



VoIP Network Assessment Report

Prepared for: Polycom
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Prepared on: 2007-03-13 20:18

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Executive Summary

A VoIP assessment has been completed for your network. Using advanced network analysis techniques, the voice quality (MOS) on each of the targets has been measured as well as determining predictive best and worst case voice quality.

In addition to predicting voice quality, the assessment testing has identified any network performance issues that exist that may affect voice quality and other performance critical demands on the network such as backups and video.

60% of the **other voice** targets tested were found not to be ready for voice traffic.

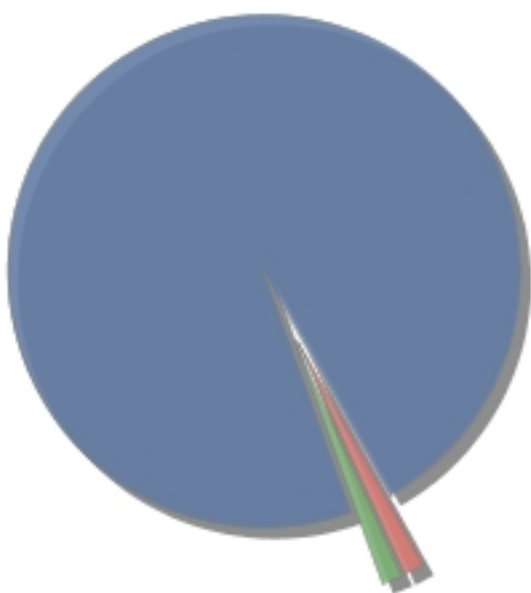
Testing to **10%** of the targets failed or provided indeterminate results. It is recommended that this be investigated as it may indicate network problems or an incorrect testing configuration.



Testing Overview

Assessment Test Started: 2007-03-12 00:20:54
 Assessment Test Completed: 2007-03-12 04:03:18
 Voice Assessment Name: Voice Assessment 2
 Testing Performed By: Kelly Daniels
 Number of Concurrent Calls for Voice Trunks: 20

Targets Tested by Type



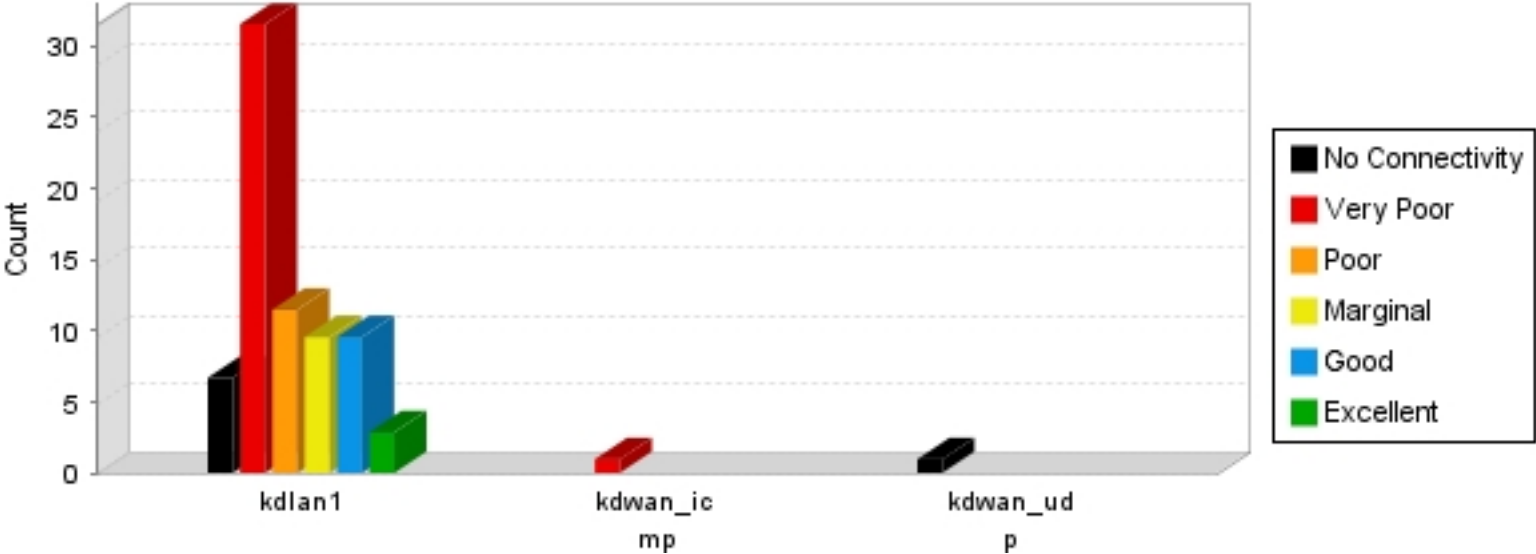
■ kdlan1	75	97.4%
■ kdwan_icmp	1	1.3%
■ kdwan_udp	1	1.3%
<hr/>		
Total:	77	100.0%

