

Step by step guide to HolaCDN implementation

Introduction

Welcome to HolaCDN! Implementing HolaCDN in your site or app is a simple process which can be completed in 30 minutes:

1. [Sign up for a HolaCDN account](#)
2. [Add the HolaCDN JS to your website](#)
3. [Video QoE analytics collection](#)
4. [Configure & test HolaCDN on your browser](#)
5. [Test & deploy HolaCDN on production traffic](#)

This guide is for desktop browsers. To use HolaCDN in your native apps, see the [Android](#) and/or [iOS/tvOS](#) github pages. If you have any questions, [contact HolaCDN support](#).

A [PDF version](#) of this document is available, but we recommend using the online version.

Portuguese version: [Guia passo a passo para a implementação HolaCDN](#)

Korean version: [HolaCDN 단계 별 설치 가이드](#)

1. Sign up for a HolaCDN account

If you didn't do so already, sign up for [a new HolaCDN account](#), and note your customer ID which will be sent to you following the registration.

Naturally, your account is currently empty. To see one with data, visit the [demo account](#).

2. Add the Hola JS to your website

- For **any HTML5 based** video players (such as JW player, Flowplayer, Native HTML5 players and others) - [click here](#).
- For **Flash based** players, choose your player - [JWPlayer](#), [FlowPlayer](#), [VideoJS](#), [Hola player](#), [your own homemade player](#).
- For **Native apps** video players, see the [Android](#) and/or [iOS/tvOS](#) github pages.

Important notes:

1. It is safe to add the jS code to production pages. It is configured by default to only collect statistics, just like Google Analytics.
2. Do not test on localhost. Test on a server that is accessible from the Internet.
3. Do not use short video URLs ('/hls/video.m3u8'). Use the full URL including video server in your webpages ('http://myserver.com/hls/video.m3u8').
4. The JavaScript must be included in the same frame as the video player.
5. The JavaScript is loaded asynchronously, and will not affect your page load time.
6. For best results, add the script to the 'head' element of the video HTML page.

2.1 HTML5 video players

2.1.1 Standard HTML5 video players

When integrating with an HTML5 source, HolaCDN attaches itself to a tag. A video tag can be embedded in the HTML, or can be dynamically created by your player (e.g. VideoJS).

1) Add the script to your page as follows. Don't forget to replace 'XXXXX' with the customer ID you received when you registered. You can also find your customerID in your holacdn.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
...
<script async crossorigin="anonymous"
src="//player.h-cdn.com/loader.js?customer=XXXXX"></script>
...
</head>
```

Sample code for HTML5 video:

- Without HolaCDN [Chrome native](#) | [Flowplayer](#) | [JW player](#)
- With HolaCDN [Chrome native](#) | [Flowplayer](#) | [JW player](#)

2) Done adding the code? Continue to [monitor video QoE analytics](#).

2.1.2 HTML5/MPEG-DASH played with Shaka player

If you play MPEG-DASH videos over HTML5 tech with Shaka player, follow these steps:

1) Add the script to your page as follows. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacd.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
...
<script async crossorigin="anonymous"
src="//player.h-cdn.com/loader.js?customer=XXXXX"></script>
...
</head>
```

2) Replace Shaka player with Hola-enabled version:

- Download (using right click > save link as) the Hola-enabled version of Shaka player and place it on your server: See the [Github page](#) for latest versions.
- Replace original Shaka player with Hola-enabled version:

```
<script type="text/javascript"
src="//example.com/static/hola-shaka-player-compiled.js"></script>
```

Sample code for MPEG-DASH with and without HolaCDN : See the [Github page](#)

3) Done adding the code? Continue to [monitor video QoE analytics](#).

2.1.3 HTML5/HLS played by JWPlayer with HolaHLS provider

In order to play HLS videos using HTML5 technology with HolaHLS provider in JWPlayer, you need to perform the following steps:

1) Add relevant scripts to your page and register HolaHLS provider as follows. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacd.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
...
<script src="//content.jwplatform.com/path/to/jwplayer.js"></script>
<script>jwplayer.key="XXXXXXXXXXXXXXXXXXXXX=";</script>
<script id=hola_jwplayer_hls_provider
src="//hap.h-cdn.com/hola_jwplayer_hls.min.js?customer=XXXXX"></script>
...
</head>
```

2) Verify everything works right as expected.

3) Done adding the code? Continue to [monitor video QoE analytics](#).

2.1.4 HTML5/HLS played by Flowplayer with HolaHLS provider

In order to play HLS videos using HTML5 technology with HolaHLS provider in flowplayer, you need to perform the following steps:

1) Add relevant scripts to your page and register HolaHLS provider as follows. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacd.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
...
<script src="//releases.flowplayer.org/6.0.5/flowplayer.min.js"></script>
<script id=hola_flowplayer_hls_provider
src="//hap.h-cdn.com/hola_flowplayer_hls.min.js?customer=XXXXX"></script>
...
</head>
```

2) Verify everything works right as expected.

3) Done adding the code? Continue to [monitor video QoE analytics](#).

2.1.5 HTML5/HLS played by Brightcove with HolaHLS provider

In order to play HLS videos using HTML5 technology with HolaHLS provider in Brightcove, you need to perform the following steps:

1) Add relevant scripts to your page and register HolaHLS provider as follows. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacd.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
...
<script id=hola_videojs_hls_provider
src="//hap.h-cdn.com/hola_videojs_hls.min.js?customer=XXXXX"></script>
```

```
<script  
src="//players.brightcove.net/12345567890/1a1a1a1a-1a1a-1a1a-1a1a-1a1a1a1a1a1a_d  
efault/index.min.js"></script>  
  
...  
</head>
```

2) Verify everything works right as expected.

3) Done adding the code? Continue to [monitor video QoE analytics](#).

2.1.6 HTML5/MPEG-DASH played with dash.js player

If you play MPEG-DASH videos over HTML5 tech with dash.js player, follow these steps:

1) Add the script to your page as follows. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacd.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>  
...  
<script async crossorigin="anonymous"  
src="//player.h-cdn.com/loader.js?customer=XXXXX"></script>  
...  
</head>
```

2) Replace dash.js player with Hola-enabled version:

- Download (using right click > save link as) the Hola-enabled version of dash.js player and place it on your server: See the [Github page](#) for latest versions.
- Replace original dash.js player with Hola-enabled version:

```
<script type="text/javascript" src="//example.com/static/dash.all.min.js"></script>
```

3) Done adding the code? Continue to [monitor video QoE analytics](#).

2.2 Flash based video players

Tip: If you are still using a flash based video player, consider moving to an HTML5 video player. Flash support is being removed from browsers, and HTML5 offers improved compatibility and a better video experience.

2.2.1 JWPlayer

If you only use JWPlayer only in HTML5 mode, [follow the HTML5 instructions](#).

If your site uses JW Player also with flash technology, follow these steps:

1) Add Hola loader to the 'head' element of the video HTML page. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacd.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
...
<script async crossorigin="anonymous"
src="//player.h-cdn.com/loader.js?customer=XXXXX"></script>
...
</head>
```

2) Replace your JW player SWF with the Hola-enabled version.

Download (using right click > save link as) the Hola-enabled JWPlayer version that matches your JW version, and place it on your own server. Choose your version from:

- JW Player: [V6.12.4xx](#) | [V7.1.0xx](#) | [V7.1.4xx](#) | [V7.2.2xx](#) | [V7.2.3xx](#) | [V7.2.4xx](#) | [V7.3.3xx](#) | [V7.3.4xx](#) | [V7.4.3xx](#) | [V7.4.4xx](#) | [V7.5xx](#) | [V7.6xx](#) | [V7.6.1xx](#) | [V7.7.0xx](#) | [V7.7.1xx](#) | [V7.7.4xx](#) | [V7.8.1xx](#) | [V7.8.2xx](#) | [V7.8.3xx](#) | [V7.8.4xx](#) | [V7.8.6xx](#) | [V7.8.7xx](#) | [V7.9.0xx](#) | [V7.9.1xx](#) | [V7.9.3xx](#) | [V7.10.0xx](#) | [V7.10.1xx](#) | [V7.11.0xx](#) | [V7.12.8xx](#)

Once you downloaded the file, continue by configuring {flashplayer: <url>} option in jwplayer('video-container').setup(opt) call:

