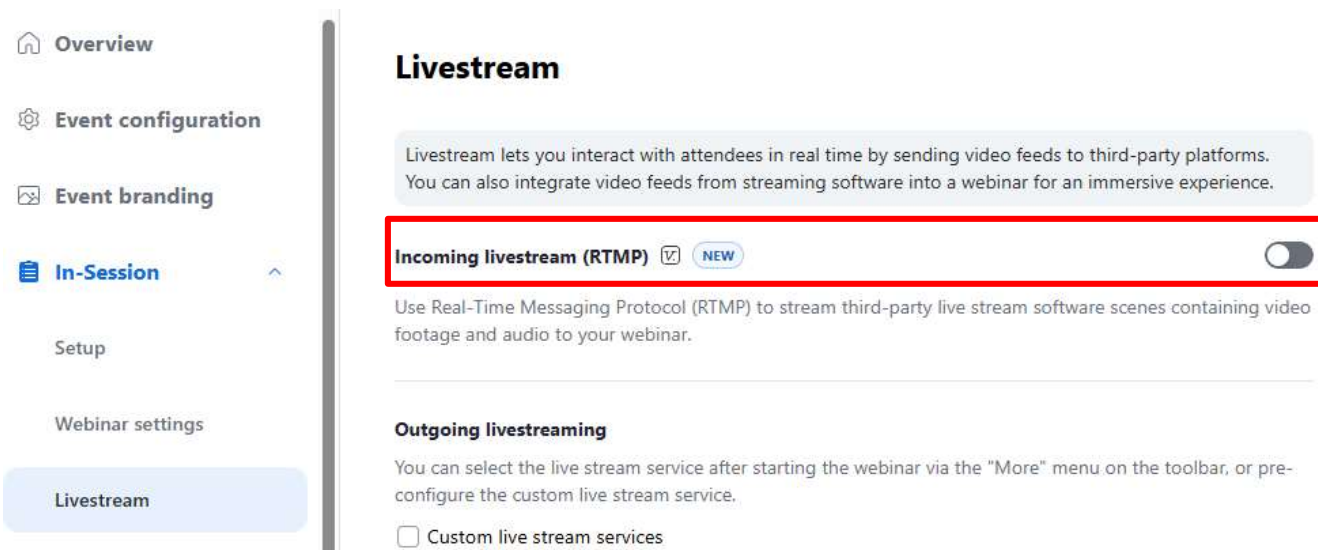
a. *Save settings*



8. Under **Webinar Options** enable “backstage”. This allows the host and panelists to meet privately before, during and after the webinar. This also enables preview of the stream from the SMP or SME before sending live in your Event.



9. Under **Livestream**, enable Incoming livestream (**RTMP**).



- a. Once enabled this will open the Stream Key and Stream URL.
- b. Copy the **Stream Key** and **Stream URL** one at a time and paste them into the SMP or SME encoder data fields. Press **Save** to save the stream URL and Key.

## Livestream

Livestream lets you interact with attendees in real time by sending video feeds to third-party platforms. You can also integrate video feeds from streaming software into a webinar for an immersive experience.

**Incoming livestream (RTMP)**  NEW



Use Real-Time Messaging Protocol (RTMP) to stream third-party live stream software scenes containing video footage and audio to your webinar.

Select stream key

[+ Create new](#)

One time key (default) ▼ Manage keys

Stream key

..... 🗑️ Reset Copy

Stream URL

[🔗](#) rtmps://a.restream.zoom.us/live 📄

Backup stream URL

[🔗](#) rtmps://b.restream.zoom.us/live?backup=1 📄

### Outgoing livestreaming

You can select the live stream service after starting the webinar via the "More" menu on the toolbar, or pre-configure the custom live stream service.

Custom live stream services

Save

**Note:**

- Specific Stream Keys can be created for different Events and a Backup stream URL can also be used if required.
- The SME 211 does not currently support RTMPS backup streams.

