

# Scripts to test a maximum number of WebRTC publishers/subscribers

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Since build [5.2.1766](#) a scripts are available to test a maximum number of WebRTC publisher or subscribers per WCS server. The scripts are implemented in bash and use REST API to publish and pull WebRTC streams from a WCS server under test. The scripts are in `/usr/local/FlashphonerWebCallServer/tools` folder.

To perform a load test, the following should be prepared:

- WCS server to test
- WCS server to perform the test
- a tool to publish a source stream (OBS to publish RTMP, or Media Devices example to publish WebRTC)

Note that the server performance to perform the test should be at least twice as the server under test, otherwise the testing server may be a bottleneck.

## Testing a maximum number of WebRTC publishers

A maximum number of WebRTC publishers test is performed with the following script

```
/usr/local/FlashphonerWebCallServer/tools/pushStreams.sh
```

1. The following should be used for test:

- `test1.flashphoner.com` - WCS server to test
- `test2.flashphoner.com` - WCS server to perform the test
- Media Devices example to publish a source stream

2. Publish the source stream to the server `test2.flashphoner.com`

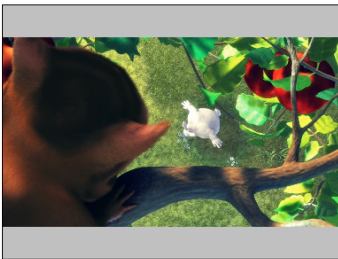
### Media Devices

**Video stats**  
Codec: H264  
Codec Rate: 90000  
Bytes Sent: 324899  
Packets Sent: 370  
Fir Count: 0  
Nack Count: 0  
Pli Count: 0  
Height: 720  
Width: 1280  
Bitrate: 411344

**Audio stats**  
Codec: opus  
Codec Rate: 48000  
Bytes Sent: 27755  
Packets Sent: 404  
Nack Count: 0  
Bitrate: 30040

**Connection**


Local



1280x720

test Stop

Player



6c95 Play

**Video stats**  
**Audio stats**  
**Connection**

PUBLISHING

wss://test2.flashphoner.com:8443 Disconnect

Timeout 1000 msec

ESTABLISHED

3. Launch `pushStreams` script on `test2.flashphoner.com`

```
/usr/local/FlashphonerWebCallServer/tools/pushStreams.sh ws://test1.flashphoner.com:8080 http://test1.flashphoner.com:8081 test loadtest 10
```

Where:

- `ws://test1.flashphoner.com:8080` - websocket URL of the server to test
- `http://test1.flashphoner.com:8081` - HTTP REST API URL of the server to test

- test - the source stream published to the testing name
- loadtest - the name prefix used to publish streams to the server to test
- 10 - publishers count

The script displays a publishers list when successfully launched

```
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest1
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest2
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest3
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest4
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest5
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest6
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest7
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest8
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest9
Publishing stream test to ws://test1.flashphoner.com:8080 as loadtest10
Stream test is publishing successfully as loadtest1 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest2 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest3 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest4 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest5 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest6 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest7 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest8 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest9 to ws://test1.flashphoner.com:8080
Stream test is publishing successfully as loadtest10 to ws://test1.flashphoner.com:8080
```

4. Check stream publishers at the tested server statistics page <http://test1.flashphoner.com:8081/?action=stat>

```

-----Connection Stats-----
connections=10
connections_rtmp=0
connections_websocket=10
connections_hls=0
-----Port Stats-----
ports_media_free=9989
ports_media_busy=10
ports_media_quarantine=0
ports_wcs_agents_free=998
ports_wcs_agents_busy=0
ports_wcs_agents_quarantine=0
-----Stream Stats-----
streams_webrtc_in=10
streams_webrtc_out=0
streams_websocket_out=0
streams_rtmp_in=0
streams_rtmp_out=0
streams_rtmp_in=0
streams_rtmp_out=0
streams_hls=0
streams_viewers=loadtest1/0;loadtest10/0;loadtest6/0;loadtest3/0;loadtest8/0;loadtest5/0;loadtest9/0;loadtest2/0;loadtest4/0;loadtest7/0
streams_synchronization=loadtest1/-65;loadtest10/-52;loadtest6/-31;loadtest3/-66;loadtest8/-66;loadtest5/-66;loadtest9/-66;loadtest2/-66;loadtest4/-86;loadtest7/-86
stats_size=0
streams_rtsp_in=0
streams_rtsp_out=0
streams_rtsp_push_in=0
streams_rtsp_push_out=0
streams_rtsp_client_out=0
streams_play_rate=0
streams_stop_rate=0