The following ranges have been used, based on ITU G. 107.

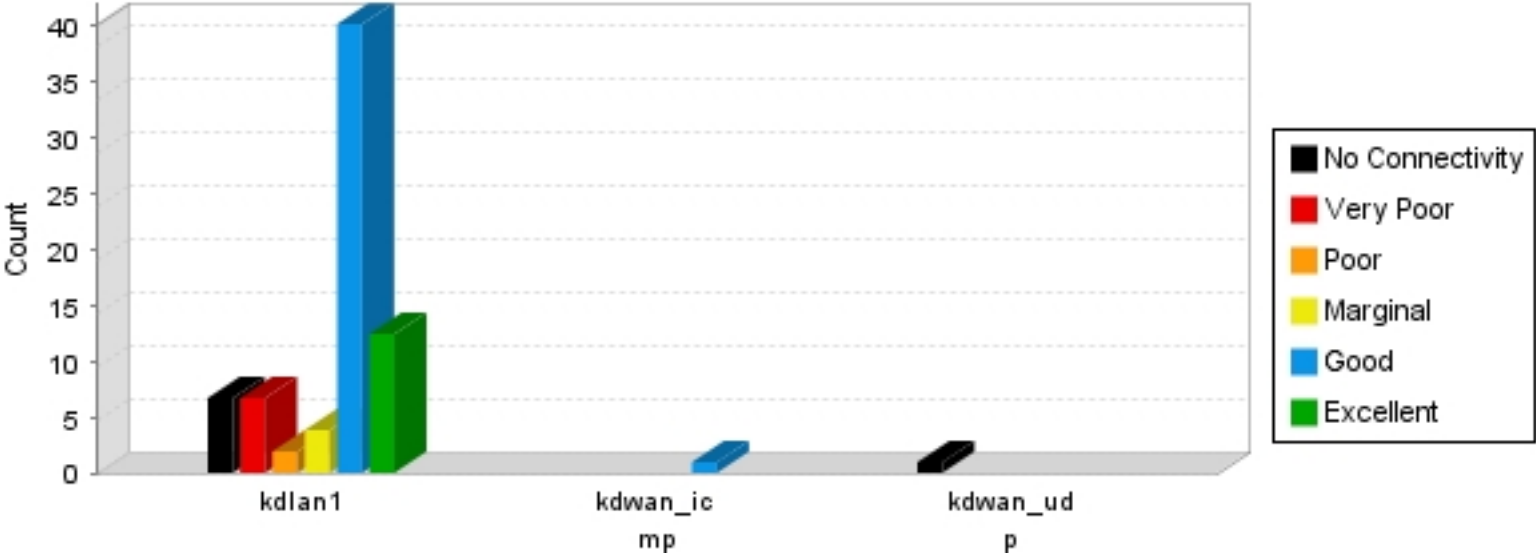
MOS	Quality	Meaning	Color
Good	4.0 - 5.0	Most or all users satisfied or very satisfied	Green
Acceptable	3.6 - 3.99	Some users satisfied	Yellow
Poor	1.0 - 3.59	Many or all users dissatisfied	Red

Readiness Summary

The following chart summarizes the Voice readiness for the Voice targets tested.



