Avaya Solution & Interoperability Test Lab

Application Notes for IQ Services Outbound Dialer StressTest Service with Avaya Proactive Contact – Issue 1.0

Abstract

These Application Notes describe the steps required for IQ Services Outbound Dialer StressTest Service to successfully interoperate with Avaya Proactive Contact. The IQ Services Outbound Dialer StressTest Service was used to assess the speed and accuracy in call classification of the outbound calls.

Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

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1. Introduction

Through innovation of existing testing technology, IQ Services developed the Outbound Dialer StressTest to verify system performance of outbound dialing systems. The Outbound Dialer StressTest provides companies with open telephone lines into which the systems dial. IQ Services works with the company to determine various call classifications in order to replicate a real-world calling experience. Answer conditions may include live answer or machine answer, busy tones, fax/modem tones, and a variety of other options.

During the test, companies will launch outbound calls from their predictive dialers and IQ Services will capture the data from each call. Three critical pieces of information—recordings, response times and results of every call—give the companies accurate and detailed information about the performance of their system. The Outbound Dialer StressTest lets companies verify that their predictive dialers work properly. Precise data and easily repeatable scenarios provide a clear picture of the system's performance.

IQ Services' patent-pending **O**n-line **R**eporting and **C**harting **A**pplication, ORCA, gives access to real-time load test results and data via the Internet browser. It is available via a secure website and optimized for use with Internet Explorer. ORCA provides the following capabilities:

- View scatter diagrams that display target system performance and response times for selected key steps of the test scripts
- Listen to complete digital audio recordings of the test calls that are selected
- Get a "dashboard" view of overall system performance and individual test call data

1.1. Integration Overview

For the compliance testing, Avaya Proactive Contact 4.0 placed outbound calls over the PSTN to IQ Services. The outbound calling numbers mapped to specific answer conditions provided by IQ Services. For example when phone number "1-612-243-6781" was dialed, it would connect to a live voice while phone number "1-612-243-6783" would connect to a busy tone. The answer conditions that were tested include: live voice, answering machine, busy, fax/modem tones and ring/no answer. The compliance test verified that the answer conditions provided by IQ Services were classified correctly by Avaya Proactive Contact 4.0. The agent response time, the time from when IQ Services answered the outbound call to when the agent responds, was also verified during the compliance testing.

The focus of these Application Notes is on the customer deliverables that are required as input to the Outbound Dialer StressTest Service, and the navigation of the real-time performance data output provided by IQ Services. **Figure 1** shows the test configuration that was used for the compliance testing.

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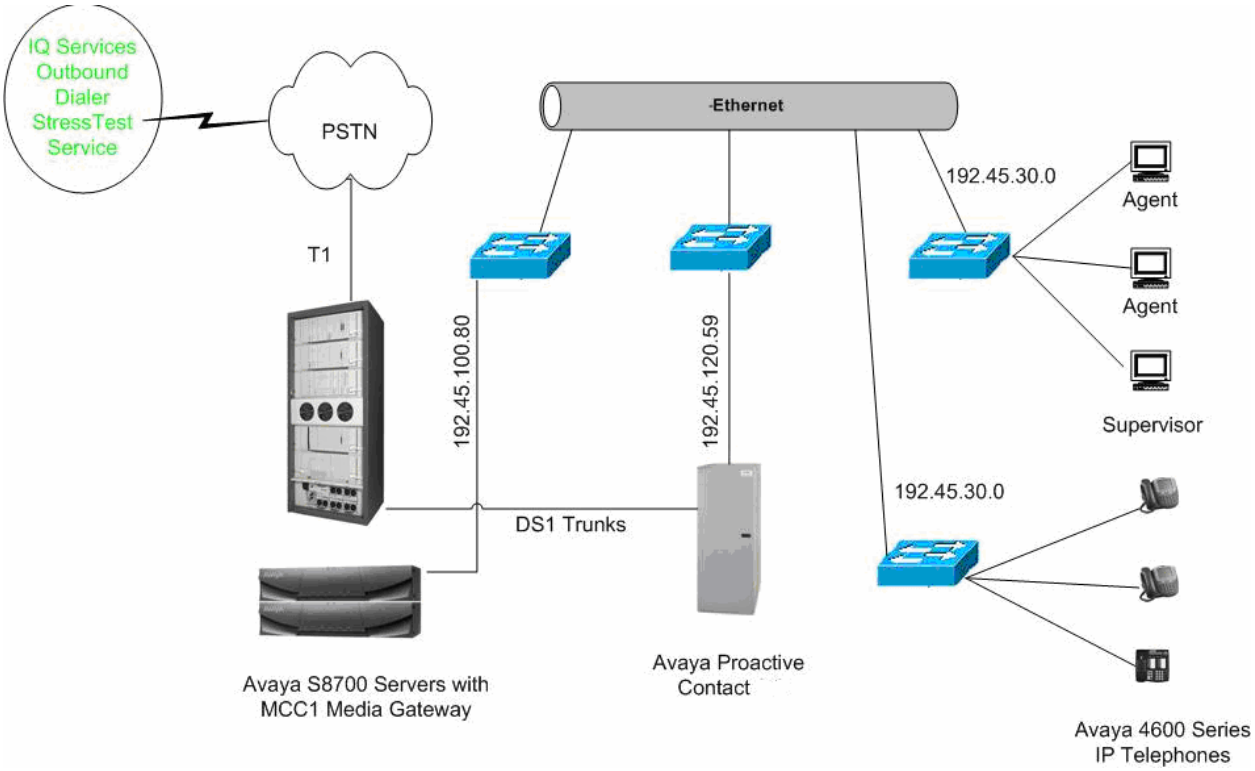