For the **SMP 111** and **SMP 300 Series**

Streaming Protocol: **RTMP** ▼

**START RTMP Stream** **OFFLINE**

Auto Start and Stop Stream with Recording

Server URL:

Stream Name/Key:

**Apply**

For **SMP 401**

The screenshot shows the Extron SMP 401 web interface. The left sidebar contains navigation menus: DASHBOARD, SCHEDULE / PUBLISH, MEDIA CONTROLS, MONITOR, STORAGE, CONFIGURATION (with sub-items: Encoders, Inputs, Recording, Outputs and On Screen, Device Utilities), PRESETS, and DEVICE TOOLS. The main content area is titled 'Archive1' and has tabs for ENCODING, STREAMING, and LAYOUT. Under the STREAMING tab, there are sub-tabs for PULL STREAM and PUSH STREAM. A 'RTMP Settings' dialog box is open, displaying the following options:

- Enable Auto Start/Stop:
- Enabled Auto Reconnect:
- Full Ingest URL:
- Server URL:
- Stream Name/Key:
- Backup URL:
- Backup Stream Name/Key:
- RTMP Port:  (Range 1024-65535)
- Username:
- Password:

At the bottom of the dialog box are **SAVE** and **CANCEL** buttons.

10. On the SMP or SME Encoder, click “Start RTMP Stream” button to activate the stream. On the SMP 401 click “Start Stream”.



Notes:

You can also select Auto Start which will start the stream automatically when recording starts.

For the **SMP 401**

Use slider “Enable Auto Start/Stop”.

RTMP Settings

Enable Auto Start/Stop

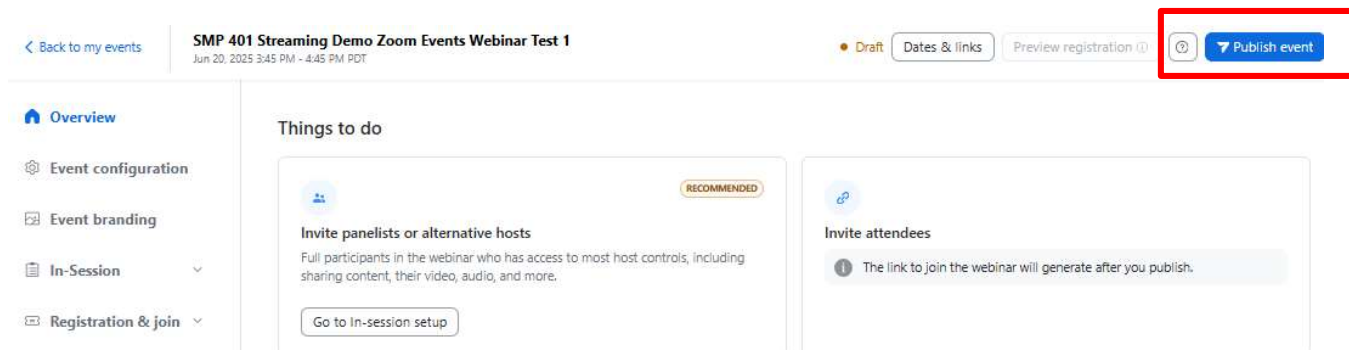
Enabled Auto Reconnect

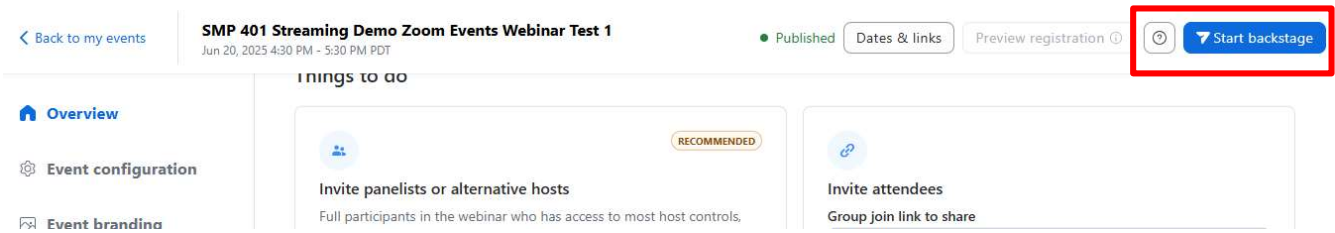
After a few seconds, the button will change to red or white and indicate the stream is now live.



11. Back in the **Zoom Events and Sessions portal**, further personalization and configuration can be done within this portal before publishing the Event.