The following chart summarizes the Data readiness for all targets tested.

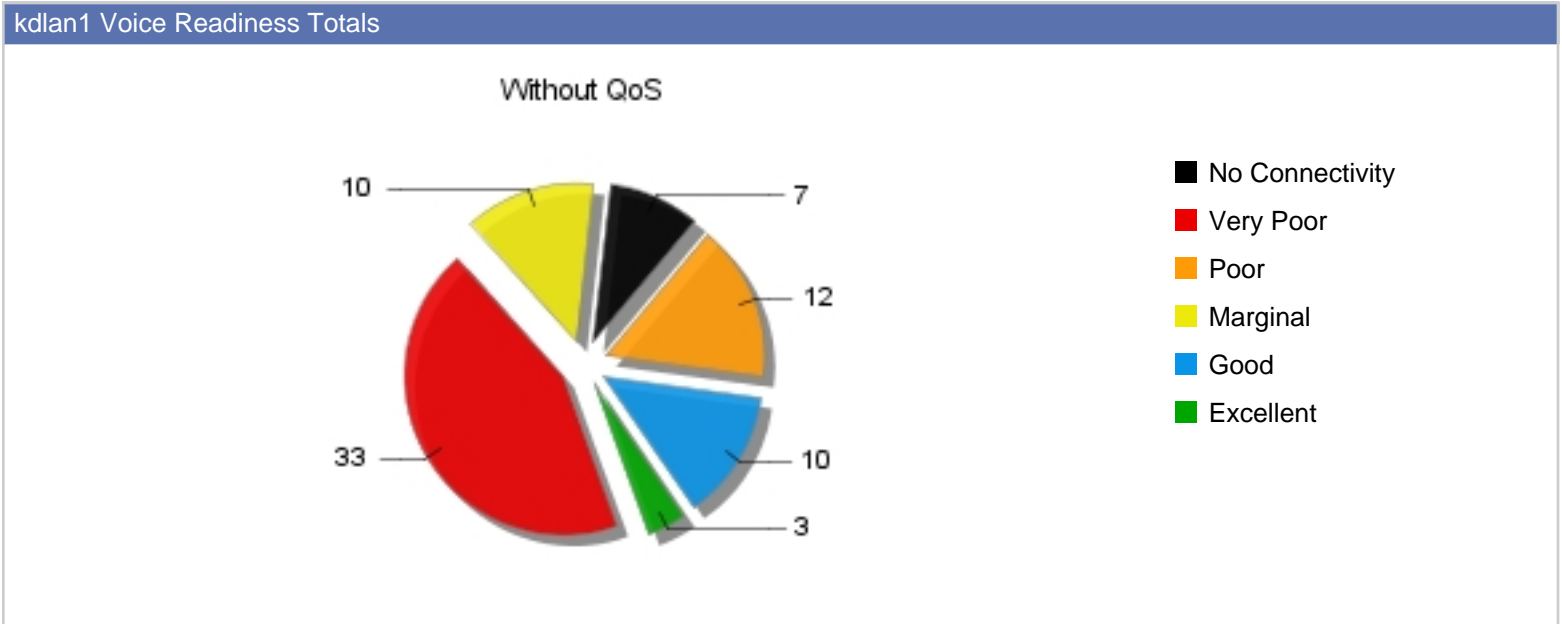


kdlan1 Testing Results

The following summarizes details of the kdlan1 testing parameters.

Codec: G.711 with a maximum MOS value of 4.4 at approximately 64 kbps
 QoS: Not Tested

The following chart shows the Voice readiness for the kdlan1s tested.



The following targets have been tested for voice readiness and quality. Click on the Target address to drill down to detailed test results.

Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
CONFIDENTIAL S01060050bf784fc3.vw.shawcable.net - Interphase...	Off	↓	↓	4.3	4.3	1.0	1	0	5.63	4.97 / 30.1	50.6
CONFIDENTIAL S0106000f3d5d14cb.vw.shawcable.net - Interphase...	Off	↓	↓	4.3	4.2	1.0	1	< 1	4.56	3.69 / 35.6	31.4

Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
CONFIDENTIAL S01060050bf3a5111.vw.shawcable.net - Interphase...	Off			4.3	4.0	1.0	1	0	5.60	5.73 / 64.7	52.8
CONFIDENTIAL S010600032f2df4f8.vw.shawcable.net - Interphase...	Off			4.3	3.7	1.0	1	0	5.19	8.74 / 92.1	45.6
CONFIDENTIAL S01060040f4c33fef.vw.shawcable.net - Interphase...	Off			4.3	4.3	1.0	1	0	4.99	2.71 / 14.0	44.9
CONFIDENTIAL S01060008c7593ddb.vw.shawcable.net - Interphase...	Off			4.3	1.8	1.0	0	10	8.17	62.6 / 233	24.5
CONFIDENTIAL S010600119505ec67.vw.shawcable.net - Interphase...	Off			4.3	4.3	1.0	1	0	5.19	15.4 / 170	49.3
CONFIDENTIAL S01060016cb9fa25f.vw.shawcable.net - Interphase...	Off			4.0	2.2	2.1	0	0	7.62	54.1 / 239	24.4
CONFIDENTIAL S0106001346d2f9cd.vw.shawcable.net - Interphase...	Off			4.2	4.2	2.6	1	0	5.13	3.87 / 41.5	49.5
CONFIDENTIAL S010600179a2109cf.vw.shawcable.net - Interphase...	Off			2.9	2.7	2.6	1	11	5.24	22.8 / 467	46.8
CONFIDENTIAL S0106001346ed8bc5.vw.shawcable.net - Interphase...	Off			3.8	2.9	2.4	1	17	4.96	3.00 / 28.5	47.3
CONFIDENTIAL S01060080c800b56f.vw.shawcable.net - Interphase...	Off			4.2	4.2	2.7	1	0	5.09	3.60 / 53.5	48.8

Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
CONFIDENTIAL S010600134645997f.vw.shawcable.net - Interphase...	Off			4.3	4.3	2.7	1	0	5.58	3.92 / 21.6	31.3
CONFIDENTIAL S01060050ba7653d8.vw.shawcable.net - Interphase...	Off			4.3	4.3	2.7	1	0	5.11	3.54 / 28.5	50.0
CONFIDENTIAL S0106004005bdaac8.vw.shawcable.net - Interphase...	Off			3.6	3.0	2.5	1	0	5.02	23.3 / 187	52.1
CONFIDENTIAL S0106001346ee701f.vw.shawcable.net - Interphase...	Off			3.7	3.5	2.6	1	1	5.05	18.4 / 300	45.1
CONFIDENTIAL S0106004005285b95.vw.shawcable.net - Interphase...	Off			4.3	4.3	2.8	1	0	5.26	3.86 / 9.29	47.0
CONFIDENTIAL S01060011950b316d.vw.shawcable.net - Interphase...	Off			3.9	2.9	2.9	1	0	6.19	19.6 / 116	61.3
CONFIDENTIAL S010600047644e8a1.vw.shawcable.net - Interphase...	Off			3.5	2.7	2.7	1	0	5.60	22.1 / 139	57.2
CONFIDENTIAL S010600119538650e.vw.shawcable.net - Interphase...	Off			3.5	2.7	2.7	0	0	6.15	21.8 / 138	36.4
CONFIDENTIAL S01060013460a35db.vw.shawcable.net - Interphase...	Off			3.8	3.8	2.9	1	0	4.92	9.98 / 194	48.0
CONFIDENTIAL S0106000795b77573.vw.shawcable.net - Interphase...	Off			4.3	4.3	2.6	1	0	4.90	4.10 / 21.8	52.2

Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
CONFIDENTIAL S010600179a261a83.vw.shawcable.net - Interphase...	Off			4.2	4.2	2.5	1	< 1	4.73	3.45 / 47.3	47.1
CONFIDENTIAL S01060050180a07f5.vw.shawcable.net - Interphase...	Off			3.9	3.9	2.2	1	0	5.64	7.15 / 72.5	50.1
CONFIDENTIAL S0106000c6ef9a211.vw.shawcable.net - Interphase...	Off			3.9	2.8	2.8	1	< 1	5.55	27.7 / 121	57.1
CONFIDENTIAL S0106001346fb22b7.vw.shawcable.net - Interphase...	Off			3.7	3.6	2.7	1	0	5.14	9.81 / 109	53.6
CONFIDENTIAL S01060011d8055916.vw.shawcable.net - Interphase...	Off			4.0	4.0	2.6	1	0	5.59	9.88 / 124	53.3
CONFIDENTIAL S0106000c6ec7fd6e.vw.shawcable.net - Interphase...	Off			4.3	4.3	2.9	1	0	5.20	3.06 / 24.0	35.4
CONFIDENTIAL S0106001346b7346b.vw.shawcable.net - Interphase...	Off			4.3	4.3	2.8	1	0	5.33	2.93 / 33.6	38.8
CONFIDENTIAL S0106001346b8a641.vw.shawcable.net - Interphase...	Off			3.3	2.3	2.3	0	0	9.43	39.7 / 161	19.9
CONFIDENTIAL S010600036d105f7e.vw.shawcable.net - Interphase...	Off			4.3	4.3	2.8	1	0	4.84	3.75 / 28.2	41.0
CONFIDENTIAL S0106001451a6da2c.vw.shawcable.net - Interphase...	Off			4.1	4.1	2.4	0	0	4.97	6.31 / 53.9	46.3

Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
CONFIDENTIAL S0106000f3d640767.vw.shawcable.net - Interphase...	Off			4.2	2.5	2.5	0	0	8.24	34.7 / 147	23.3
CONFIDENTIAL S01060080c8238012.vw.shawcable.net - Interphase...	Off			3.6	3.0	3.0	1	0	5.51	19.2 / 153	50.3
CONFIDENTIAL S0106000d88c2f3d6.vw.shawcable.net - Interphase...	Off			4.0	4.0	3.1	1	0	5.03	5.74 / 147	43.0
CONFIDENTIAL S01060050f2cb5b11.vw.shawcable.net - Interphase...	Off			4.0	3.7	3.2	1	0	5.66	8.85 / 90.8	56.7
CONFIDENTIAL S01060015e9e9facd.vw.shawcable.net - Interphase...	Off			3.9	3.1	3.1	1	0	5.59	35.1 / 292	53.7
CONFIDENTIAL S010600115bfc8e80.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.2	1	0	5.14	4.91 / 25.5	48.0
CONFIDENTIAL S01060004e238e1d5.vw.shawcable.net - Interphase...	Off			3.9	3.4	2.9	1	10	5.63	5.40 / 32.6	58.0
CONFIDENTIAL S0106000476ce5c65.vw.shawcable.net - Interphase...	Off			3.7	3.6	3.1	1	0	4.83	11.0 / 96.6	53.9
CONFIDENTIAL S010600032f09c618.vw.shawcable.net - Interphase...	Off			3.7	3.0	3.0	1	0	5.65	18.5 / 144	56.6
CONFIDENTIAL S01060010c603a247.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.0	1	0	5.45	4.95 / 28.6	45.9

Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
CONFIDENTIAL S01060015e9772845.vw.shawcable.net - Interphase...	Off			4.0	4.0	3.2	1	0	5.13	5.61 / 63.0	43.6
CONFIDENTIAL S0106005004057912.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.1	1	0	4.86	2.76 / 28.3	30.8
CONFIDENTIAL S0106000f3d5d131f.vw.shawcable.net - Interphase...	Off			3.9	3.1	3.1	0	< 1	5.71	16.4 / 142	42.7
CONFIDENTIAL S01060008741f1ebc.vw.shawcable.net - Interphase...	Off			4.2	4.2	3.3	0	0	5.37	6.58 / 43.3	39.3
CONFIDENTIAL S010600112513ab8c.vw.shawcable.net - Interphase...	Off			4.1	4.1	3.4	1	0	5.48	4.78 / 79.8	46.6
CONFIDENTIAL S0106000d88bf7a80.vw.shawcable.net - Interphase...	Off			4.2	4.2	3.5	1	0	5.04	3.16 / 44.4	49.0
CONFIDENTIAL S0106000874c2378b.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.6	1	0	5.24	4.02 / 19.3	49.7
CONFIDENTIAL S0106000d880365bd.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.4	1	0	5.15	2.75 / 39.1	56.3
CONFIDENTIAL S0106000ae662023b.vw.shawcable.net - Interphase...	Off			3.7	3.7	3.4	1	0	5.18	8.81 / 95.1	57.0
CONFIDENTIAL S010600c049ee770b.vw.shawcable.net - Interphase...	Off			3.6	3.5	3.5	1	0	5.12	9.47 / 112	48.8

Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
CONFIDENTIAL S01060080c6f0a6c5.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.4	1	0	5.17	2.09 / 20.2	37.1
CONFIDENTIAL S01060013460a9cf5.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.6	0	0	4.94	3.20 / 12.4	36.3
CONFIDENTIAL S010600119576ab21.vw.shawcable.net - Interphase...	Off			4.1	3.5	3.5	0	0	5.06	10.2 / 83.1	35.8
CONFIDENTIAL S01060011950bf7ad.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.8	1	0	5.36	4.57 / 17.6	50.8
CONFIDENTIAL S01060011d84e7dc1.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.7	1	0	4.90	4.37 / 22.2	62.0
CONFIDENTIAL S010600024404475a.vw.shawcable.net - Interphase...	Off			4.1	4.1	3.7	1	0	5.26	10.6 / 117	53.0
CONFIDENTIAL S0106001346cab081.vw.shawcable.net - Interphase...	Off			4.2	4.2	3.8	1	0	5.72	4.18 / 61.6	54.6
CONFIDENTIAL S0106000c6ec625f7.vw.shawcable.net - Interphase...	Off			4.0	3.8	3.8	1	0	5.10	8.61 / 91.9	62.0
CONFIDENTIAL S010600112554c38f.vw.shawcable.net - Interphase...	Off			3.9	3.7	3.7	1	< 1	5.11	10.0 / 83.8	46.8
CONFIDENTIAL S0106002078c65f73.vw.shawcable.net - Interphase...	Off			3.9	3.6	3.6	1	0	5.25	10.5 / 79.1	57.5

Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
CONFIDENTIAL S010600179a27c1b7.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.8	1	0	5.15	4.46 / 12.1	49.9
CONFIDENTIAL S0106001217fa0707.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.8	1	0	5.54	6.55 / 22.5	59.5
CONFIDENTIAL S0106004005486bc8.vw.shawcable.net - Interphase...	Off			4.3	4.3	3.8	0	0	5.17	4.17 / 18.9	47.6
CONFIDENTIAL S0106001346ee58c3.vw.shawcable.net - Interphase...	Off			4.3	4.3	4.0	1	0	5.04	4.44 / 30.8	46.4
CONFIDENTIAL S0106001346461dbd.vw.shawcable.net - Interphase...	Off			4.3	4.3	4.0	1	0	4.94	6.58 / 40.3	50.2
CONFIDENTIAL 70.70.184.1 - Interphase Corporation	Off			4.1	4.1	4.1	1	0	2.25	2.74 / 75.1	42.2

Incomplete kdlan1 Testing Results

Testing was not completed to the following kdlan1s.

Target	Reason
CONFIDENTIAL (S0106000347d69f31.vw.shawcable.net - Interphase...)	Could not connect to target
CONFIDENTIAL (S01060080c6fd2879.vw.shawcable.net - Interphase...)	Could not connect to target
CONFIDENTIAL (S01060011434da483.vw.shawcable.net - Dell Inc.)	Could not connect to target
CONFIDENTIAL (S010600e029965c4e.vw.shawcable.net - Interphase...)	Could not connect to target
CONFIDENTIAL (S0106001150d3e5df.vw.shawcable.net - Interphase...)	Could not connect to target
CONFIDENTIAL (S010600e04ceb2088.vw.shawcable.net)	Could not connect to target

Testing was not completed to the following kdlan1s.