Figure 1: Avaya – IQ Services Test Configuration

2. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment	Software
Avaya Proactive Contact Server	Avaya Proactive Contact 4.0.1
Avaya S8700 Server with Avaya MCC1 Media Gateway	Avaya Communication Manager 4.0 (R014x.00.0.730.5)
Avaya Call Classifier Board TN744E	Vintage 12
Avaya Proactive Contact Agent	Avaya Proactive Contact Agent 4.0.1 SP1
IQ Services DrillMaster	1.0

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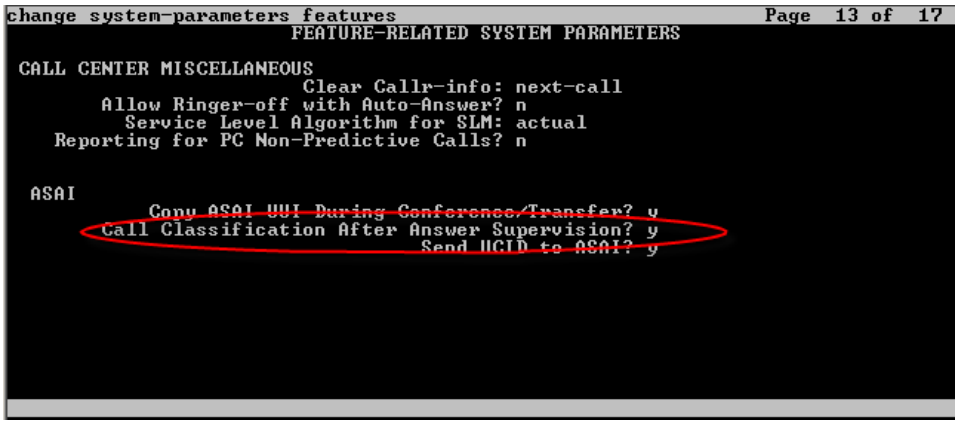
3. Configure Avaya Proactive Contact and Avaya Communication Manager

These Application Notes assume that Avaya Proactive Contact 4.0 (PC4) and Avaya S8700 Server with Avaya Communication Manager are configured and are operational. Following scenarios were tested:

- Avaya PC4 with PG230 Digital Switch (HardDialer)
- Avaya PC4 with CTI (SoftDialer)

When Avaya PC4 with CTI is used, following change is done on Avaya Communication Manager. The **Call Classification After Answer Supervision** field on the **System-Parameters Feature** screen should be set to "y".



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4. Customer Deliverables

In preparation for the testing, IQ Services will provide the customer with a list of phone numbers that the dialer can use for the outbound dialing. The customer will provide IQ services the answer conditions required for each phone number. For this compliance testing, following answer conditions were tested.

Outbound Phone Number dialed	Answer Response at IQ Services
1-612-243-6781	Live voice
1-612-243-6782	Answering Machine
1-612-243-6783	Busy Tone
1-612-243-6784	Fax/Modem Tone
1-612-243-6785	Ringing/No Answer

5. IQ Services StressTest Results

Once the IQ Services StressTest testing has begun the **ORCA**, IQ Services' patent-pending **O**n-line **R**eporting and **C**harting **A**pplication, tool can be used to access real-time load test results and data via the Internet browser. The following procedures are used to access these results and the following screens offer a sampling of the results that were generated as part of the compliance test.

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5.1. Access the Web Interface

- Access the ORCA interface by using the URL http://StressTestOnline.com in an Internet browser window. Enter the **Company Code**, **User Name** and **Password** supplied by IQ Services. Click **Proceed**.

