One Talk

Site Qualification Tool

Verizon's One Talk Site Qualification Tool will allow you to perform a series of tests to help you determine the readiness of a business location, prior to or after the installation of One Talk devices. Ideally, you should use it to verify network quality before purchasing. The tool can only be accessed through a desktop browser on either a Windows® PC or a Mac®, and it is supported on the following browsers: Chrome™, Firefox, Safari® and Microsoft® Edge®. This tool should not be accessed on a mobile device (smartphone or tablet), since the tool requires you to download and run a 1.5MB application on your desktop/laptop. This application is labeled "bcs-service", and it needs to be downloaded only once (the first time you try to use the tool).

It is recommended that you plan and design the solution for a customer, and, as you determine the number of One Talk devices needed, properly assess the readiness of the existing broadband connection; this tool will provide you with the information you need, so as to recommend to your customers the proper adjustments needed prior to proceeding with the installation of One Talk devices.

In addition to be used to make a proper assessment prior to an installation, the tool can be used at any time post-implementation to assist customers when there are call quality or device registration issues

The tool is designed to be simple to use. The user only needs to enter a value for the number of One Talk devices being deployed to begin the site assessment. The tool will use that information and assume all those devices will be placing calls at the same time, therefore simulating the business' busiest hour of operations. It is critical for any user of the tool to understand this concept. The assessment will simulate voice calls using the AMR-WB codec that all One Talk devices utilize. Some useful information about AMR-WB can be found here.

The Site Qualification Tool provides a real-time informational snapshot for the location where the test is run. We highly recommend that multiple tests be run at different times of the day, on different days, and from different connections to the network, in order to get a better idea regarding the network statistics for the business.

Verizon's One Talk Site Qualification Tool requires the following network ports to be open to be able to successfully run.

> **TCP ports: 20000, 20001**
> **UDP ports: 20000, 20001**
> **TCP port: 5060**
> **UDP port 8090**
> **TCP port 554**
> **UDP ports 554, 555, and 556**
> **HTTP port 80**

The tool will not notify the user that a specific port is not open or available; the tool will simply not be able to start the tests and will remain in the "testing" screen permanently

The following pages will show the user how to access the tool and how to use it, along with providing some guidelines to help them understand and interpret the results produced by the tool.
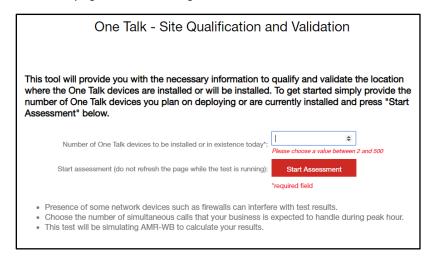
For accurate and precise testing do not run the tool over a VPN connection.

Last but not least, the tool does not store any customer information of any kind, and it does not store any historical test information for any user.
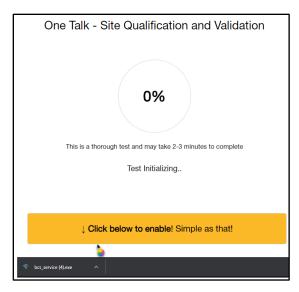
To access the tool, simply type the following URL into the browser: https://onetalk.visualware.com/

Users will be taken to the main page of the tool (image below)

On this page, all the user needs to do is to provide a value between 2 and 500 to simulate the number of One Talk devices that will be used at that location. Any devices connected to the network via Ethernet or using Wi-Fi need to be counted, since all of those devices consume bandwidth from the customer's internet connection. Once the value has been entered, the user must press "Start Assessment" to begin.
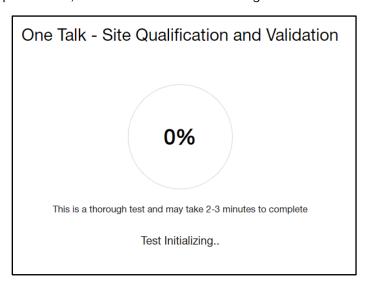
If this is the first time the user is trying to use the tool, the user will be notified on the screen to download and run the application.

Once you click the link, the application will download, and you will be prompted to click "Run" to complete installation and run the application.
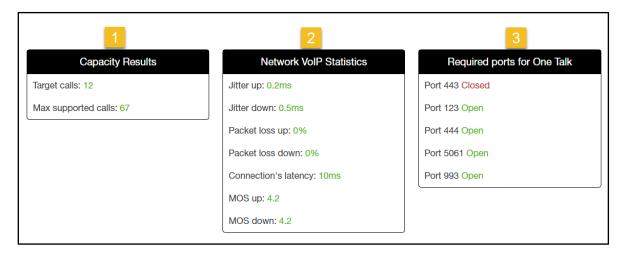
This will be a silent installation with no other user intervention needed. Once the application is installed, the Tool will proceed to run the specified test, and the user will see the following screen:

It is very important for the user not to touch or refresh the screen while the tests are executed. The duration of the test is directly related to the number of calls being simulated. On average, the screen will present all the results close to the 3 minute mark (180 seconds)

Once the testing is complete, the user will be presented with the results which have been categorized into three columns to assist the user with interpreting them:

1 **Capacity Results**. – This test will confirm whether the number of specified devices will be able to perform voice calls at the same time. This test will also perform a real-time bandwidth capacity test and provide the user with a value (Max supported calls) representing the maximum number of One Talk devices able to successfully make simultaneous calls over the internet connection. This value is of great importance to a customer wanting to know whether they have room for expansion or not.

