

## CTS Language Link Vide Remote Interpreting Network Requirements

This document includes requirements needed for the CTS Language Link Video Remote Interpreting (VRI) system. It is provided by CTS Language Link. For questions on requirements, please contact [ClientRelations@language.link](mailto:ClientRelations@language.link).

### 1. Review Internet Requirements

- Visit <http://www.speedtest.net/> (no plugins required)
- Bandwidth: 2 Mbps upstream/downstream strongly recommended; minimum 1 Mbps upstream/downstream supported
  - 4G LTE connections/mobile hotspots are sufficient for most situations with an adequate connection to your LTE service provider; however, LTE quality is heavily influenced by your location and by the number of users connected to the same cellphone tower as you. Interpreters should always rely on wired Internet service over LTE service for consistent network quality.
  - 3G connections/mobile hotspots not recommended but may be sufficient for two-party calls when the 3G connection is not in use by other Internet applications and you have a strong connection to your 3G service provider

### 2. Network Connectivity - Port requirements

- Language Link utilizes the advanced features of WebRTC and other functionality when establishing a video or phone connection from either the mobile or web app that may in more secure environments require some additional configurations on the firewall. This document outlines the steps needed for Boost apps to successfully establish connections and the specific ports that need to be opened on the client firewalls to achieve this.
- Tests to run that must pass for a successful connection: <https://networktest.twilio.com/>

### Additional Information

TCP: All Connections are outbound on 443. This should be allowed on 99% of all firewalls

UDP: Outbound 10,000-20,000 UDP. Ideally allow all outgoing UDP, but if they need specific addresses they can be found in the following document (depending on client location they may need several exceptions, we don't specify a twilio region, we allow it to find the best one)

<https://www.twilio.com/docs/api/client/regions>

Note: Browser Camera and Microphone must be enabled.

Network Connectivity Requirements click [here](#)

### Test WiFi Signal

Links:

[Wifisignal](#)

[Netspot](#)

Wifi Signal gives real-time information on the following:

- Signal Strength
- Frequency Band
- Mode
- Channel

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- Channel Width
- Noise
- Data Rate
- And More...

NetSpot. It's main feature allows me to visualize all the above in a heatmap for any given location.

Here is an example of what they label a "survey":



The above is great because it can inform end users of dead areas where they can expect poor usage and/or empower IT to improve coverage.

**\*Floormaps are not autogenerated, you will need to upload to NetSpot and then you need to walk around each location (indicated by a drop-pin above) to take a reading.**

### Additional Network Requirements for high level Secure Environment

In general if...

- outbound TCP ports 443 and 10194
- outbound UDP ports 10,000 - 60,000

### Voice (mobile apps, US)

chunderm.gll.twilio.com (TCP port 10194 - IPs can change)  
chunderm.us1.twilio.com (TCP port 10194 - IPs can change)  
54.172.60.0 - 54.172.61.255 (UDP ports 10,000 - 20,000)  
34.203.250.0 - 34.203.251.255 (UDP ports 10,000 - 20,000)

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### Voice (webRTC – web app, US)

chunderw-gll.twilio.com (TCP port 443)

chunderw-vpc-gll.twilio.com (TCP port 443)

chunderw-vpc-gll-us1.twilio.com (TCP port 443)

54.172.60.0 - 54.172.61.255 (UDP ports 10,000 - 20,000) - same as mobile voice

34.203.250.0 - 34.203.251.255 (UDP ports 10,000 - 20,000) - same as mobile voice

### Video (Signaling)

54.172.60.0 - 54.172.61.255 (TCP port 443)

34.203.250.0 - 34.203.251.255 (TCP port 443)

### Video (media servers, US East Coast)

34.203.254.0 - 34.203.254.255 (UDP ports 10,000 - 60,000)

54.172.60.0 - 54.172.61.255 (UDP ports 10,000 - 60,000)

34.203.250.0 - 34.203.251.255 (UDP ports 10,000 - 60,000)

### Video (media servers, US West Coast)

34.216.110.128 - 34.216.110.159 (UDP ports 10,000 - 60,000)

54.244.51.0 - 54.244.51.255 (UDP ports 10,000 - 60,000)

### Video (additional)

sdkgw.us1.twilio.com (TCP port 443)

ecs.us1.twilio.com (TCP port 443)

This one is our actual app server. outbound 443 is already allowed  
app.boostlingo.com. 163 IN CNAME prod-app-lb1-1394086948.us-west-2.elb.amazonaws.com.  
prod-app-lb1-1394086948.us-west-2.elb.amazonaws.com. 1 IN A 54.187.172.190  
prod-app-lb1-1394086948.us-west-2.elb.amazonaws.com. 1 IN A 52.39.36.228

> 104.16.206.165

onesignal.com.	1	IN	A	104.16.206.165
onesignal.com.	1	IN	A	104.16.208.165
onesignal.com.	1	IN	A	104.16.204.165
onesignal.com.	1	IN	A	104.16.205.165
onesignal.com.	1	IN	A	104.16.207.165

As mentioned 443(tcp) to the first 3 (and additional listed below for onesignal).

The 69.x one,

> 104.16.206.165

OneSignal device registration for push notifications mentioned below

> 52.39.36.228,

App server load balancer mentioned below

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> 54.187.172.190,  
App server load balancer mentioned below

> 69.5.92.64/26,

> 74.125.133.94

### **Mobile apps may “spin” on load if these are blocked, so these must also be open (calls should still function)**

``onesignal.com (TCP port 443)

currently

- 104.16.204.165

- 104.16.205.165

- 104.16.206.165

- 104.16.207.165

- 104.16.208.165``

### **Additional mobile need:**

``api.appcenter.ms (TCP port 443) (possibly \*.appcenter.ms)

IP addresses are subject to change``

### **Helpful links:**

<https://support.twilio.com/hc/en-us/articles/223180888-What-are-Twilio-Client-s-Network-Connectivity-Requirements>

<https://www.twilio.com/docs/voice/client/regions>

<https://www.twilio.com/docs/video/ip-address-whitelisting>

<https://networktest.twilio.com/>

<http://d7uri8nf7uskq.cloudfront.net/tools/list-cloudfront-ips>

[https://intercom.help/appcenter/general-questions/urls-and-ip-addresses-to-whitelist-for-app-center``](https://intercom.help/appcenter/general-questions/urls-and-ip-addresses-to-whitelist-for-app-center)

### **Twilio:**

chunderm.gll.twilio.com

chunderm.{region}.twilio.com (Dynamic IPs) §

{Regions: au1, br1, de1, ie1, jp1, sg1, us1}

chunderm.us1.twilio.com

§ The initial GLL and Regional chunderm.x.twilio.com signaling address are only used in the initial connection; these connections will be redirected to a dynamic IP using port 10194.

Please click [here](#) for Codec Information

**Note:** It is possible to use Twilio's Network Traversal Service to restrict media traffic to UDP port 3478 by using our TURN servers. The regional media IPs will still need to be whitelisted, as will the TCP signaling port and hosts listed above. For more information about using TURN, please see our [Network Traversal Service site](#).