

Скрипты для тестирования максимального количества WebRTC публикаций/подписчиков

- Тестирование максимального количества WebRTC публикаций
- Тестирование максимального количества WebRTC подписчиков

В сборке 5.2.1766 добавлены скрипты для нагрузочного тестирования WCS на максимальное число публикаций или подписчиков. Скрипты написаны на bash и используют REST API для публикации и захвата потоков с тестируемого WCS сервера. Скрипты располагаются в каталоге /usr/local/FlashphonerWebCallServer/tools

Для нагрузочного тестирования необходимы:

- тестируемый WCS сервер
- тестирующий WCS сервер
- средство публикации исходного потока (например, OBS для публикации RTMP, или пример Media Devices для публикации WebRTC)

Обратите внимание, что производительность тестирующего сервера должна быть минимум вдвое больше, чем тестируемого, в противном случае сам тестирующий сервер станет узким местом в нагрузочном тесте.

Тестирование максимального количества WebRTC публикаций

Тестирование максимального количества публикаций проводится при помощи скрипта

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

1. Для теста используются:

- test1.flashphoner.com - тестируемый WCS сервер
- test2.flashphoner.com - тестирующий WCS сервер
- пример Media Devices для публикации исходного потока

2. Публикация исходного потока на сервер test2.flashphoner.com

The screenshot shows the 'Media Devices' interface. On the left, there are two columns of statistics: 'Video stats' and 'Audio stats'. The 'Local' video source is active, showing a video frame of a character in a forest. The 'Player' is also active, showing a grey frame. The interface includes buttons for 'test', 'Stop', 'Publishing', 'Disconnect', and 'Play'. The connection status is 'ESTABLISHED'.

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
Player: 6c95

test Stop
Publishing
wss://test2.flashphoner.com:8443 Disconnect
Timeout: 1000 msec
ESTABLISHED

3. Запуск скрипта pushStreams на сервере test2.flashphoner.com

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

Здесь:

- ws://test1.flashphoner.com:8080 - websocket URL тестируемого сервера

- `http://test1.flashphoner.com:8081` - HTTP URL тестируемого сервера для использования REST API
- `test` - имя исходного потока, который будет публиковаться на тестируемый сервер
- `loadtest` - префикс имени, с которым будут публиковаться потоки на тестируемый сервер
- `10` - количество публикаций

При успешном запуске, скрипт выводит на консоль список публикаций

```
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. Контроль публикаций на странице статистики тестируемого сервера `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_rtmp_client_out=0
streams_play_rate=0
streams_stop_rate=0
```

5. Запуск скрипта `pushStreams` на сервере `test2.flashphoner.com` для остановки теста

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

Здесь:

- `ws://test1.flashphoner.com:8080` - websocket URL тестируемого сервера
- `http://test1.flashphoner.com:8081` - HTTP URL тестируемого сервера для использования REST API
- `test` - имя исходного потока, который публикуется на тестируемый сервер
- `loadtest` - префикс имени, с которым публикуются потоки на тестируемый сервер
- `stop` - ключевое слово для остановки публикаций с указанными параметрами

При успешной остановке публикаций, скрипт выводит на консоль сведения об остановке

```
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
```

Тестирование максимального количества WebRTC подписчиков

Тестирование максимального количества подписчиков проводится при помощи скрипта

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

1. Для теста используются:

- test1.flashphoner.com - тестируемый WCS сервер
- test2.flashphoner.com - тестирующий WCS сервер
- пример Media Devices для публикации исходного потока

2. Публикация исходного потока на сервер test1.flashphoner.com

The screenshot shows the 'Media Devices' interface. On the left, there are 'Video stats' and 'Audio stats' for the local stream. The local video frame shows a rabbit in a field. Below the frame, there is a 'test' button and a 'Stop' button. The video resolution is 1280x720. In the center, it says 'PUBLISHING'. On the right, there is a 'Player' area which is currently empty. Below it, there is a '0756' button and a 'Play' button. At the bottom, there is a 'wss://test1.flashphoner.com:8443' button and a 'Disconnect' button. Below that, there is a 'Timeout' field set to '1000' msec. At the very bottom, it says 'ESTABLISHED'.

