IP Centrex and Voice Connect

OTT pre-qualification test

1. VoIP Pre-qualification Testing

There are several factors that impact the quality of VoIP calls. The key factors to take into account are Speed, Latency, Packet Loss and Jitter.

2. Metrics

The following provides a guide as to what metrics to look for when carrying out a VoIP pre-qualification test.

Poor:
Packet Loss: > 4%
Jitter: > 40ms
Latency: > 200ms

Good:
Packet Loss: < 1%
Jitter: < 30ms
Latency: < 100ms

Excellent:
Packet Loss: < 0.5%
Jitter: < 20ms
Latency: < 50ms

3. Internet Speed

Generally speaking, the higher your Internet connection speed, the more reliably consistent the quality of your VoIP phone calls will be. A minimum speed of 256kbps in both directions is needed to provide acceptable call quality.

This table illustrates displays the Internet bandwidth required for IP OTT This is based on medium usage of all modalities

VfSfB Public Customer	Internet IM Sessions BW	Internet Peer Audio BW	Internet Peer Video BW	Internet Audio Conf BW	Internet Video Conf BW	Internet Desktop/App Share BW	Internet PSTN BW	Total Internet BW required MB
Small – 25 users	0.03	0.04	0.27	0.02	0.49	1.00	0.09	1.95
Small – 50 users	0.06	0.04	0.27	0.05	0.49	1.00	0.15	2.06
Medium-100 users	0.13	0.08	0.27	0.07	0.49	1.00	0.30	2.34
Medium -200 users	0.31	0.16	0.27	0.20	0.98	3.00	0.75	5.67
Medium- 300 users	0.38	0.19	0.27	0.22	0.98	3.00	0.91	5.95
Large - 400 users	0.50	0.23	0.55	0.30	0.98	4.00	1.21	7.76
Large – 500 users	0.63	0.31	0.55	0.37	1.66	5.00	1.51	10.03

4. Latency

Latency is the delay between the time data packets used for voice conversation are sent and when they are received. High latency can greatly affect IP phone calls.

5. Jitter

Jitter is a variation in packet latency for voice packets. Excessive jitter results in occurs poor voice quality.

The following link provides access to the SPARK broadband test tool to measure the performance of a broadband connection.

http://www.spark.co.nz/myspark/myinternet/testyourspeed/

The example below shows the results of a Spark broadband speed test. While Packet Loss and Firewall performance are not measured, the other metrics provide sufficient information to show if a connection is good enough to support VoIP services.