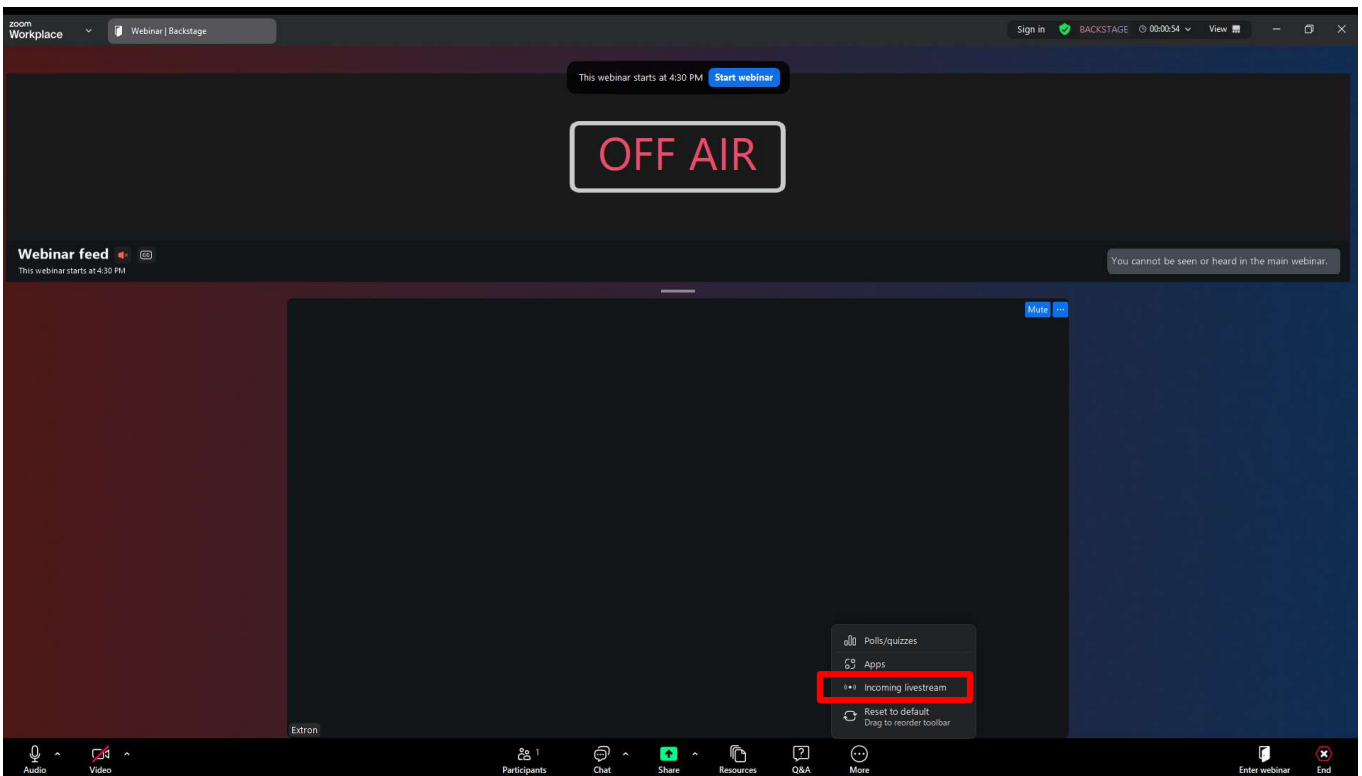
12. Select **Publish Event** and then **Start Back Stage** if enabled.