3. Запуск скрипта pullStreams на сервере test2.flashphoner.com

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

Здесь:

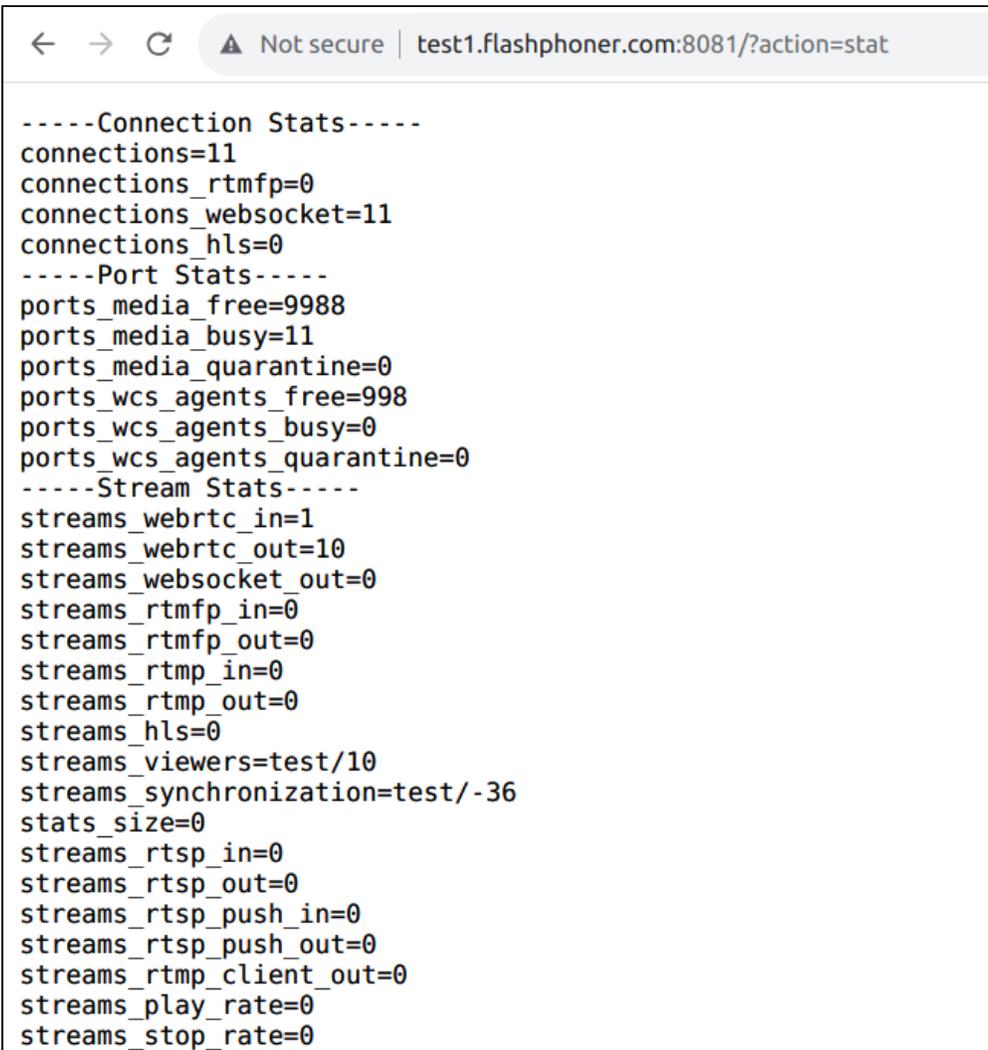
- ws://test1.flashphoner.com:8080 - websocket URL тестируемого сервера
- http://test1.flashphoner.com:8081 - HTTP URL тестируемого сервера для использования REST API
- loadtest - префикс имени, с которым будут захватываться потоки с тестируемого сервера
- 10 - количество подписчиков

Обратите внимание: скрипт захватит все опубликованные на тестируемом сервере потоки, каждый заданным количеством подписчиков.

При успешном запуске, скрипт выводит на консоль список подписчиков

```
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. Контроль подписчиков на странице статистики тестируемого сервера <http://test1.flashphoner.com:8081/?action=stat>



The screenshot shows a web browser window with the address bar displaying "test1.flashphoner.com:8081/?action=stat". The page content consists of a text-based statistics report. The report is organized into sections: "Connection Stats", "Port Stats", and "Stream Stats". The "Connection Stats" section shows 11 total connections, with 11 WebSocket connections and 0 RTMP connections. The "Port Stats" section shows 9988 free media ports and 11 busy media ports. The "Stream Stats" section shows 10 active streams, with 10 viewers and 36 synchronization events. The report also includes statistics for RTSP and RTMP client connections and play/stop rates.

```
-----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. Запуск скрипта pullStreams на сервере test2.flashphoner.com для остановки теста

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

Здесь:

- ws://test1.flashphoner.com:8080 - websocket URL тестируемого сервера
- http://test1.flashphoner.com:8081 - HTTP URL тестируемого сервера для использования REST API
- loadtest - префикс имени, с которым захватываются потоки с тестируемого сервера
- stop - ключевое слово для остановки подписчиков с указанными параметрами

При успешной остановке подписок, скрипт выводит на консоль сведения об остановке

```
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
```