```
jwplayer('video-container').setup({
  file: '//cdn.example.com/popular_videos/example.mp4',
```

```
flashplayer: '//example.com/static/<new-version-flashplayer>.swf',  
primary: 'flash',  
width: 640, height: 360  
});
```

- Replace `cdn.example.com/popular_videos/example.mp4` with your own link.
Changing the SWF does not impact the user interface of the player.
- Note: if you have multiple JWplayers playing on the same page, make sure they all use the same version of Hola-enabled SWF file.

JWPlayer/Flash code: Without HolaCDN: [MP4](#) | [HLS](#) | [HDS](#) | with HolaCDN: [MP4](#) | [HLS](#) | [HDS](#)

3) Done adding the code? Continue to [monitor video QoE analytics](#).

2.2.2 VideoJS

If your site uses a videoJS based player with flash technology, follow these steps:

1) Add Hola loader to the 'head' element of the video HTML page. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacd.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
...
<script async crossorigin="anonymous"
src="//player.h-cdn.com/loader.js?customer=XXXXX"></script>
...
</head>
```

Sample code for VSJ5.1: Without HolaCDN: [MP4](#) | With HolaCDN: [MP4](#)

2) Done adding the code? Continue to [monitor video QoE analytics](#).

2.2.3 Flowplayer (HLS only; HDS, MP4 coming soon)

If you only use FlowPlayer in HTML5 mode, [follow the HTML5 instructions](#). If your site plays HLS video using Flowplayer with flash technology, follow these steps:

1) Add Hola loader to the 'head' element of the video HTML page. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacd.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
<script async crossorigin="anonymous"
src="//player.h-cdn.com/loader.js?customer=XXXXX"></script>
</head>
```

2) Replace your Flowplayer SWF with the Hola-enabled version.

Download (using right click > save link as) the [Hola-enabled version](#) and place it on your own server. Continue by configuring {swf: <url>, swfHls: <url>} option in flowplayer('video-container', opt) call:

```
var container = document.getElementById('video-container');
var player = flowplayer(container, {
  swf: '//example.com/static/<new-version-flashplayer>.swf',
  swfHls: '//example.com/static/<new-version-flashplayer>.swf',
  clip: {
    sources: [{
      type: "application/x-mpegurl",
      src: "//cdn.example.com/popular_videos/example.m3u8",
    }]
  }
});
```

Both swf and swfHls are changed to the same file. Changing the SWF does not impact the user interface of the player.

3) Done adding the code? Continue to [monitor video QoE analytics](#).

2.3 Using Hola VideoJS player

HolaCDN can work with your existing player, but we recommend using the Hola player. It is a VideoJS based video player with [additional features](#). It is completely free to use and offers best performance and compatibility with HolaCDN. You can continue using it even if you don't want to use HolaCDN. Again, this is totally optional.

1) Add Hola script to your page as follows. Don't forget to replace 'XXXXX' with the customer ID you received when you registered! You can also find your customerID in your holacdn.com portal, on the top-left of the screen under the HolaCDN logo.

```
<head>
...
  <script src="//player2.h-cdn.com/hola_player.js?customer=XXXXX"></script>
...
</head>
```

2) Create a video tag with the following classes: video-js vjs-default-skin

```
<video class="video-js vjs-default-skin" poster="//example.org/YourPoster.jpg"
  width="640" height="360" controls>
  <source src="//example.org/YourVideo.mp4" type="video/mp4">
</video>
```

3) Add the following script after video tag to initialize Hola player:

```
<script>
  (function(){
    window.hola_player({});
  })();
</script>
```

Sample code for Hola Player/Flash: Without HolaCDN: [MP4](#) | [HLS](#) | [HDS](#) | With HolaCDN: [MP4](#) | [HLS](#) | [HDS](#)

3) Done adding the code? Continue to [monitor video QoE analytics](#).

3. Video QoE analytics collection

HolaCDN JS code is configured by default to only collect video QoE statistics for your existing CDN(s). Just like like Google Analytics, but for video.

3.1 Test your page with the integration tool

[Use the integration tool](#) to test the HolaCDN code on your webpage. Enter the video page URL and click 'Run' to test your page:

demo / Integration wizard

Follow the [implementation guide](#) to add HolaCDN to your website. Paste your website url in the form below to test integration.

Video page URL

stats

3.2 Monitor QoE statistics using the portal

Video QoE statistics are uploaded and shown on the HolaCDN portal. Follow these steps to verify their collection:

1. Play a few videos on the page(s) where you added the HolaCDN JS. Every time you play a video, the HolaCDN JS will send a report to the server with that video's performance metrics.
2. Check that events are recorded on your portal - visit the ['recent events'](#) page. You should see a table, which will look like this:

demo / Statistics / Recent Zones | Statistics | Configuration | DMCA

Latest CDN events for customer demo

All IDs	Timestamp	All IPs	All zones	All countries	All browsers	Win32	All video
bwsaver_report	15-Sep-2016 11:32:07	14.169.27.185	portal	vn	chrome 52	Win32	none
bwsaver_report	15-Sep-2016 11:30:36	77.121.47.110	portal	ua	chrome 52	Win32	none
bwsaver_all_codecs_supported_2	15-Sep-2016 11:30:27	77.121.47.110	portal	ua	chrome 52	Win32	none
zone_init	15-Sep-2016 11:30:24	77.121.47.110	portal	ua	chrome 52	Win32	none

3. After a few minutes, the [detailed statistics table](#) will start showing data:

		Your CDN	HolaCDN
▶ User experience	Successful start (manual play)	28.1%	--
▶ Engagement	% video viewed	--	--
▶ Start	Start time (<10sec)	4.7 sec	--
▶ Seek	Seek time	⚠ 1.3 sec	--
▶ Buffering	Average buffering time (<10sec)	3.4 sec	--
▶ Video quality	Bitrate	3738 Kbps	--
▶ Ads & Monetization	% pre-rolls seen in full	0%	--
▶ General	Clicked play	51.7%	--
▶ Traffic breakdown	Served by HolaCDN	N/A	--
▶ Cost savings	% cost savings by HolaCDN		--

Notes:

1. It is normal to see results only in the “Your CDN” column. HolaCDN servers are not sending traffic yet - we are just collecting statistics on the existing CDN performance at this stage.
2. If you only have the JS only on a test page, you will most likely see many ⚠ icons, indicating a low number of samples. This also means that results do not reflect actual expected performance when statistics are collected on a large sample.

If you don't see any information on the portal, troubleshoot using the instructions below.

3.2 Troubleshooting

You can control & troubleshoot HolaCDN using commands entered in the browser's developer console. Console commands must be entered in the frame containing the video player. To find out the correct frame, look at the console printouts for the following line. In this example, the code was loaded in frame 'top'.

```
2016-10-30 16:16:50.437 [0] cdn/loader: holacd loader v1.17.806 tag 76 was loaded in frame: top
```

1. Load the page and verify HolaCDN is in statistics mode by entering `hola_cdn.get_mode()`. You should get the following:

```
> hola_cdn.get_mode()  
< "stats"
```

2. Verify HolaCDN is collecting statistics. Play the video and while it is playing, enter `hola_cdn.get_stats()`. You should get the a printout similar to the following:

```
> hola_cdn.get_stats()  
2016-09-26 10:46:41.315 [1] cdn/stats:  
  
Video Quality of Experience statistics  
Start time - Autostart: n/a; Manual play: 495 ms  
Seek - Number of seeks: 1; Average seek time: 3323 ms  
Buffering - Number of buffering events: 0; Total buffering time: 0 ms  
Engagement - Video duration: 326 sec; Viewed so far: 30 sec  
Bitrate - Current: 1280 kbps; Min: 520 kbps; Max: 1280 kbps; Number of bitrate changes: 2
```

If you have multiple players on the page, use `hola_cdn.get_stats(N)` to see stats of Nth player.

If you still don't get this output, [contact HolaCDN support](#).

Congratulations! HolaCDN is collecting QoE statistics.

If you wish to enable traffic from HolaCDN servers, [continue to next section](#).

4. Enable & test traffic from HolaCDN servers

Every time the HolaCDN JS loads, it asks the server which operation mode to use (disabled, statistics, or active CDN mode). The default server-side setting is statistics mode.

You can override the default server-side setting and enable traffic from HolaCDN servers for quick testing on your local PC by entering commands in the browser developer console. After you complete local tests, you will enable traffic from HolaCDN for production users by configuring the HolaCDN portal.

4.1 Enable CDN mode on your browser

Remember: Console commands must be entered in the frame containing the video player. If needed, select the video frame in box in the browser console, and enter the command in it. If you are not sure which frame to choose, look at the console printouts for the following line. In this example, the code was loaded in frame 'top'.