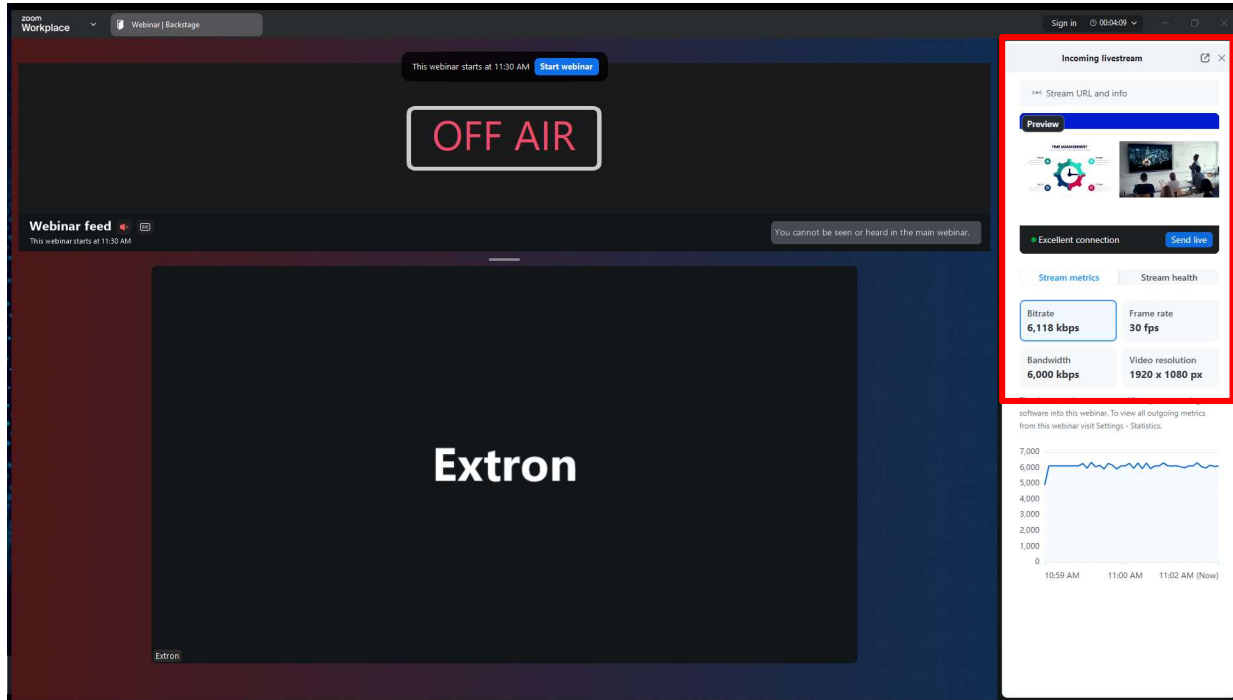




13. Under “More” options Select **Incoming Stream**. This will open the preview of the incoming stream from the SME or SMP.

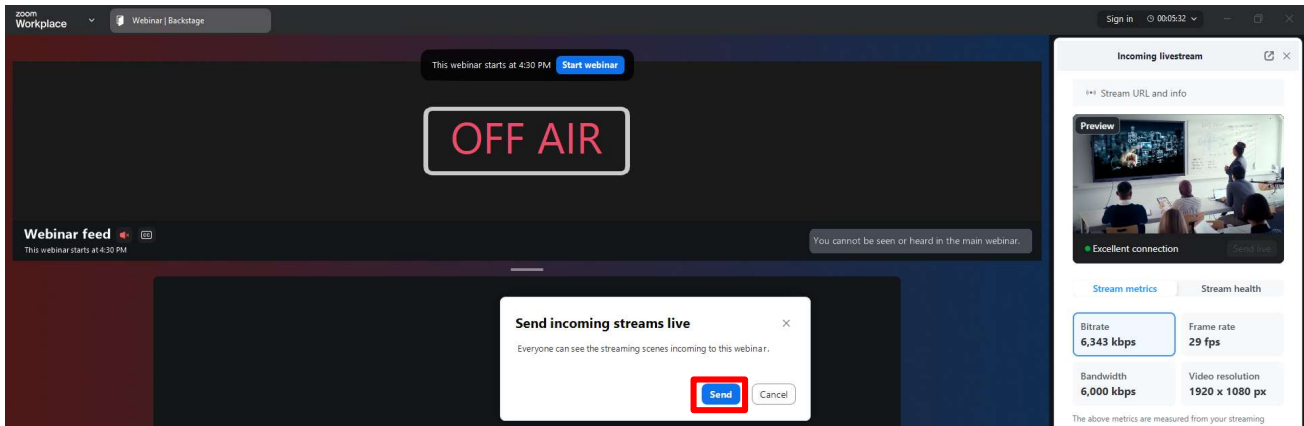
- a. This preview also provides Stream Metrics including the selected Bitrate, Frame rate, Bandwidth, Video resolution.



