The Stream Targets feature in Wowza Streaming Engine™ media server software allows you to send live streams to widely distributed destinations. For example, you can send a live stream to a CDN such as Limelight Networks. This allows you to use the CDN's edge network to deliver the stream to viewers.

This article explains how to set up Wowza Streaming Engine and Limelight so that you can send a single live stream to Limelight for distributed delivery. If your Wowza Streaming Engine instance is ingesting a source stream that has multiple bitrates, or if you’re transcoding to multiple bitrates, and you want to send the adaptive bitrate set of streams to Limelight, you must create a Stream Target for each rendition and configure a corresponding stream in Limelight. The process is outlined here, but see Limelight’s documentation if you need additional help with configuring its service to ingest multiple bitrate streams.

**Note:** Wowza Streaming Engine 4.2 or later is required. In earlier versions of Wowza Streaming Engine, you must use the Push Publishing module to send live streams to CDNs for distributed delivery.

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### Configure Limelight to receive and distribute the stream

Make sure you have a Limelight Orchestrate Video account that’s enabled for live streaming. Then, sign in to Limelight and create a stream that will receive the live source stream from Wowza Streaming Engine and deliver it for final viewing over Limelight CDN servers.
1. Sign in to the Limelight Networks Video Platform.
2. On the Media tab, click the arrow to the right of the Upload Media menu and then click Add Live Stream.

3. Enter a descriptive Live Stream Title, specify the bitrate, width, and height for Stream 1, and choose the encoder location. Then, click Create.

   **Note:** If you’re sending a stream that has multiple bitrates to Limelight, click Add Stream and enter details for each additional stream (Stream 2, Stream 3, and so on) before you click Create.

4. With the stream selected on the Media tab, look in the Media Properties panel on the right side of the page and click Get Encoder Info.
5. In the Live Stream Encoder Information window, make note of the Stream 1 stream name, the Username and Password, and the Entry Point RMTP URL. You’ll need this information when you create the live application in Wowza Streaming Engine that sends the stream to Limelight.

   If you created multiple streams, note the stream name, username and password, and entry point for each stream--Stream 1, Stream 2, and so on. You can click the Copy All button in the lower-right corner of the window to copy all this information to the Clipboard and save it to a document for reference. You’ll need the encoder information for each Limelight stream when you create the live application in Wowza Streaming Engine that sends the stream (or streams) to Limelight.

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**Create an application in Wowza Streaming Engine to ingest the live source video**

Next, create a live application in Wowza Streaming Engine that will receive the live stream from an H.264 encoder or camera and send it to Limelight for distributed delivery.
1. Sign in to Wowza Streaming Engine manager, click the **Applications** tab at the top of the page, and then click **live** in the contents panel.

**Note:** This article uses the **live** application that installs with Wowza Streaming Engine. If you want to use a different live application, select it instead from the contents panel.

2. In the contents panel, click **Sources (Live)**.
3. Select the camera or encoder that you want to use as your video source, and complete the process of connecting the source to Wowza Streaming Engine. For more information, see [Connect a live source to Wowza Streaming Engine](#).

**Note:** By default, Wowza Streaming Engine requires RTMP and RTSP sources to provide a user name and password to connect to a live application. For information on how to turn off authentication, see [Managing live source authentication settings](#).

### Create a stream target to send the stream to Limelight

After the **live** application is created in Wowza Streaming Engine, it must be configured to send the stream to Limelight.

1. In the contents panel, click **Stream Targets** and then click **Add Stream Target**.
2. On the **Add Stream Target** page under **Third-Party Target Destinations**, click **Limelight**. Limelight receives the stream over RTMP.
3. On the **Limelight Configuration** page, provide the following information:

   - **Stream Target Name** - A descriptive name for this target setup in Wowza Streaming Engine. The name must be unique and can’t contain less-than (<), greater-than (>), colon ( : ), quotation (’ and “), forward slash (/), backslash (), pipe (|), question mark (?), asterisk (*), double-dot (..), or tilde (~) characters.
   - **Source Stream Name** - The name of the incoming stream that you specified in Wowza Streaming Engine when you set up the video source.
   - **Destination Application Name** - The name of the application in the Limelight RTMP ingest URL. The application name follows the host name in the RTMP URL. The RTMP URL is the **Entry Point** in the Limelight **Live Stream Encoder Information** window. So, for example, if the **Entry Point** is:
the application name is **llnwvps732**.