```
2016-10-30 16:16:50.437 [0] cdn/loader: holacd loader v1.17.806 tag 76 was loaded in frame: top
```

1. Enter `hola_cdn.set_mode_cdn()`. You should get the following:

```
> hola_cdn.set_mode_cdn()  
2016-09-26 10:49:25.045 [0] cdn/loader: cdn mode is now enabled. Please  
refresh the page and replay the video.  
  
You can always use hola_cdn.get_mode() to verify current operation mode.
```

2. Refresh and verify HolaCDN is in CDN mode by entering `hola_cdn.get_mode()`. You should get the following:

```
> hola_cdn.get_mode()  
< "cdn"
```

3. Play the video and while it is playing, enter `hola_cdn.get_stats()`. You should get the a printout similar to the following:

```
> hola_cdn.get_stats()
2016-08-22 13:54:47.653 [1] cdn/stats: log.hola.js:129

Traffic distribution statistics
-----
stats      cdn          total  %          name          Bps
          5.39.67.84    39 M  76%      zagent709.h-cdn.com  11.2 M/sec
          192.240.106.106  0    0%      zagent1360.h-cdn.com  541 K/sec
          83.149.70.164    0    0%      zagent93.h-cdn.com
          50.7.1.2        9.40 M 18%      zagent7.h-cdn.com    158 K/sec
          player        3.13 M  6%      player.h-cdn.org     3.90 M/sec

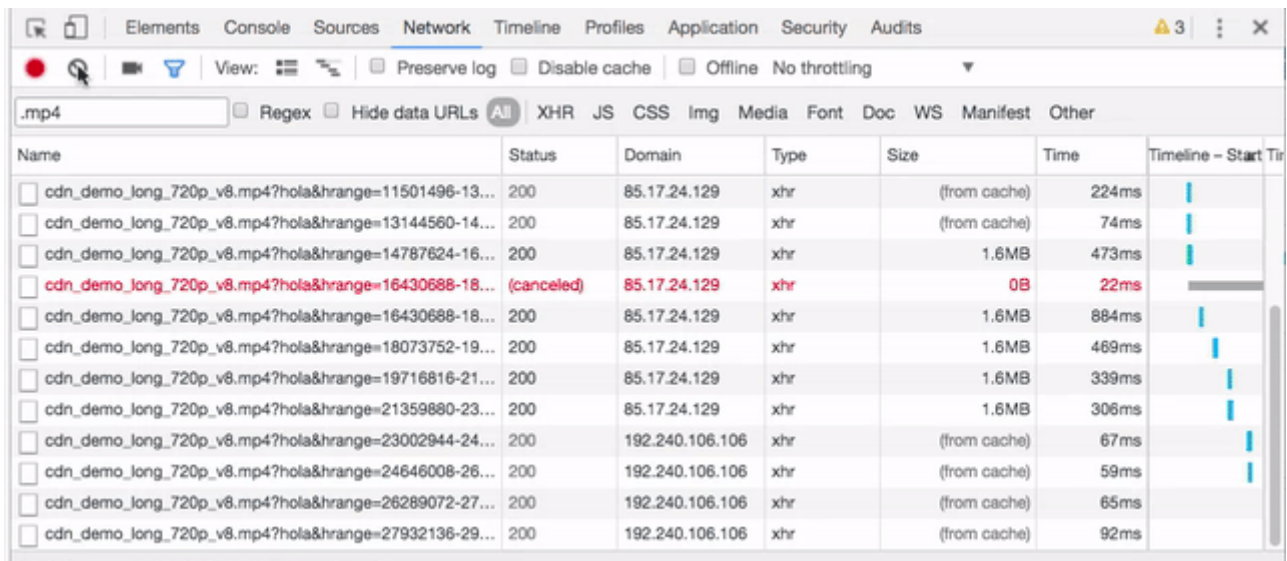
Video Quality of Experience statistics
-----
Start time - Autostart: 2069 ms; Manual play: n/a
Seek - Number of seeks: 0; Average seek time: 0 ms
Buffering - Number of buffering events: 0; Total buffering time: 0 ms
Engagement - Video duration: 374 sec; Viewed so far: 125 sec
Bitrate - Current: 2629 kbps; Min: 2629 kbps; Max: 2629 kbps; Number of bitrate changes: 0