```

5. Launch pushStreams script on test2.flashphoner.com to stop the test

```
/usr/local/FlashphonerWebCallServer/tools/pushStreams.sh ws://test1.flashphoner.com:8080 http://test1.flashphoner.com:8081 test loadtest stop
```

Where:

- ws://test1.flashphoner.com:8080 - tested server websocket URL
- http://test1.flashphoner.com:8081 - HTTP REST API URL of the tested server
- test - the source stream name published to the tested server
- loadtest - the name prefix used to publish streams to the tested server
- stop - keyword to stop the publishers with the parameters above

The script displays a stopped publishers list when successfully launched

```
Stream test is publishing as loadtest1 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest2 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest3 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest4 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest5 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest6 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest7 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest8 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest9 to ws://test1.flashphoner.com:8080, stopping
Stream test is publishing as loadtest10 to ws://test1.flashphoner.com:8080, stopping
```

## Testing a maximum number of WebRTC subscribers

A maximum number of WebRTC publishers test is performed with the following script

```
/usr/local/FlashphonerWebCallServer/tools/pullStreams.sh
```

The following should be used for test:

- test1.flashphoner.com - WCS server to test
- test2.flashphoner.com - WCS server to perform the test
- Media Devices example to publish a source stream

2. Publish the source stream to the server test1.flashphoner.com

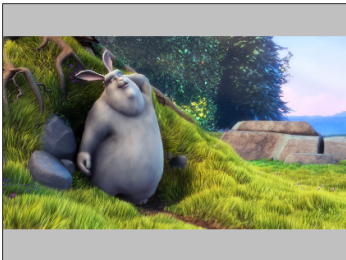
### Media Devices

**Video stats**  
 Codec: H264  
 Codec Rate: 90000  
 Bytes Sent: 1380170  
 Packets Sent: 1415  
 Fir Count: 0  
 Nack Count: 0  
 Pli Count: 0  
 Height: 720  
 Width: 1280  
 Bitrate: 1148712

**Audio stats**  
 Codec: opus  
 Codec Rate: 48000  
 Bytes Sent: 59493  
 Packets Sent: 905  
 Nack Count: 0  
 Bitrate: 26440

**Connection**

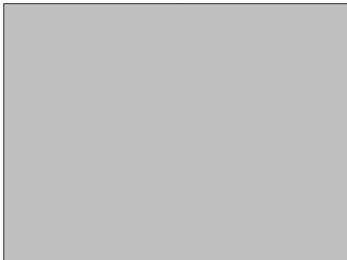
Local



1280x720

test Stop

Player



0756 Play

**Video stats**  
**Audio stats**  
**Connection**

PUBLISHING

wss://test1.flashphoner.com:8443 Disconnect

Timeout 1000 msec

ESTABLISHED

3. Launch pullStreams script on test2.flashphoner.com

```
/usr/local/FlashphonerWebCallServer/tools/pullStreams.sh ws://test1.flashphoner.com:8080 http://test1.flashphoner.com:8081 loadtest 10
```

Where:

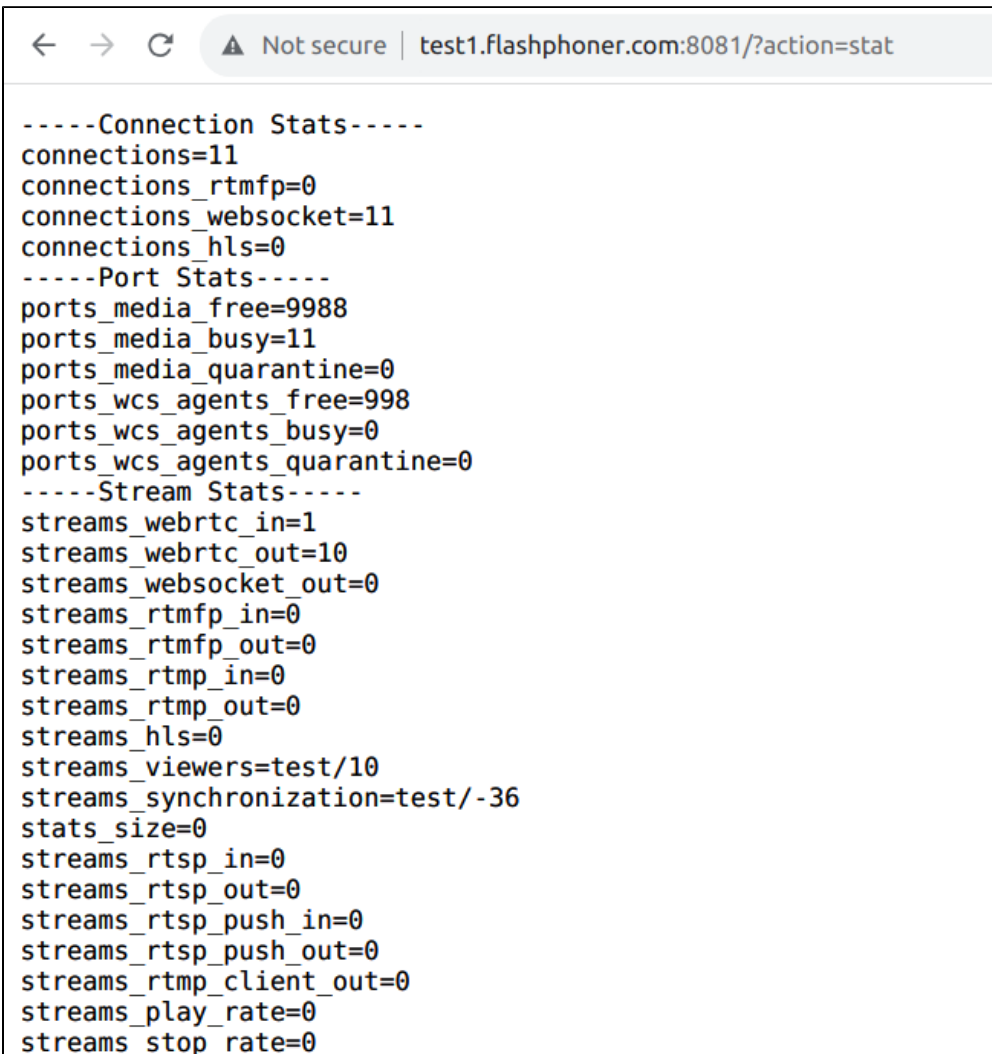
- ws://test1.flashphoner.com:8080 - tested server websocket URL
- http://test1.flashphoner.com:8081 - HTTP REST API URL of the tested server
- loadtest - the name prefix used to pull streams from the tested server
- 10 - subscribers count

Note that script will pull all the streams published on the tested server with a specified number of subscribers per each.

The script displays a subscribers list when successfully launched

```
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest1-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest2-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest3-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest4-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest5-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest6-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest7-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest8-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest9-test
Playing stream test from ws://test1.flashphoner.com:8080 as loadtest10-test
Stream test is playing successfully as loadtest1-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest2-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest3-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest4-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest5-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest6-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest7-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest8-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest9-test from ws://test1.flashphoner.com:8080
Stream test is playing successfully as loadtest10-test from ws://test1.flashphoner.com:8080
```

4. Check stream subscribers at the tested server statistics page <http://test1.flashphoner.com:8081/?action=stat>



```
-----Connection Stats-----
connections=11
connections_rtmfp=0
connections_websocket=11
connections_hls=0
-----Port Stats-----
ports_media_free=9988
ports_media_busy=11
ports_media_quarantine=0
ports_wcs_agents_free=998
ports_wcs_agents_busy=0
ports_wcs_agents_quarantine=0
-----Stream Stats-----
streams_webrtc_in=1
streams_webrtc_out=10
streams_websocket_out=0
streams_rtmfp_in=0
streams_rtmfp_out=0
streams_rtmp_in=0
streams_rtmp_out=0
streams_hls=0
streams_viewers=test/10
streams_synchronization=test/-36
stats_size=0
streams_rtsp_in=0
streams_rtsp_out=0
streams_rtsp_push_in=0
streams_rtsp_push_out=0
streams_rtmp_client_out=0
streams_play_rate=0
streams_stop_rate=0
```

5. Launch pullStreams script on test2.flashphoner.com to stop the test

```
/usr/local/FlashphonerWebCallServer/tools/pullStreams.sh ws://test1.flashphoner.com:8080 http://test1.flashphoner.com:8081 loadtest stop
```

Where:

- ws://test1.flashphoner.com:8080 - tested server websocket URL
- http://test1.flashphoner.com:8081 - HTTP REST API URL of the tested server
- loadtest - the name prefix used to pull streams from the tested server
- stop - keyword to stop the subscribers with the parameters above

The script displays a stopped subscribers list when successfully launched

```
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest1-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest2-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest3-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest4-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest5-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest6-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest7-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest8-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest9-test, stopping
Stream test is playing from ws://test1.flashphoner.com:8080 as loadtest10-test, stopping
```