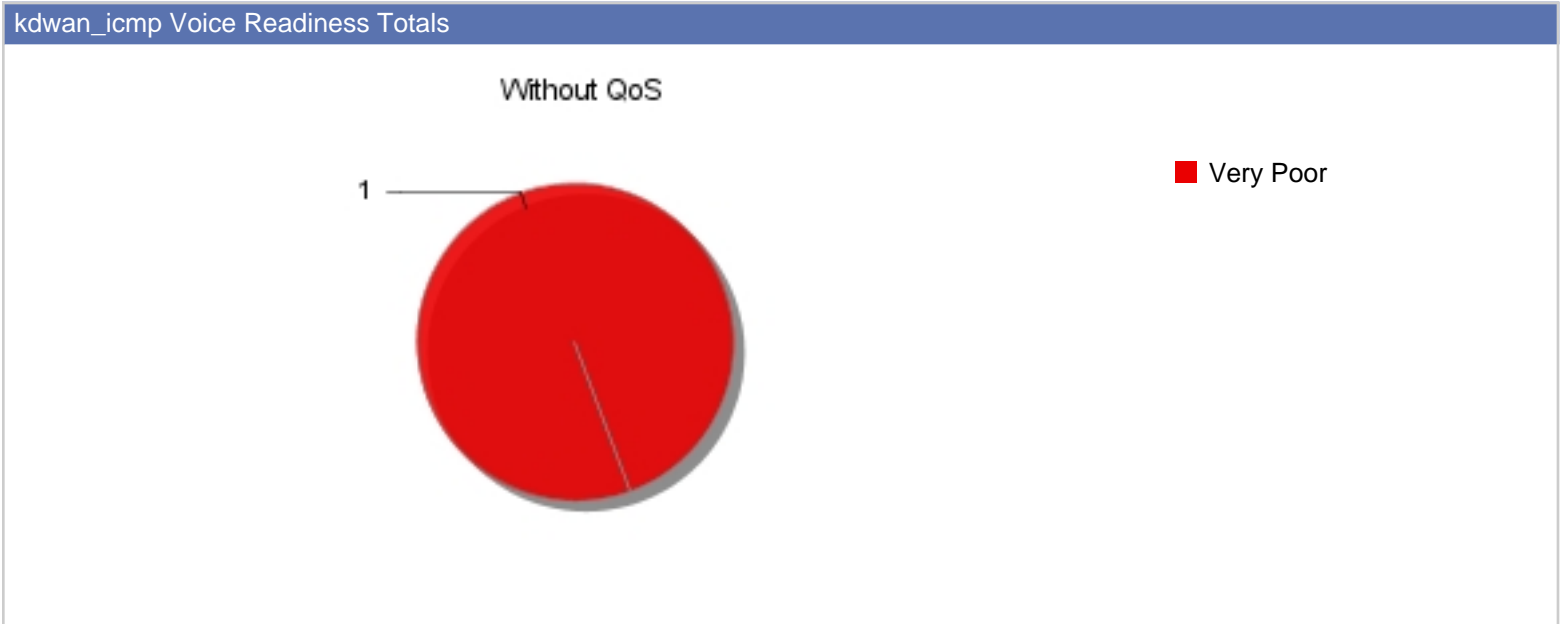
Target	Reason
- Interphase...)	
CONFIDENTIAL (S010600c049aa675c.vw.shawcable.net - Interphase...)	Could not connect to target

kdwan_icmp Testing Results

The following summarizes details of the kdwan_icmp testing parameters.

Codec: G.711 with a maximum MOS value of 4.4 at approximately 64 kbps
 QoS: Not Tested

The following chart shows the Voice readiness for the kdwan_icmps tested.



The following targets have been tested for voice readiness and quality. Click on the Target address to drill down to detailed test results.