Current forward buffer: player 40 buffered 40 sec, js 0 sec
Bitrate 2628902 bps
Slice size 1643064 B / 5 sec
Script load time 80ms
Page load time 1032ms
Time to play 1471873964783ms
```

The `hola_cdn.get_stats()` printout shows:

- Video QoE statistics - just like those you already saw in statistics mode
- Traffic distribution statistics - how many bytes were downloaded from HolaCDN servers (`zagent###.h-cdn.com`) and from your existing CDN.

To see how HolaCDN brings video from multiple sources in real time, switch to the network tab while video plays. Some video chunks will coming from your existing CDN and some from HolaCDN servers. Note: you must add the 'domain' column to see the video sources - it is not shown by default:



Name	Status	Domain	Type	Size	Time	Timeline - Start Time
cdn_demo_long_720p_v8.mp4?hola&hrange=11501496-13...	200	85.17.24.129	xhr	(from cache)	224ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=13144560-14...	200	85.17.24.129	xhr	(from cache)	74ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=14787624-16...	200	85.17.24.129	xhr	1.6MB	473ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=16430688-18...	(canceled)	85.17.24.129	xhr	0B	22ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=16430688-18...	200	85.17.24.129	xhr	1.6MB	884ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=18073752-19...	200	85.17.24.129	xhr	1.6MB	469ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=19716816-21...	200	85.17.24.129	xhr	1.6MB	339ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=21359880-23...	200	85.17.24.129	xhr	1.6MB	306ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=23002944-24...	200	192.240.106.106	xhr	(from cache)	67ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=24646008-26...	200	192.240.106.106	xhr	(from cache)	59ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=26289072-27...	200	192.240.106.106	xhr	(from cache)	65ms	
cdn_demo_long_720p_v8.mp4?hola&hrange=27932136-29...	200	192.240.106.106	xhr	(from cache)	92ms	

4.2 Shortcut: controlling HolaCDN via the address bar

You can control HolaCDN via the address bar by appending a string to the video page URL:

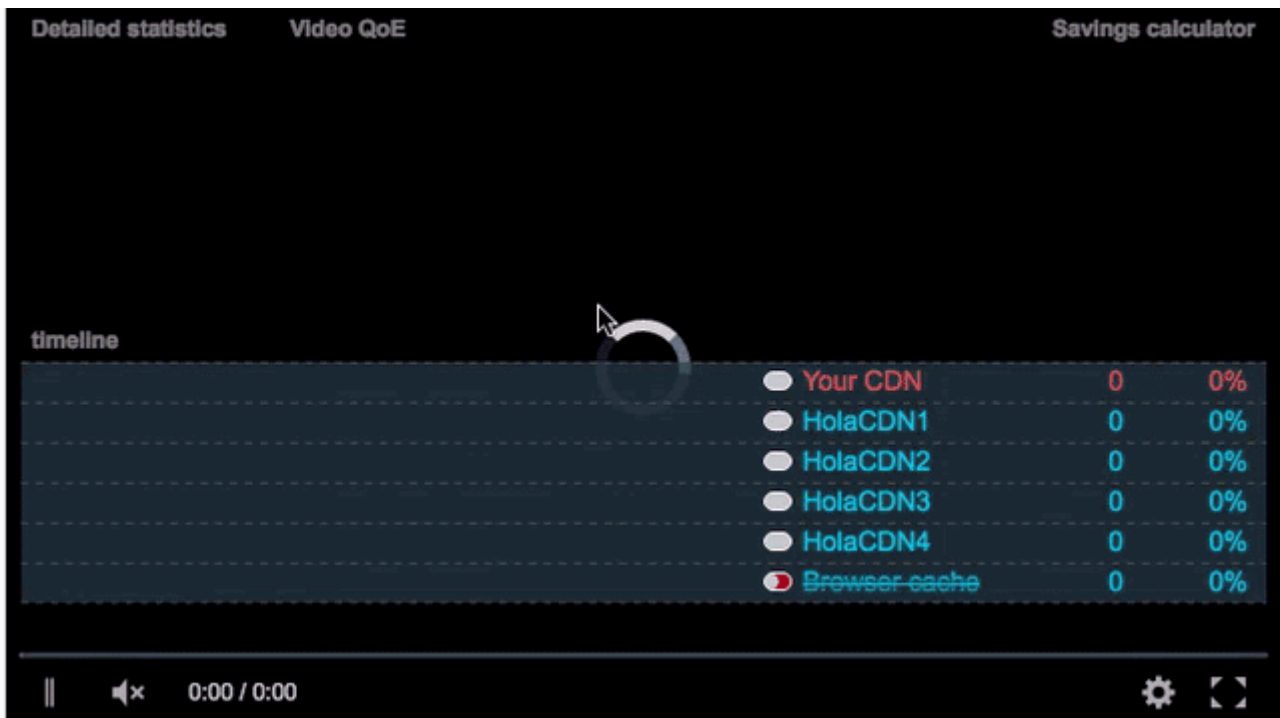
- To enable CDN mode: append `?hola_mode=cdn`
- To enable stats mode: append `?hola_mode=stats`
- To disable HolaCDN: append `?hola_mode=disabled`

For example: http://mysite.com/videos/21058?hola_mode=cdn

Entering the HolaCDN mode as part of the URL overrides the mode that was specified via the console or the portal. This is not a persistent setting; if you use a different URL without appending the string, it will use the mode specified by the console or the portal.

4.3 Tip: using the HolaCDN graphical overlay

The HolaCDN graphical overlay is a useful utility that allows you to instantly control and see how HolaCDN operates. You are able to see traffic sources, enable/disable them in real time, and see player statistics (e.g. buffer, bitrate).



To enable overlay mode, append `?hola_mode=cdn&hola_graph=force_top` to a URL which includes the HolaCDN JS.

For example: http://mysite.com/videos/21058?hola_mode=cdn&hola_graph=force_top

Important: The graphical overlay only works with HTML5 video players. If it doesn't work for you, [contact HolaCDN support](#) and we will try to add support.

4.5 Troubleshooting using the Integration tool

If you don't see printouts similar to the above and/or receive error messages, [go to the integration page](#) on your portal to troubleshoot the issue. You can also click on the URL inside the error messages which will take you to the integration page. Enter the test page URL and test it, you will receive something like this:

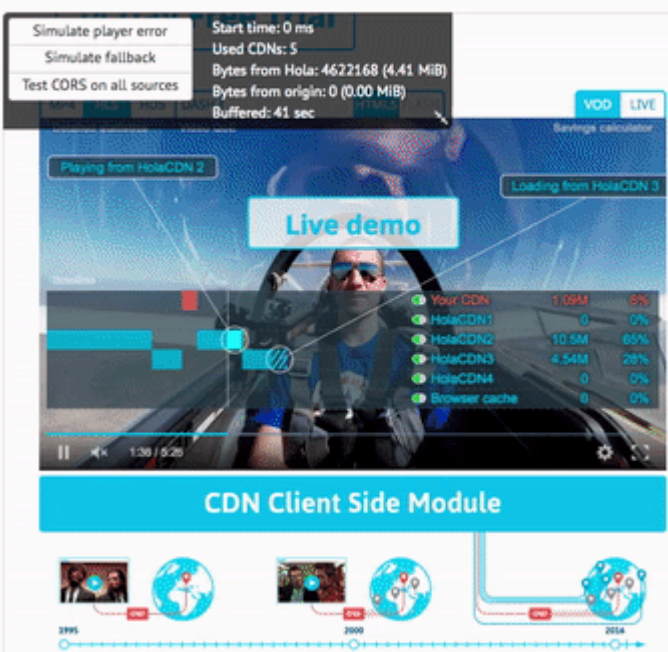
Follow the [implementation guide](#) to add HolaCDN to your website. Paste your website url in the form below to test integration.

Show CDN graph Run in popup

Test	Result
HolaCDN script	loaded not recommended way !
Wrapper attached	✔
Playback started	waiting...

Make sure that actual video is playing.
If commercial is playing it may be required for you to wait until it ends.

Start time: 0 ms
Used CDNs: 5
Bytes from Hola: 4622168 (4.41 MiB)
Bytes from origin: 0 (0.00 MiB)
Buffered: 41 sec



CDN	Bytes	Percentage
Your CDN	1.09M	5%
HolaCDN1	0	0%
HolaCDN2	10.5M	65%
HolaCDN3	4.54M	28%
HolaCDN4	0	0%
Browser cache	8	0%

Follow instructions in the integration tool to fix any issues.

Common integration issues are:

- CORS settings (usually related to MP4, and not to HLS/HDS/DASH)
- Content protection

See the [troubleshooting section](#) for additional details.

5. Test HolaCDN on users in production

When local testing is done, it's time to gradually deploy to real users.

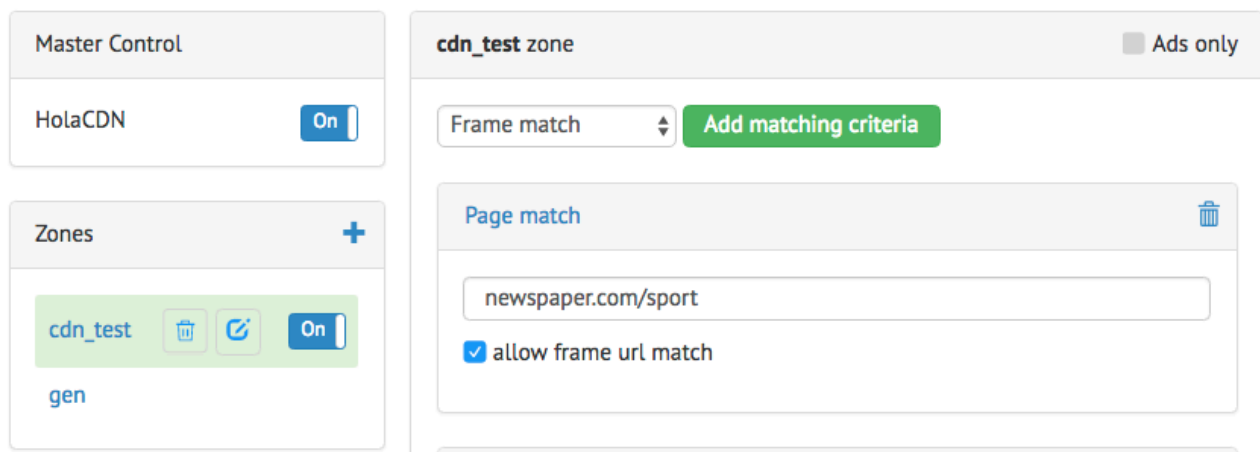
The HolaCDN control panel allows you to deploy gradually, in a controlled manner. You can configure 'zones' to select a sub-section of your site, and do an A/B test to check HolaCDN performance based on browser, operating system, etc.

Remember - if you did local testing before, you must enter `hola_cdn.set_mode_default()` in console. If you don't the client will always use the local settings, as these override server-side settings.

5.1 Define subset of users to test

Your [HolaCDN portal configuration section](#) includes a pre-configured "cdn_test" zone for testing. Zones allow you to define where HolaCDN is activated in CDN mode .

For example, if your site is 'http://newspaper.com' and you placed the JS on the entire site for QoE statistics collection, you can enable HolaCDN only on a sub-section of the site, using 'page match' for example the sports section:



The screenshot shows the HolaCDN control panel. On the left, the 'Master Control' section has 'HolaCDN' set to 'On'. Below it, the 'Zones' section shows a list of zones, with 'cdn_test' highlighted in green and set to 'On'. On the right, the 'cdn_test zone' configuration is shown. It has a 'Frame match' dropdown and an 'Add matching criteria' button. Below that, a 'Page match' section is visible, containing a text input field with 'newspaper.com/sport' and a checked checkbox for 'allow frame url match'. There is also an 'Ads only' toggle in the top right corner of the zone configuration.

At a minimum, enter a page match for your entire site. Otherwise, there will be no match, the zone will never be selected, and HolaCDN will not be activated. You can also match by geography, video time, time of day etc.

5.2 A/B test on 10% of users

This step allocates 10% of users that match the 'cdn_test' zone to receive traffic from HolaCDN. The remaining 90% of users will get their videos from your existing CDN.

Note that your 14 day trial begins as soon as you activate HolaCDN servers.

Select "Limited A/B testing" from the drop-down box in your [configuration section](#).

Browser configuration

Zone includes MP4/FLV/WebM progressive videos

Stage 2: Limited A/B testing New rule

Browser	OS	Your CDN (passive)	HolaCDN (active)	Disabled	
Chrome	Windows	90 %	10 %	0%	↑ ↓ + 🗑️
Chrome	Mac OS X	90 %	10 %	0%	↑ ↓ + 🗑️
Chrome	Linux	90 %	10 %	0%	↑ ↓ + 🗑️

1. Verify statistics are written to your account on the portal, in both the "Your CDN" and "HolaCDN" columns.
2. Run this a few hours to compare the stats to your existing CDN, then move to next stage (50%/50% test).

5.3 A/B test on 50% of users

This step allocates 50% of users that match the 'cdn_test' zone to receive traffic from HolaCDN. The remaining 50% of users will get their videos from your existing CDN.

Select "Full A/B testing" from the drop-down box in your HolaCDN configuration section, and let this test run for 2-3 days at least. A meaningful test should have at least 1,000 samples in each group for a 24h period.

5.4 Full deployment

When testing is concluded, it's time to move all users to production. HolaCDN recommends keeping 5% of users in statistics mode in order to have an ongoing A/B test to verify that HolaCDN improves performance.

Select "Full deployment" from the drop-down box in your HolaCDN configuration section.

5.6 Other platforms for HolaCDN traffic

Other platforms (remaining browsers, mobile web) can be enabled after you activate your account. Go your [HolaCDN portal page](#) to add a payment method to HolaCDN and activate your account.

5.7 Native mobile apps

Native apps require the HolaCDN SDK. HolaCDN recommends deploying on mobile apps after the desktop deployment is complete, using the same flow described above. For those curious, SDK for [Android](#) and for [iOS](#) are available.

Congratulations! HolaCDN is up and running

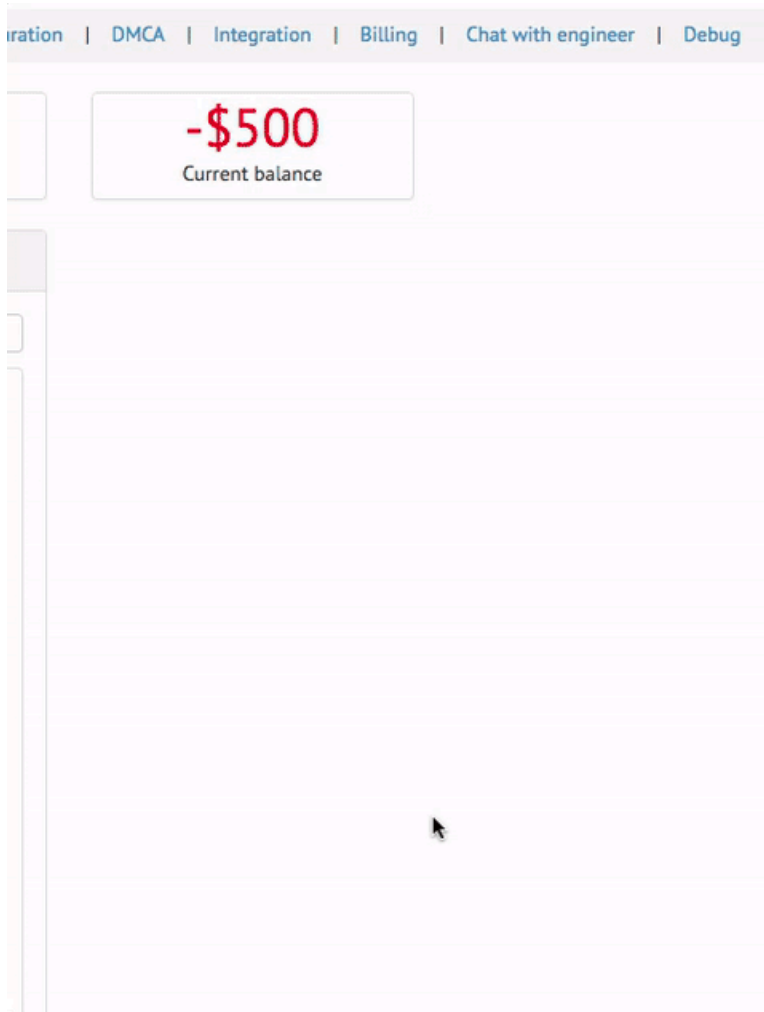
6. How to get support

6.1 On your own - FAQ page

You will find answers to many questions in the [HolaCDN FAQ page](#).

6.2 Getting in touch with Hola support

You can chat with HolaCDN engineers using the control panel:



Or use any of these other methods to contact HolaCDN:

- | | |
|--|---|
| <ul style="list-style-type: none">• Send WhatsApp to +972-543341208• Send Skype to holacd.com | <ul style="list-style-type: none">• Email cdn-help@hola.org• Call +1-888-206-9976 |
|--|---|

6.3 Reporting bugs

If you think you have found a bug, please report it to HolaCDN:

1. In the developer console, enter `hola_cdn.bug_report()`.