2 **Network VoIP Statistics. -** This test will conduct a real-time evaluation of the network conditions of the Internet connection and report on them. There are four variables reported on, and all of them are important when it comes to the performance of the One Talk service.

    a. Jitter up/down: Jitter in IP networks is the variation in the latency on a packet flow between two systems, when some packets take longer to travel from one system to the other. Jitter values should always be under 5 milliseconds for optimal voice quality.

    b. Packet loss up/down: When accessing the internet, small units of data called packets are sent and received. When one or more of these packets fails to reach its intended destination, this is called packet loss. For One Talk users, packet loss manifests itself in the form of poor voice quality or noise on the line amongst other things. This value should always be at the 0.1% mark or lower.

    c. Connection latency. - Defined as the time it takes for a request to travel from the sender to the receiver and for the receiver to process that request. Latency determines how fast the content within a pipe can be transferred from the end point to the network and back. High latency creates bottlenecks in any network communication. It prevents the data from taking full advantage of the Internet connection and effectively decreases the communication bandwidth. The impact of latency on network bandwidth can be temporary or persistent, based on the source of the delays.

    d. MOS up/down: MOS or Mean Opinion Score gives VoIP testing a number value as an indication of the perceived quality of received voice after being transmitted and compressed, using codecs. This measurement is the result of underlying network attributes that act upon data flow, and is useful in predicting call quality. It is the best value in determining issues that can affect your One Talk voice service quality of your conversations.

3 **Required ports for One Talk.-** This test will perform an analysis of the ports and protocols used by One Talk devices to determine whether the security devices (i.e. firewalls) protecting the business have been configured properly to allow the One Talk devices to register, authenticate, and provide service.

The ports used by One Talk devices are the following:

One Talk Desk Phones	One Talk Mobile & Desktop Clients
Port: 443	Port: 443
Port: 5061	Port: 444
Port: 123	Port: 5061
	Port: 993
	Port 143

The answer as to whether all ports need to be open is based on the device type the customer is deploying. As an example, if the customer is only deploying desk phones, only ports 443, 5061 and 123 would need to be open. If a customer is deploying the Mobile apps with visual voice mail enabled, then ports 143, 443, 444, 993 and 5061 will need to be open (green status).

Details about the ports and protocols used by One Talk Devices

One Talk requires the following protocols and ports so that the devices have service and full functionality:

One Talk Desk Phones
Device Configuration
Protocol: https
Port: 443
Signaling
Protocol: SIPTLS
Port: 5061
Network Time
Protocol: NTP
Port: 123
Note: NTP can be delivered by the customer's DHCP server (option 42). If NTP is not delivered via DHCP, the fallback is to the U.S. NIST pool of time servers.

One Talk Mobile & Desktop Clients
Device Configuration/Authentication
Protocol: https
Port: 444
911 Feature Provisioning
Protocol: https
Port: 443
Signaling
Protocol: SIPTLS
Port: 443 and 5061
Media (voice/video)
Protocol: SRTP
Port: any
Messaging
Protocol: IMAP
Port: 993
Visual Voicemail
Protocol: IMAP
Port: 143

At the bottom of the test results screen, you will see a summary table, which looks like this:

Color Codes	Measurement Thresholds				Line condition to support VoIP calls
	Jitter (msec)	Latency (msec)	Packet Loss	MOS Score	
Green	‹5	‹=100	‹ 0.1%	› 3.8	Line conditions are excellent
Yellow	5+ to 20-	100 to 200	0.1+% to 1%	3.5 to 3.8	Line conditions are not optimal
Red	20+	200+	›1%	‹ 3.5	Serious issues detected, attention is required with your Internet connection

This table is intended to be used as a reference for the results published by the tool to help the user understand them.

Results in Green will indicate that users will have a very positive and high-quality experience with their One Talk devices.

Results in Yellow mean users may observe problems when making or receiving calls, and the voice quality could experience degradation. Because the codec in the One Talk devices is "adaptive" (AMR-WB), the codec will make adjustments on the fly, designed to adapt to the good or bad quality of the internet connection.

Results in Red indicate there are some serious problems in the Internet connection that require immediate attention. If the Red appears in the "Required Ports for One Talk", proper analysis needs to be done to determine if the blocking issues are relevant and need to be solved or whether the red is not relevant since the business is not deploying One Talk devices that use those specific ports.

The tool will give the user the ability to download the results of the test in PDF format; the results are not saved on the server and once the browser screen is closed down or the user goes back to the main page, they will need to re-run the test to be able to download the test results. To download the results all the user needs to do is to click on the image as shown in the page:

Finally at the bottom of the test results screen, the user will be given the option to re-run the test by simply pressing "Run another test".

The user will be able to run as many tests as needed to validate and verify the current device deployment plan and to troubleshoot any existing issues found.

All customers will be able to access this tool by going to the One Talk FAQs:

https://www.verizonwireless.com/support/one-talk-faqs/

The tool is located under the "Advanced Q & A" section of the FAQ page.

About One Talk
One Talk, together with its related devices, software and applications ("Service" or "One Talk"), is a business telephone solution that brings together the functions of desk phones and mobile devices (smartphones and tablets) into a unified system, with all devices sharing the same communication features. See verizonwireless.com/support/one-talk-features/ for a listing of features available with the service.

http://www.onetalk.com

Technical support
For additional information, please visit the One Talk Support website (https://www.verizonwireless.com/support/one-talk), where you can find additional documentation and answers to the most frequently asked questions.

https://www.verizonwireless.com/support/contact-us/
Verizon Wireless Customer Service: 800.922.0204