- Select the appropriate project to be viewed.

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- Select the **Test Session**.

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5.2. Call Connect Time Chart

- Click in the **Standard** cell of **Chart Type** "Response".

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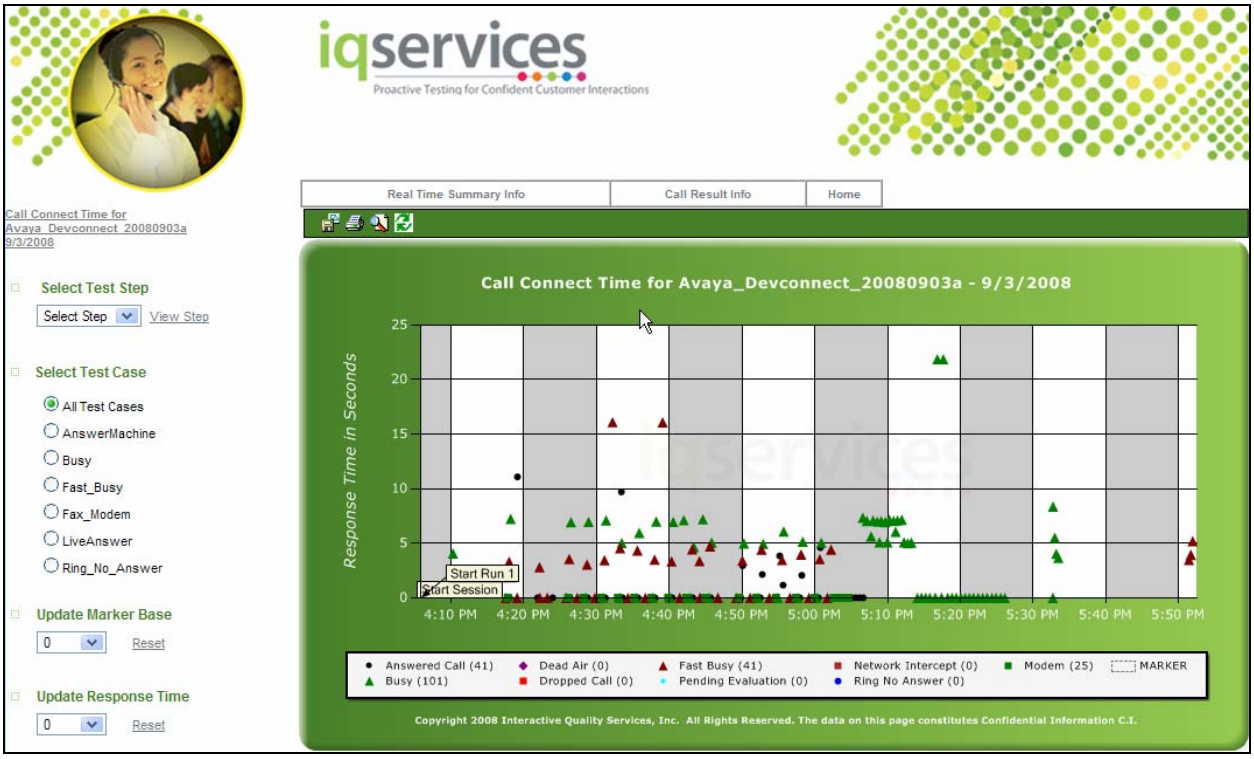
- The **Call Connect Time** scatter diagram chart shows how the outbound phone calls are answered by IQ Services. The response time in seconds is plotted on the vertical axis against [time of day] on the horizontal axis. The response time is measured in seconds from when IQ Services has completed responding to the outbound call until IQ Services hears voice from the agent. The legend on the bottom of the chart lists the expected and unexpected response types typical at this particular step in the test call sequence. Click a data point to open a new window with complete call details and a recording of that call. The legend at the bottom of the chart shows all possible call result evaluations.



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5.3. Test Summary Report

There is a series of command buttons located across the top of the chart page: **Real Time Summary Info**, **Call Result Info**, and **Print Chart**, as shown in **Section 5.2**.

Click the **Real Time Summary Info** button to display the following report. This report provides the call results based on test case, calls connected, and calls completed as well as other useful test summary information such as test time, calling lines, calling rate, etc. A full explanation of each table section is available by clicking on the "**Click here to explain**" row at the top of each section. This table is preset to refresh every 15 seconds.