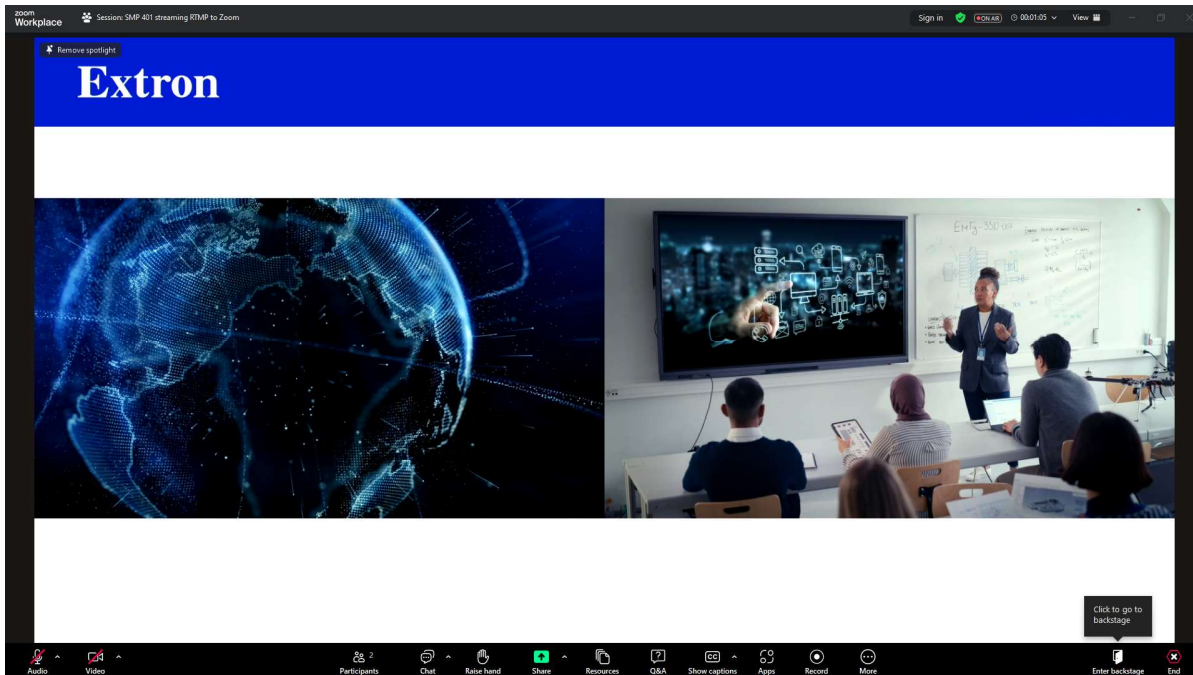


Note: See section “Zoom Recommended Settings” below for more information about Zoom recommended minimum encoder settings.

14. Once ready select **Send live** to send the incoming stream live for everyone in the webinar to view.



## Live Webinar



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## Zoom Recommended Settings

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[https://support.zoom.com/hc/en/article?id=zm\\_kb&sysparm\\_article=KB0077038](https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0077038)

Audio Bitrate: 128 kbps  
Audio Sample Rate: 44.1 kHz or 48 kHz, AAC Encoding  
Resolution:  
For 720p30 quality: 4 Mbps  
For 1080p30 quality: 6 Mbps  
FPS: 30 or 60  
GOP: Max 60 (ensure IDR interval  $\leq$  2 seconds)  
Rate Control: CBR  
H.264 Profile: Main/High  
Profile Level: 4.1

## GOP Information (Group of Pictures)

Use a GOP setting to set how often a full I frame is sent.

### Formula: $\text{GOP}/\text{FrameRate} = \text{Interval}$

Frame rate = 30, and GOP = 30 then  $30/30 = 1$  second, or an I frame every 1 second.

Frame rate = 30, and GOP = 60 then  $60/30 = 2$  seconds, or an I frame every 2 seconds.

Frame rate = 15, and GOP = 60 then  $60/15 = 4$  seconds, or an I frame every 4 seconds.

An additional setting is available for IDR frames (Instantaneous Decoder Refresh). This setting along with GOP determines how often an Interstitial frame is sent. IDR Frames are helpful for editing and seek playback.

### Formula: $(\text{GOP}/\text{FrameRate}) * \text{IDR} = \text{Interval}$

#### Frame Rate =30, GOP =30, and IDR ratio =2:

I frames alternate with IDR frames, with an IDR frame being sent every 2 seconds, in the order IDR, I, IDR, I.

#### Frame Rate =30, GOP = 60, and IDR ratio = 1:

Every I frame is also an IDR frame and they are sent every 2 seconds, in the order IDR, IDR, IDR, IDR.

#### Frame Rate =30, GOP = 60, and IDR ratio =2:

I frames alternate with IDR frames, with an IDR frame being sent every 4 seconds, in the order IDR, I, IDR, I

#### Frame Rate = 30, GOP = 20, and IDR ratio = 3:

Every third I frame is an IDR frame with an IDR frame being sent every 2 seconds, in the order IDR, I, I, IDR, I, I.