CDN 2.4

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Overview

CDN 2.4implements the following features in addition toCDN 2.1,2.2and 2.3:

- CDN signaling connections monitoring
- CDN signaling connections management

CDN signaling connections monitoring

CDN 2.4 allows to check current state of signaling connections with other CDN nodes using REST API or CLI. Thus, CDN coherence can be monitored from backend.

Using REST API

REST API query/cdn/show_nodes returns current state and statistics of signaling connection with other CDN nodes


```
[
  {
    "version": "2.3",
    "role": "TRANSCODER",
    "inboundConnected": true,
    "outboundConnected": false,
    "globalState": "ACTIVE",
    "processingState": "NEW_STREAMS_ALLOWED",
    "id": "192.168.1.64"
  },
  {
    "version": "2.4",
    "role": "EDGE",
    "inboundConnected": true,
    "outboundConnected": false,
    "globalState": "ACTIVE",
    "processingState": "NEW_STREAMS_ALLOWED",
    "connectionStats": {
      "lastRtt": 2,
      "lastSn": 24,
      "lastMessageSentMs": 1592359761801,
      "lastACKReceivedMs": 1592359761802,
      "maxRtt": 1224,
      "inFlightSize": 0
    },
    "id": "192.168.1.65"
  }
]
```


Parameters

Parameter	Description	Example
inboundConnected	Inbound connection is established from this node	true

outboundConnected	Outbound connection is established to this node	false
lastRtt	Last packet RTT, ms	2
lastSn	Last packet sequence number	24
lastMessageSentMs	Last message sent timestamp, ms	1592359761801
lastACKReceivedMs	Last acknowlegement received timestamp, ms	1592359761802
maxRtt	Maximum RTT, ms	1224
inFlightSize	Current sending packet size, bytes	0

Note that statistics is not available for previous CDN versions nodes, connection status only can be checked.

Using CLI

CLI v 2 command

```
cdn show-connections
```

shown CDN signaling connections statistics (for CDN 2.4 nodes only)

```
Ip            State  Inbound Outbound Last rtt Max rtt Last SN In flight
-------------------------------------------------------------------------
192.168.1.39  ACTIVE false   true     1        2057    127     0
```

CDN signaling connections management

In some cases, certain CDN node coherence may be broken, for example, due to network issues between nodes. To restore the CDN coherence, singnaling connections reset and re-establishing may require. In previous CDN versions, this can be done by node restart only. In CDN 2.4, signaling connections can be reset using REST API. This operation does not affect media streams which already passing through this node.

Connection reset using REST API

- HTTP:http://test.flashphoner.com:8081/rest-api/cdn/connection/reset_outbound
- HTTPS:https://test.flashphoner.com:8444/rest-api/cdn/connection/reset_outbound

Здесь:

- test.flashphoner.com -WCS server address
- 8081 - REST / HTTP port
- 8444 - HTTPS port
- rest-api - mandatory URL part
- /cdn/connection/reset_outbound - REST method used

REST queries should be sent to the node on which connections must be reset

REST queries and response states

REST query	Body example	Response states	Description
/cdn/connection/reset_inbound	`{ "nodeId":"192.168.1.65" }`	200 – OK 404 - Node not found	Reset inbound connection from this node

/cdn/connection/reset_outbound	<pre>{
	"nodeId":"192.168.1.65"
	}</pre>
		200 – OK
		404 - Node not found
			Reset outbound connection to this node

/cdn/connection/reset_all		200 – OK	Reset all CDN connections on this node (since build5.2.1222)

Parameters

Parameter	Description	Example
nodeId	Node id (IP address) to reset connection with	192.168.1.65

Signaling connections tuning

Inactive connections reset configuration

Signaling connection can be closed if server does not receive any packets during a certain timeout. The feature is enabled by the following parameters for incoming and outgoing signaling connections respectively

```
cdn_inbound_ws_read_socket_timeout=true
cdn_outbound_ws_read_socket_timeout=true
```

By default, the read timeout is set to 60 seconds

```
cdn_inbound_ws_read_socket_timeout_sec=60
cdn_outbound_ws_read_socket_timeout_sec=60
```

Backward compatibility with CDN 2.0-2.3

1. Statistics is not displayed for connections with previous CDN versions nodes

2. Connection with previous CDN version node can be reset