

# OpenTok Network Connectivity Requirements

In order to use OpenTok v2, a web or mobile client needs to access servers on specific ports for a range of IP addresses. This is an important consideration for corporation networks that use a firewall to block access to specific ports.

This document provides details for network configuration, to assist network administrators in restricting access by opening ports only on specific addresses, ensuring that all OpenTok servers can be accessed. For security, we recommend as a best practice that ports and access to certain IP-block ranges be used.

The details on IP and port requirements in this document may change. To receive e-mail notifications when this information changes, sign up at <http://platform-updates.tokbox.com/>.

## OpenTok IP/port requirements

The following table lists the ports and IP address ranges that need to be accessible:

<i>Ports</i>	<i>IP address range</i>
UDP ports 1025–65535 (inbound and outbound)	70.42.47.64/26 72.5.167.128/26 212.118.226.32/27
TCP ports 5560, 443, 3478, and 80 (inbound and outbound)	212.118.226.32/27 70.42.47.64/26 72.5.167.128/26
TCP ports 80 and 443 (outbound)	216.151.209.20 216.151.209.15

## *OpenTok Network Connectivity Requirements*

---

Here is the list of server names used by each port (in case you need to map to server names instead of IP addresses):

<i>Ports</i>	<i>Server names</i>
UDP ports 1025–65536 (inbound and outbound)	mantis40*-oak.tokbox.com mantis50*-nyc.tokbox.com mantis80*-lhr.tokbox.com turn40*-oak.tokbox.com turn50*-nyc.tokbox.com turn80*-lhr.tokbox.com
TCP ports 5560, 443, 3478, and 80 (inbound and outbound)	api.tokbox.com mantis40*-oak.tokbox.com mantis50*-nyc.tokbox.com mantis80*-lhr.tokbox.com turn50*-nyc.tokbox.com turn80*-lhr.tokbox.com turn40*-oak.tokbox.com
TCP ports 80, 443 (outbound)	hlg.tokbox.com

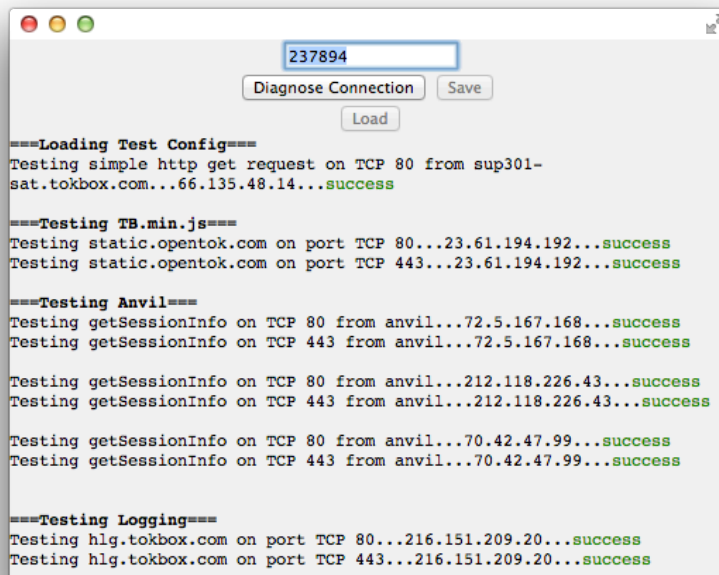
\* In each server name in this table, the asterisk (\*) can be 1 – 8.

### Troubleshooting

If you run into issues, try using the OpenTok Diagnostic tool (a Chrome app):

<https://chrome.google.com/webstore/detail/opentok-detailed-diagnost/keefphopchodfbehigdcngcafapfldda?authuser=1>

This tool tells whether all required ports are open or not:



Enter your OpenTok API key (or an e-mail address or any identifying text) so that TokBox can identify you. Then click the **Diagnose Connection** button to run the test.

Click the **Save** button to save the results to a file. Click the **Load** button to load previously saved results.

## OpenTok Network Connectivity Requirements

---

If you are a network administrator, you can run the following shell script to check if you can connect to all active OpenTok servers:

```
for i in oms406-oak.tokbox.com mantis401-oak.tokbox.com mantis402-
oak.tokbox.com mantis501-nyc.tokbox.com mantis502-nyc.tokbox.com
mantis801-lhr.tokbox.com mantis802-lhr.tokbox.com ;do for j in 443 80
5560; do echo $i $j ; nc -vz $i $j; echo '-----';done;done
#udp:
for i in oms406-oak.tokbox.com mantis401-oak.tokbox.com mantis402-
oak.tokbox.com mantis501-nyc.tokbox.com mantis502-nyc.tokbox.com
mantis801-lhr.tokbox.com mantis802-lhr.tokbox.com ;do for j in 1025 5\
0000 65535 ; do echo $i $j ; nc -vuz $i $j ; echo '-----';done;done
#tcp:
for i in turn402-oak.tokbox.com turn501-nyc.tokbox.com ;do for j in
443 3478 ; do echo $i $j ; nc -vz $i $j; echo '-----';done;done
#udp:
for i in turn402-oak.tokbox.com turn501-nyc.tokbox.com ;do for j in
1025 50000 65535 ; do echo $i $j ; nc -vzu $i $j; echo '-----
';done;done
#tcp:
for i in proxy401-oak.tokbox.com proxy501-nyc.tokbox.com proxy801-
lhr.tokbox.com hlg.tokbox.com api.opentok.com; do for j in 80 ; do echo
$i $j ; nc -vz $i $j ; echo '-----';done;done
```

A snippet of the result of running this script looks like this:

```
oms406-oak.tokbox.com 443
Connection to oms406-oak.tokbox.com 443 port [tcp/https] succeeded!
-----
oms406-oak.tokbox.com 80
Connection to oms406-oak.tokbox.com 80 port [tcp/http] succeeded!
-----
oms406-oak.tokbox.com 5560
Connection to oms406-oak.tokbox.com 5560 port [tcp/*] succeeded!
-----
mantis401-oak.tokbox.com 443
Connection to mantis401-oak.tokbox.com 443 port [tcp/https] succeeded!
-----
mantis401-oak.tokbox.com 80
Connection to mantis401-oak.tokbox.com 80 port [tcp/http] succeeded!
-----
mantis401-oak.tokbox.com 5560
Connection to mantis401-oak.tokbox.com 5560 port [tcp/*] succeeded!
```

### OpenTok connectivity architecture

OpenTok uses ports and server for a specific uses:

- TCP/80—HTTP for OpenTok RESTful API calls
- TCP/443—HTTPS and [TURN](#) support for media (audio and video)
- TCP/5560—Control channel for OpenTok iOS clients, which use a custom protocol over sockets to access this port
- TCP/3478—TURN and symmetric NAT traversal (see [IETF RFC 5766](#))
- UDP/1025-65536—Used by clients for media (audio-video) traffic flowing in and out of the OpenTok cloud