```
> hola_cdn.bug_report()  
2016-09-29 05:43:42.923 [1] cdn/cdn: report sent id 5120953182724877 log.hola.js:130  
bug location url http://holacd.com/cp/debug/saved?cust=demo&filter=info.bugid%3D%3D5120953182724877
```

2. Copy the full URL that was generated by the command.
3. Send it to HolaCDN support: cdn-help@hola.org.

7. Troubleshooting

7.1. Video server configuration

7.1.1 CORS settings for MP4

HolaCDN works by requesting your MP4/FLV/WEBM/TS files from the video server in chunks. For this to work, certain HTTP headers need to be enabled. If you want to know more, [read what CORS is and why it is needed](#).

If you do not implement these settings, HolaCDN will still work but performance will be degraded. See [how to verify and configure CORS](#).

7.1.2 CORS settings for HLS/HDS video

HolaCDN works with modern, chunked video protocols by requesting video segments from multiple servers in parallel. Default CORS settings for HLS/HDS video are usually sufficient, and no configuration is needed.

If you are still getting CORS errors, See [how to verify and configure CORS](#). HolaCDN recommends configuring certain HTTP headers. This allows HolaCDN to calculate bandwidth and maximize performance further. These changes are optional, and can be enabled at any time.

Test to see if your HTTP server is configured correctly by using:

```
curl -v -H "Origin: <site origin link>" -X OPTIONS <link to m3u8/f4m manifest file>
```

The desired response is:

```
HTTP/1.1 200 OK
Content-Length: 0
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: HEAD, GET, OPTIONS
Access-Control-Expose-Headers: Date, Etag, Cache-Control
Access-Control-Max-Age: 600
Timing-Allow-Origin: *
```

In case the response is different from the desired response, configure the missing headers by enabling CORS on the web server(s) that is serving the video files. Go line by line to ensure all headers are configured correctly. [Click here](#) for CORS configuration instructions.

7.1.3 Handling redirects

If the first video URL (MP4 or M3U8) is redirected to another URL, make sure that:

- Video links that redirect respond to OPTIONS with same CORS headers as above.
- Response headers must respond to OPTIONS with 200/204 status, and not with 302.

7.2 Allow HolaCDN to collect statistics and download content

HolaCDN's servers need to download an initial copy of the video from your infrastructure to serve to future users. HolaCDN uses a 'pull' model. There is no need to proactively push content to HolaCDN. The same server will also be used for statistics gathering.

To configure where to download a copy from:

1. Open [your HolaCDN account](#).
2. Go to the configuration page ('conf').
3. You will arrive to the default zone ('gen'). In this zone, click "Insert a new video source group" and enter one or more video source(s). For example, if your video URL looks like <http://video.myserver.com/static/mp4/video.mp4>, the video source is *video.myserver.com*. For HDS/HLS video, enter server(s) for manifests (M3U8/F4M) and for video chunks (TS or Frag).

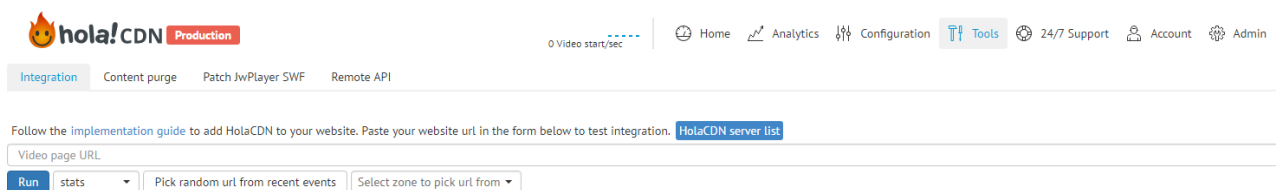
- If your video servers use content protection algorithms, [check out the advanced settings](#).
- To simplify testing, HolaCDN is configured with video source '*'. Make sure to change it to your real video source(s).

7.3 Handling content protection

In case your video URLs use content protection scheme, HolaCDN servers will not be able to download videos. There are a few ways of dealing with content protection:

7.3.1 Whitelisting HolaCDN servers

Whitelisting a few HolaCDN servers is the fastest way to enable HolaCDN to operate. You can find a link to the list of IP addresses to whitelist in your HolaCDN portal's 'integration' page.



7.3.2 Allow HolaCDN servers to access your videos using other methods

If whitelisting IPs is not an option, you will need to work with HolaCDN team to define alternative ways to allow the HolaCDN servers to download video files, for example:

- Share the key generation algorithms with HolaCDN, so that HolaCDN servers will generate requests your servers will accept
- Set-up a direct/hidden URL for HolaCDN servers to download from
- Set-up a special key which will identify HolaCDN servers

Contact HolaCDN team in order to determine the best way to address this issue.

8. Advanced configuration settings

8.1 Configuring HolaCDN via API

In addition to using the control panel, you can also configure HolaCDN using an HTTPS based API. [Contact HolaCDN support](#) to get your API key.

To disable a specific zone:

[https://client.h-cdn.com/api/conf?key={key}&customer={customer}&type=set&path=zones.\[zone name\].kw.disabled&val=1](https://client.h-cdn.com/api/conf?key={key}&customer={customer}&type=set&path=zones.[zone name].kw.disabled&val=1)

To disable HolaCDN completely:

[https://client.h-cdn.com/api/conf?key=\[key\]&customer=\[customerID\]&type=set&path=disabled&val=true](https://client.h-cdn.com/api/conf?key=[key]&customer=[customerID]&type=set&path=disabled&val=true)

To re-enable HolaCDN:

[https://client.h-cdn.com/api/conf?key=\[key\]&customer=\[customerID\]&type=set&path=disabled&val=false](https://client.h-cdn.com/api/conf?key=[key]&customer=[customerID]&type=set&path=disabled&val=false)

Please [Contact HolaCDN support](#) to see how to implement specific changes. FYI, the syntax is as follows:

Parameter	Description	Example
Key	Your API key	4z6tb07f4q6g172w4f63
CustomerID	Your customer ID	hc_12345678
Type	Type of action to take (Set or Get a value)	Set, Get
Path	Configuration string to change. Must include zone as prefix.	gen.agent.origins
Value	Value to insert	["videoserver1.com"]

Example: get a list of configured video sources:

[https://client.h-cdn.com/api/conf?key=\[key\]&customer=\[customerID\]&type=get&path=gen.agent.origins](https://client.h-cdn.com/api/conf?key=[key]&customer=[customerID]&type=get&path=gen.agent.origins)

Example: To set a new video sources:

[https://client.h-cdn.com/api/conf?key=\[key\]&customer=\[customerID\]&type=set&path=gen.agent.origins&val=\["server1.com"\]](https://client.h-cdn.com/api/conf?key=[key]&customer=[customerID]&type=set&path=gen.agent.origins&val=[)

Example: To purge a file from HolaCDN (one time only):

[https://client.h-cdn.com/api/dmca?customer=\[customerID\]&key=\[key\]&purge=<url>](https://client.h-cdn.com/api/dmca?customer=[customerID]&key=[key]&purge=<url>)

Example: To purge a file from HolaCDN and block it from being cached in the future:

[https://client.h-cdn.com/api/dmca?customer=\[customerID\]&key=\[key\]&block&purge=<url>](https://client.h-cdn.com/api/dmca?customer=[customerID]&key=[key]&block&purge=<url>)

8.2 Optional - Configuring zones

If you have multiple websites under your customer ID, or you would like to experiment with different settings on parts of your website(s), you can create zones for each site or test.

Each zone can have its own set of video sources and activation rules. You can use regular expressions to define the zone.

'Gen' is a the default zone. It is applied when it is not overridden by another zone. The gen zone cannot be removed.

8.3 Detailed traffic logs

You can download detailed traffic logs that show which IP requested each file, and how many bytes were served.

- API format: GET

[https://client.h-cdn.com/api/logs?type=raw&customer=\[customer_id\]&key=\[key\]](https://client.h-cdn.com/api/logs?type=raw&customer=[customer_id]&key=[key])

The output is a log showing the access record and bytes transferred for the customer. The log uses the [common log format](#). The log is rolling, so it shows past 1 hour of logged data, calculated from the request timestamp.

Notes:

1. Data is kept only for 1 hour. Older data is discarded.
2. The 'period' parameter can be used to limit returned log size. E.g.
[https://client.h-cdn.com/api/logs?type=raw&customer=\[customer_id\]&key=\[key\]&period=60000](https://client.h-cdn.com/api/logs?type=raw&customer=[customer_id]&key=[key]&period=60000) will only return last 1 min log, because 60000ms = 1min.
3. Default period is 1 hour. Period can't be bigger than 1 hour (3600000)

8.4 MultiCDN

8.4.1 MultiCDN introduction

HolaCDN is the only video delivery technology that uses Mid-Stream Switching.

Mid-Stream Switching allows video to be streamed from multiple CDNs while the video is playing.

Decisions on the best CDN to use are dynamic, and are made locally on each user device in real-time.

This technology enables real-time MultiCDN, which provides the best of both worlds - high performance and minimal costs.

8.4.1.1 Stage 1