- **Destination Application Instance** - Leave blank. Limelight uses a default application instance.
- **Destination Host** - The hostname of the Limelight server, which is part of the Entry Point value in the Live Stream Encoder Information window. So, for example, if the Entry Point is:

  ```
  rtmp://ingest06.pri.llnwvps.fmmpush.llnw.net/llnwvps732
  ```

  the hostname is **ingest06.pri.llnwvps.fmmpush.llnw.net**.

- **Destination Port** - The port number for your connection. RTMP connections use port 1935 by default.
- **Destination Stream Name** - The name that Limelight assigned to your stream, which is the **Stream 1** value in the Live Stream Encoder Information window. The stream name is a long, alphanumeric string, such as `5vfkY-5PS4gj74X_ZKfByg_VRout8S-RQUvpMgwdFVZsA_320_240_500`.
- **User Name** and **Password** - Your Limelight username and password for authentication, also available in the Live Stream Encoder Information window in the Limelight console.

**Note:** By default, Wowza Streaming Engine requires RTMP and RTSP sources to provide a user name and password to connect to a live application. For information on how to turn off authentication, see Managing live source authentication settings.

4. Click **Add this target**.

**Note:** If you’re sending a stream that has multiple bitrates to the destination, you must create a stream target for each rendition. Repeat the steps above in Create a stream target to send the stream to Limelight for each rendition that you want to send to Limelight for adaptive bitrate playback. The easiest way to do this is to create the first stream target, and then click the Copy icon for the target and change the Stream Target Name, Source Stream Name, and Destination Stream Name in the new target. For clarity, we recommend including the bitrate in the Stream Target Name. Use the information for Stream 2, Stream 3, and so on, in the Live Stream Encoder Information window as needed for your additional stream targets.
Then, for each stream target that you create, set the stream target’s Adaptive Streaming property to **true**. To do this:

1. On the **Stream Targets** page, click the **Edit** icon for the stream target.
2. On the **Advanced** tab, click **Edit**. Access to the **Advanced** tab is limited to administrators with advanced permissions. For more information, see **Manage credentials**.
3. Set **Adaptive Streaming** to **true**, and then click **Save**.

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**Enable Stream Targets**

Before you stream, you must enable the Stream Targets feature for the Wowza Streaming Engine application and the stream target you created.

If you don’t see a checkmark next to **Stream Targets** in the contents panel of the application, click **Stream Targets** in the contents panel and then click **Enable Stream Targets**. When prompted, click **Restart Now** so your change takes effect. When Stream Targets is enabled, a checkmark appears next to **Stream Targets** in the contents panel and the **Stream Targets** page shows **Status** is **Enabled**.

If the **Status** of an individual stream target is **Disabled**, click the **Enable** icon for the stream in the **Actions** column.

When a stream target is enabled, its status on the **Stream Targets** page is one of the following:

- **Waiting**. The target is enabled but is not yet pushing the stream to the Limelight destination because either the target’s configured source stream is not connected to the Wowza Streaming Engine input or Wowza Streaming Engine has not completed initializing the connection to the Limelight destination.
- **Active**. The Wowza Streaming Engine instance successfully connected to the Limelight destination and is actively pushing the stream.
- **Error**. The Wowza Streaming Engine instance unsuccessfully tried to connect to the Limelight destination. Make sure the target’s configured source stream is connected to the Wowza Streaming Engine input. Errors might be due to an invalid target...
The status of each stream target updates automatically if your Wowza Streaming Engine application has fewer than 100 stream targets. If your application has more than 100 stream targets, you can click Refresh to update the status.

**Test the connection**

Configure your encoder and then test the live stream.

1. Start the stream in the H.264 camera or encoder that’s sending the stream to the live application in Wowza Streaming Engine.

   The live application ingests the live stream and sends it to the Limelight target.

2. In Wowza Streaming Engine, verify that the stream is working by clicking Incoming Streams, and then clicking the stream name.

   The stream details page displays the Status of the stream (Active) as well as details about connections, uptime, and throughput for the live stream.

3. Verify that Limelight is receiving, publishing, and distributing the stream to endpoints across its network: In the Limelight console, select your stream on the Media tab and click Embed Code. Click Link, and select a player from the Select a player list. Then, copy the URL in the window to the address bar of a web browser.

   If you’re sending multiple bitrates to Limelight, the player automatically switches between bitrates as needed.

4. Stop the stream in the source camera or encoder to end your test connection.

**More resources**

- Use CDNs and services to distribute live streams from Wowza Streaming Engine
- Sample map file entries for Stream Target destinations (push publishing)