eCDN Stress Test Application

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This article is designated for administrators.

About

The eCDN Stress Test tool simulates video traffic to help you test your network and Kaltura Edge Server (KES) capacity before an event.

Use the tool to simulate multiple users accessing a stream, monitor how your eCDN environment performs under load, and identify potential performance issues before your event.

The tool runs on Windows.

Download the eCDN Stress Test tool

Download the latest version of the eCDN Stress Test tool:

Download the eCDN Stress Test tool

The tool doesn't require installation. Run it on a Windows machine that has access to the network you want to test.

Run a stress test

1. Start broadcasting to the entry you want to use for the test.
2. Open the eCDN Stress Test tool.
3. In the **URL** field, enter the URL for the entry you're streaming to. See Create the test URL.
4. Set the number of users you want to simulate.

   A single machine can typically simulate hundreds of users, but the actual number depends on the machine's hardware and available resources.

5. Click **Start**.

eCDN Stress Test tool

The tool simulates video traffic and reports analytics to Kaltura. Delivery rules and eCDN routing are applied according to the IP address of the machine running the stress test.

You can run multiple instances of the tool on the same machine. Keep in mind that the

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machine itself can become a performance bottleneck. Poor test results can be caused by limitations of the test machine rather than the network or KES.

Create the test URL

You can create the test URL using one of the following methods.

Option 1 - Create a playManifest URL

Use the following format:

```
https://<KES_HOSTNAME>/kAPI/cdnapisec.kaltura.com/p/<PARTNER_ID>/playManifest/entryId/<ENTRY_ID>/format/applehttp/protocol/http/a.m3u8
```

Replace:

- `<KES_HOSTNAME>` with the KES API gateway hostname.
- `<PARTNER_ID>` with your Partner ID.
- `<ENTRY_ID>` with the ID of the entry you're using for the test.

If your account enforces a Kaltura Session (KS), append the KS to the URL:

```
?ks=<KS>
```

If domain restrictions are enabled, use an access control profile that allows the test request.

Option 2 - Use a manifest URL

Run a `curl` request for the `playManifest` and select one of the resulting `index-sXXXX.m3u8` files. Add the KES hostname to the URL.

For example:

```
https://<KES_HOSTNAME>/kCache/klive.kaltura.com/dc-0/live/hls/p/<PARTNER_ID>/e/<ENTRY_ID>/sd/6000/t/<TOKEN>/index-s33.m3u8
```

Run the tool from the command line

You can also run the stress test from the Windows command line using:

```
usage --url [URL] --users [NUMBER]
```

Replace `[URL]` with the test URL and `[NUMBER]` with the number of users you want to simulate.

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Review the test results

When the stress test finishes, two log files are saved in the same directory as the application:

- `PlayerSimulator-access-XXX` - Contains network details for the stress test, including the time required to download each video chunk.
- `PlayerSimulator-debug-XXX` - Contains detailed application logs for troubleshooting.

You can also review the Stress Test Access-Logs Sample for an example.

The access log uses the following format:

```
[TIME] [SIMPLAYERID] [URL] [RESPONSE SIZE] [TIME TO DOWNLOAD] [KES CACHE HEADER] [ERROR STRING]
```

The application also displays the number of chunks and manifests downloaded during the test.

While the stress test is running, open the Kaltura eCDN Monitoring Portal to monitor system performance. The simulated players send analytics events to Kaltura, allowing you to monitor their activity in the portal.

When reviewing the results:

- If the maximum average chunk or manifest download time is above **5 seconds**, review your eCDN setup.
- The expected maximum is **1.5 seconds**, with an average of approximately **300 ms** and a small standard deviation.

When interpreting the results, consider the performance of the machine running the test. Hardware or resource limitations on the test machine can affect the results independently of KES or network performance.

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