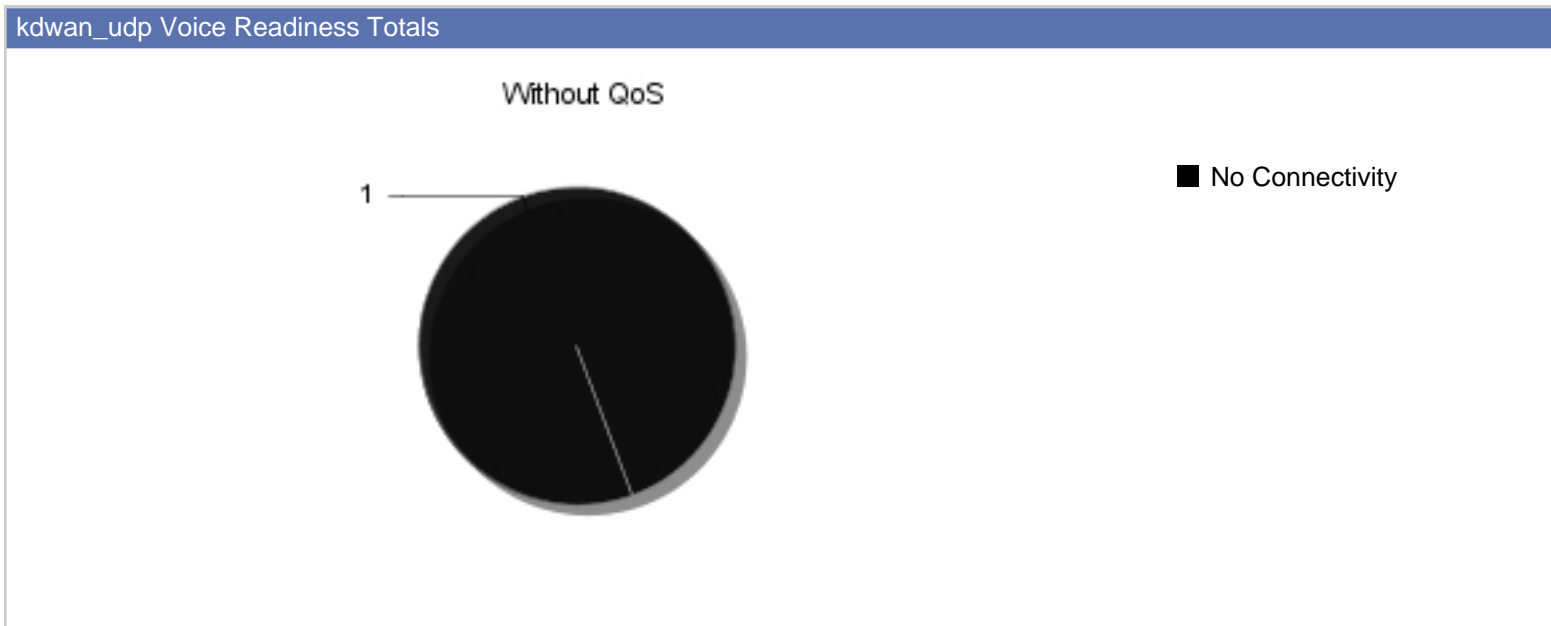
Target	QoS	Readiness		MOS			Measurements				
		Voice	Data	Best	Measured	Worst	BW Mb 2-way	Loss %	Prop. Delay (ms)	Jitter (Avg/Max, 1 way ms)	Util %
polycom.apparentnetworks.net icmp_test	Off	↓	↗	3.7	2.6	2.5	1	19	3.11	694 / 1.10E3	23.5

kdwan_udp Testing Results

The following summarizes details of the kdwan_udp testing parameters.

Codec: G.711 with a maximum MOS value of 4.4 at approximately 64 kbps
QoS: Not Tested

The following chart shows the Voice readiness for the kdwan_udps tested.



Incomplete kdwan_udp Testing Results

Testing was not completed to the following kdwan_udps.

Target	Reason
polycom.apparentnetworks.net (udp_test)	Could not connect to target