Improve playback of lower-latency Apple HLS streams from Wowza Streaming Engine

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With Wowza Streaming Engine™ media server software, you can stream lower-latency Apple HLS content smoothly. You can reduce the latency of Apple HLS streams by using smaller chunk sizes, which may result in playback errors if Wowza Streaming Engine uses the default behavior of returning three chunks at a time to the player. This article describes how to configure Wowza Streaming Engine to store and return more chunks to the player upon request for smooth playback of lower-latency Apple HLS streams.

Configure HLS chunk properties

Notes:
- This article applies to streaming low latency Apple HLS content from Wowza Streaming Engine. It 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.
- The Properties tab is limited to administrators with advanced permissions. For more information, see Manage credentials.

1. In Wowza Streaming Engine Manager, click the Applications tab and then click live in the contents panel.
2. On the details page Properties tab, click Cupertino Streaming Packetizer in the Quick Links bar.
3. In the Cupertino Streaming Packetizer area, click Edit, and change the values for the following properties:
   - `cupertinoChunkDurationTarget` – Sets the duration of each chunk in milliseconds. The default value is 10000, but the `chunkDurationTarget` must be smaller to reduce the latency of Apple HLS streams. For a one-second chunk size, set the value to 1000.

Notes:
- Wowza Streaming Engine can’t create chunks that are smaller than the
encoder’s GOP size.

- For more information about configuring chunk size, see [Configure Apple HLS packetization in Wowza Streaming Engine](#).

- **cupertinoMaxChunkCount** – Sets the maximum number of chunks Wowza Streaming Engine stores in the available chunk list. The default value is 10, but for reduced latency streaming we recommend storing 50 seconds worth of chunks. For one-second chunks, set the `cupertinoMaxChunkCount` to 50; if you’re using half-second chunks, the value should be doubled (100).

- **cupertinoPlaylistChunkCount** – Sets the number of items returned to the player in the playlist. The default value is 3, but for reduced latency streaming we recommend returning 12 seconds of data to the player. This prevents the loss of chunks between chunklist requests. For 1-second chunks, set the `cupertinoPlaylistChunkCount` to 12; if you’re using half-second chunks, the value should be doubled (24).

4. Click **Save**.
5. On the **Properties** tab, click **Custom** in the **Quick Links** bar.
6. In the **Custom** area, click **Edit**.
7. Click **Add Custom Property**, specify the following custom property settings in the **Add Custom Property** dialog box, and then click **Add**:
   - In **Path**, select `/Root/Application/LiveStreamPacketizer`.
   - In **Name**, enter `cupertinoMinPlaylistChunkCount`.
   - In **Type**, select **Integer**.
   - In **Value**, specify the minimum number of chunks required before Wowza Streaming Engine provides a playlist to the player. The default value is 1, but for reduced latency streaming we recommend requiring a minimum of 6 seconds worth of chunks. For 1-second chunks, set the `cupertinoMinPlaylistChunkCount` to 6; if you’re using half-second chunks, the value should be doubled (12).

8. Click **Save** and restart the application to apply the changes.

**More resources**

- [Set up low latency applications in Wowza Streaming Engine for RTMP streaming](#)