video starts playing Objective: minimize start time. Choose fastest CDN to start the video, irrespective of cost.

HolaCDN JS code is configured with 3 video sources:

Client performs speedtest to see who is fastest. Results are real-time and per each user, so highly accurate.

Based on results of speedtest, the first 2-3 TS chunks are downloaded from the fastest CDN.

These 2-3 chunks fill up the player buffer to about 20-30 seconds of play time

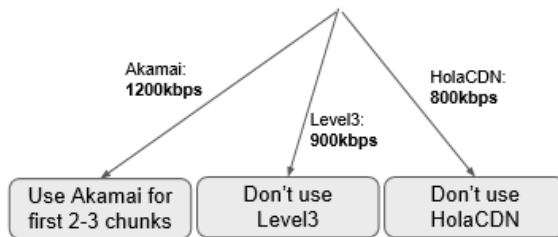
User loads page. The video content is available on 3 CDNs:

Akamai

Level3

HolaCDN

Who is currently fastest for me?



Result:

- Start time is optimized
- Player buffer is full

8.4.1.2 Stage 2

video is playing in steady state Objective: minimize cost. Choose lowest cost CDN that can maintains same or better performance.

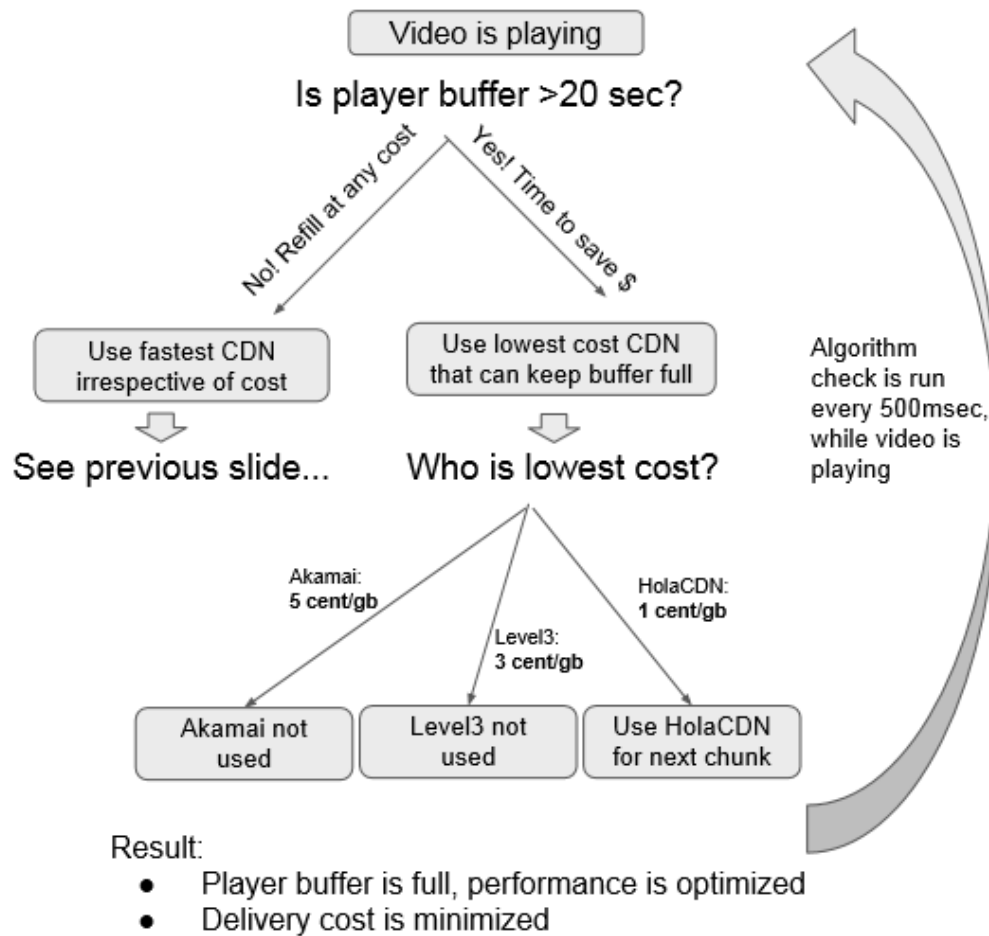
HolaCDN JS code keeps track of player buffer and of available CDN speeds.

Every 100msec, algorithm checks buffer to decide where to get next video chunk from.

Remember, buffer and CDN speeds are known!

If buffer is >20 seconds, JS code downloads video from lowest cost CDN that can keep the buffer full.

If buffer is <20 seconds, JS code switches to to fastest source irrespective of cost (see previous slide)



8.4.1.3 Technical notes

1. The process described is identical for VoD and live. Some parameters are tweaked.
2. Hola's real-time MultiCDN:
 - a. Is more advanced than existing, static multiCDN solutions.
 - b. Can measure performance of multiple CDNs using a consistent, objective set of metrics.
 - c. Is integrated with HolaCDN to maximize cost savings & performance improvements
 - d. Is Free.
3. No need to change the manifest URL to achieve MultiCDN

4. TS chunks should be identical on all CDNs - this is not an issue when using a single origin for multiple CDNs.

a8.4.2 MultiCDN configuration

1. Real-time MultiCDN requires a simple config in the HolaCDN control panel. See below. A zone has been created for testing. It has the 2 CDNs listed: zeeapp4 + bitgravity

The screenshot shows the HolaCDN configuration interface. At the top, there's a navigation bar with 'Production' status, '17 Video start/sec', and links for Dashboard, Statistics, Configuration, Tools, Support, Account, and Ad. Below the navigation bar, a message states: 'This is where you define where and when HolaCDN will be activated. Use the gen' zone, or create new zone(s) for extra granularity and control. Need help? Follow the implementation instructions.'

The main configuration area is divided into two sections:

- Master Control:** Contains settings for 'HolaCDN' (On), 'API key' (2y146c3e315412y151x4), 'Loader modules' (adaptive, android, ios, autodetect, ds11ymotion), 'Enhanced user privacy' (Off), and 'Send configuration change emails' (On). There is also an 'Advanced...' link.
- Zones:** A list of zones with 'test_multicdn' highlighted in green and circled in red. Other zones include all_ads, zeeneews, ozee_android_hap, ozee, and gen.

The 'test_multicdn' zone configuration details are shown on the right:

- Frame match:** Add matching criteria
- Page match:** zeetv.zeecdn.com/testplayphp
- Browser configuration:** 1 rule
- Video sources:** A section with a 'Mirror video source(s) from gen zone' checkbox and a '+' button. Below it, a text input field contains 'zeeapp4-vhakamailhd.net dittotv.pc.cdn.bitgravity.com', which is circled in red. There are also delete and edit icons for this entry.

At the bottom of the configuration area, there are 'Save and apply' and 'Notification disabled' buttons.

2. video sources section is the place to do multicdn. For example, if you want to add another CDN other than the existing 2 (e.g. dittotv2.pc.cdn.bitgravity.com), just click edit button and add it there, separated by space

This is where you define where and when HolaCDN will be activated. Use the 'gen' zone, or create new zone(s) for extra granularity and control. Need help? Follow the [implementation instructions](#).

Save and apply | Discard changes | Notification disabled | last modification by boyang@hola.org 24 hours ago, tag 145 | There are unsaved modifications: diff | changelog | config

Master Control

HolaCDN On

API key: 2y146c3e315412y151x4

Loader modules: adaptive, android, ios, autodetect, dailymotion

Enhanced user privacy Off

Send configuration change emails On

Advanced...

Zones

all_ads	<input type="checkbox"/>	On
zeenews	<input type="checkbox"/>	On
ozeo_android_hap	<input type="checkbox"/>	On
ozeo	<input type="checkbox"/>	On
test_multicdn	<input checked="" type="checkbox"/>	On
gen	<input type="checkbox"/>	

test_multicdn zone

Frame match: Add matching criteria

Page match: zeetv.zeecdn.com/testplay.php

Browser configuration: 1 rule

Video sources

Mirror video source(s) from gen zone

zeeapp4-vh.akamaihd.net	dittotv.pc.cdn.bitgravity.com	dittotv2.pc.cdn.bitgravity.com	<input type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------	-------------------------------	--------------------------------	--------------------------	-------------------------------------

Select: i | 1 | 1--1

Policy: dynamic

zeeapp4-vh.akamaihd.net	apply	don't change
dittotv.pc.cdn.bitgravity.com	apply	don't change

Advanced...

Save and apply | Notification disabled

3. under the CDNs there's the advanced section for "select" and "policy".

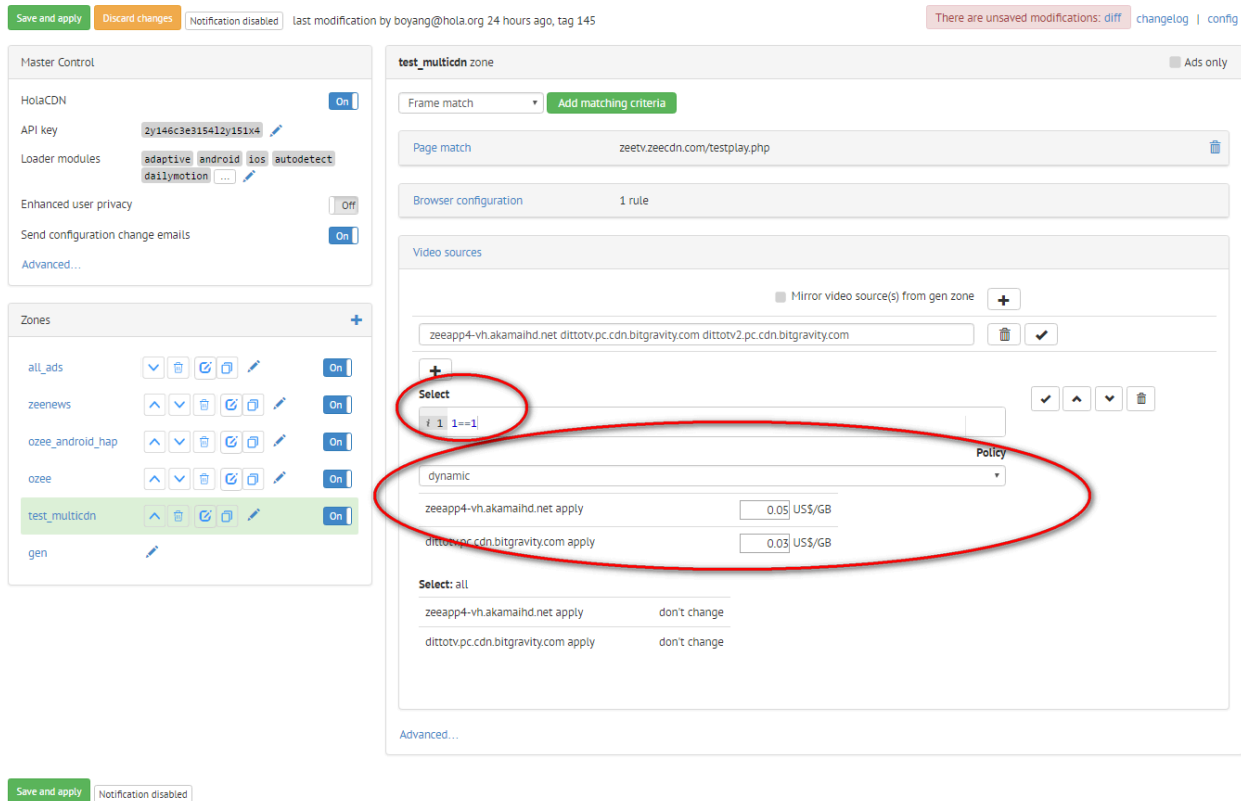
Select is to decide, for what users you want to use this multiCDN rule. For example, you can set: `country=='in'` to apply multiCDN only for India users

For policy, there are 2, dynamic and static.

For static you give a percentage for each CDN, like 50% Akamai, 50% bitgravity. It will allocate only one CDN, based on the percentage

For dynamic, you give price to CDNs, e.g. 0.05 Akamai, 0.04 bitgravity. It will allocate all CDNs to users, and use the CDNs based on the price and speed.

This is where you define where and when HolaCDN will be activated. Use the 'gen' zone, or create new zone(s) for extra granularity and control. Need help? Follow the [implementation instructions](#).



Master Control

HolaCDN On

API key 2y146c3e315412y151x4

Loader modules adaptive android ios autodetect dailymotion ...

Enhanced user privacy Off

Send configuration change emails On

Advanced...

Zones

- all_ads On
- zeenews On
- ozee_android_hap On
- ozee On
- test_multicdn On
- gen On

test_multicdn zone Ads only

Frame match

Page match zeev.zeecdn.com/testplay.php

Browser configuration 1 rule

Video sources

Mirror video source(s) from gen zone

- zeeapp4-vh.akamaihd.net dittotv.pc.cdn.bitgravity.com dittotv2.pc.cdn.bitgravity.com

Select

Policy

dynamic

zeeapp4-vh.akamaihd.net apply	0.05 US\$/GB
dittotv.pc.cdn.bitgravity.com apply	0.03 US\$/GB

Select: all

zeeapp4-vh.akamaihd.net apply	don't change
dittotv.pc.cdn.bitgravity.com apply	don't change

Advanced...

Save and apply Notification disabled

9. Video platforms

9.1 Brightcove

HolaCDN offers a 'plug and play' integration with the Brightcove video platform.

1. Specify the video source (usually 'c.brightcove.com') to activate Brightcove support.
2. Include HolaCDN loader at the END of the body, just before the closing tag:

```

...
<script async crossorigin="anonymous"
src="//player.h-cdn.com/loader.js?customer=XXXXX" ></script>
...
</body>

```

- Replace XXXXX with your HolaCDN customer ID.

9.2 Kaltura (HTML5 video)

HolaCDN offers a 'plug and play' integration with the Kaltura video platform if the Kaltura HTML5 player is used.

Note that integration steps below are applied only on your page, under your control. There is no need to seek assistance from Kaltura support.

To add hola script into Kaltura player iframe:

1. Use Kaltura 'Dynamic embed' if it is not already enabled - see <http://player.kaltura.com/docs/kwidget>
2. in the 'readyCallback' callback function, add the following block:

```
// ... other params
'readyCallback': function( playerId ){
  // ... your code
  // inject hola script
  var kiframe = document.getElementById(playerId + '_ifp');
  var hola_script = document.createElement('script');
  hola_script.src = '//client.h-cdn.com/loader.js?customer=XXXX';
  hola_script.type = 'text/javascript';
  kiframe.contentWindow.document.head.appendChild(hola_script);
}
})
```

- Replace XXXXX with your HolaCDN customer ID.
- In monetization plugin DoubleClick settings, untick LeadWithFlash option if it's ticked

9.3 Nimble Streamer live streaming

[Nimble Streamer](#) is supported, but in some cases, needs to be configured to allow HolaCDN servers to download content- [detailed step by step instructions here.](#)

10. Ad Serving

10.1 Hola player + VAST/IMA

Hola player supports both VAST adTag and IMA adTag. An example on how to setup the player for serving ads can be found [here](#). You can replace with your adTagUrl and see that ad is played.

10.3 Adblock issues

Adblock extensions, which are pretty popular these days, may lead to unexpected exceptions thrown during ad init. So it sometimes (e.g. when executed in scope of player configuration) breaks the player init sequence and as a result HolaCDN cannot detect it.

Here is one of examples: videojs+ima+adblock

```
videojs(element, {}, function(){
  this.ima({id: this.id(), adTagUrl: '<ad_tag_url>'});
});
videojs.players => {} // no player instance detected, even though videojs successfully initialized.
```

The solution to the problem is to wrap ad init to be exception-safe. Thus the example above could be fixed to:

```
videojs(element, {}, function(){
  try { this.ima({id: this.id(), adTagUrl: '<ad_tag_url>'}); }
  catch(e){ console.log('failed to initialize ad plugin, running with adblock?'); }
});
videojs.players => {my_vjs_player: a}
```

11. Embedded iFrames on 3rd party sites

In some cases, you might have your own customers and would like to offer each of them a separate embed code, to put video on their site. This is usually done using an iFrame.

You can use your own , single CustomerID for all of your own customers, but still separate their statistics and traffic information into separate zones.

For example, you have 3 customers A, B, C. Provide each with the following codes:

A: `<iframe src="http://[yourdomain]/video1.html?code=customerA"></iframe>`

B: `<iframe src="http://[yourdomain]/video2.html?code=customerB"></iframe>`

C: `<iframe src="http://[yourdomain]/video3.html?code=customerC"></iframe>`

In the portal, create 3 zones and add "Frame matching" to each:

A: `**code=customerA**`

B: `**code=customerB**`

C: `**code=customerC**`

This will separate information on a per customer basis.

[Introduction](#)

[1. Sign up for a HolaCDN account](#)

[2. Add the Hola JS to your website](#)

[2.1 HTML5 video players](#)

[2.1.1 Standard HTML5 video players](#)

[2.1.2 HTML5/MPEG-DASH played with Shaka player](#)

[2.1.3 HTML5/HLS played by JWPlayer with HolaHLS provider](#)

[2.1.4 HTML5/HLS played by Flowplayer with HolaHLS provider](#)

[2.1.5 HTML5/HLS played by Brightcove with HolaHLS provider](#)

[2.1.6 HTML5/MPEG-DASH played with dash.js player](#)

[2.2 Flash based video players](#)

[2.2.1 JWPlayer](#)

[2.2.2 VideoJS](#)

[2.2.3 Flowplayer \(HLS only; HDS, MP4 coming soon\)](#)

[2.3 Using Hola VideoJS player](#)

[3. Video QoE analytics collection](#)

[3.1 Test your page with the integration tool](#)

[3.2 Troubleshooting](#)

[4. Enable & test traffic from HolaCDN servers](#)

[4.1 Enable CDN mode on your browser](#)

[4.2 Shortcut: controlling HolaCDN via the address bar](#)

[4.3 Tip: using the HolaCDN graphical overlay](#)

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