Test Summary For Avaya_Devconnect_20080903a

Session Start: 4:05:48 PM 9/3/2008 Session End: 5:51:56 PM

Real Time Summary Information - Click here to explain

Start Time	Stop Time	Duration (Minutes)	Current Calls Connected	Total Calls Received	Total Calls Completed
4:05:52 PM	5:51:56 PM	106	0	208	208

Call Connected Information - Click here to explain

Called Number	Total Calls	Answered Calls	Busy	Fast Busy	Network Intercept	Ring No Answer	Dead Air	Dropped Call	Modem	Pending Evaluation
6122436781	18	18	0	0	0	0	0	0	0	0
6122436782	23	23	0	0	0	0	0	0	0	0
6122436783	54	0	54	0	0	0	0	0	0	0
6122436784	25	0	0	0	0	0	0	0	25	0
6122436786	20	0	0	20	0	0	0	0	0	0
9525402712	47	0	47	0	0	0	0	0	0	0
9525402735	21	0	0	21	0	0	0	0	0	0
Total	**208**	**41**	**101**	**41**	**0**	**0**	**0**	**0**	**25**	**0**

Calls Per Hour Information - Click here to explain

Called Number	Average	Peak	Last 5 Minutes	Since Last Line Marker[]
6122436781	10	60	0	0
6122436782	13	240	0	0
6122436784	14	240	0	0
Overall	**37**	**240**	**0**	**0**

Called Number Information - Click here to explain

Called Number	Completed Calls	Shortest (sec)	Longest (sec)	Average
6122436781	18 (8.65%)	4	22	10
6122436782	23 (11.06%)	3	21	6
6122436783	54 (25.96%)	0	0	0
6122436784	25 (12.02%)	5	22	5
6122436786	20 (9.62%)	0	0	0
9525402712	47 (22.60%)	0	0	0
9525402735	21 (10.10%)	0	0	0
Overall	**Total: 208 calls**	**Min: 3**	**Max: 22**	**Avg: 7**

Test Case Information - Click here to explain

TestCase	Completed Calls	Shortest (sec)	Longest (sec)	Average
AnswerMachine	23 (11.06%)	3	21	6
Busy	101 (48.56%)	0	0	0

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5.4. Call Result Information Report

Click the **Call Result Info** button to display the following report. This report presents the performance test data in chronological order as calls were completed and posted to the scatter diagram. A full explanation of the Call Result Information table can be reviewed by clicking the **Click here to explain** row at the top of the table.

Refresh Page | Print Page | Home

Call Result Information for Avaya_Devconnect_20080903a - Click here to explain 9/3/2008

Record ID	Listen	Test Case	DNIS	ANI	Call Result	Call Pickup Time	Call Connect Time	Call Done Time	Call Duration (sec)	Dialer Response(sec)
209	Play Call	Fast_Busy	9525402735	9088344400	Fast Busy	5:51:56 PM	5:52:01 PM	5:52:01 PM	5.656	5.20
208	Play Call	Fast_Busy	9525402735	9088344400	Fast Busy	5:51:41 PM	5:51:44 PM	5:51:45 PM	4.390	3.94
207	Play Call	Fast_Busy	9525402735	9088344400	Fast Busy	5:51:26 PM	5:51:30 PM	5:51:30 PM	4.063	3.48

Select Page (Time Duration is 10 minutes)

Page	Start Time (Starting Point)	Start Time (Ending Point)	Number of Calls
1	9/3/2008 5:45:58 PM	9/3/2008 5:51:56 PM	3
2	9/3/2008 5:35:57 PM	9/3/2008 5:45:57 PM	0
3	9/3/2008 5:25:56 PM	9/3/2008 5:35:56 PM	7
4	9/3/2008 5:15:55 PM	9/3/2008 5:25:55 PM	32
5	9/3/2008 5:05:54 PM	9/3/2008 5:15:54 PM	36
6	9/3/2008 4:55:53 PM	9/3/2008 5:05:53 PM	30
7	9/3/2008 4:45:52 PM	9/3/2008 4:55:52 PM	22
8	9/3/2008 4:35:51 PM	9/3/2008 4:45:51 PM	32
9	9/3/2008 4:25:50 PM	9/3/2008 4:35:50 PM	31
10	9/3/2008 4:15:49 PM	9/3/2008 4:25:49 PM	14
11	9/3/2008 4:05:48 PM	9/3/2008 4:15:48 PM	1
All Records	9/3/2008 4:05:48 PM	9/3/2008 5:51:56 PM	208

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5.5. Call Step Response Times

To get details of each test call, double click a data point in the **Record ID** column in the **Call Result Information** report in **Section 5.4**. The **Call Step Response Times** report displays data related to a single call record. It shows the number dialed, the IQ Services number where the call terminates, the test case, call result, response times, and a call's evaluated result.

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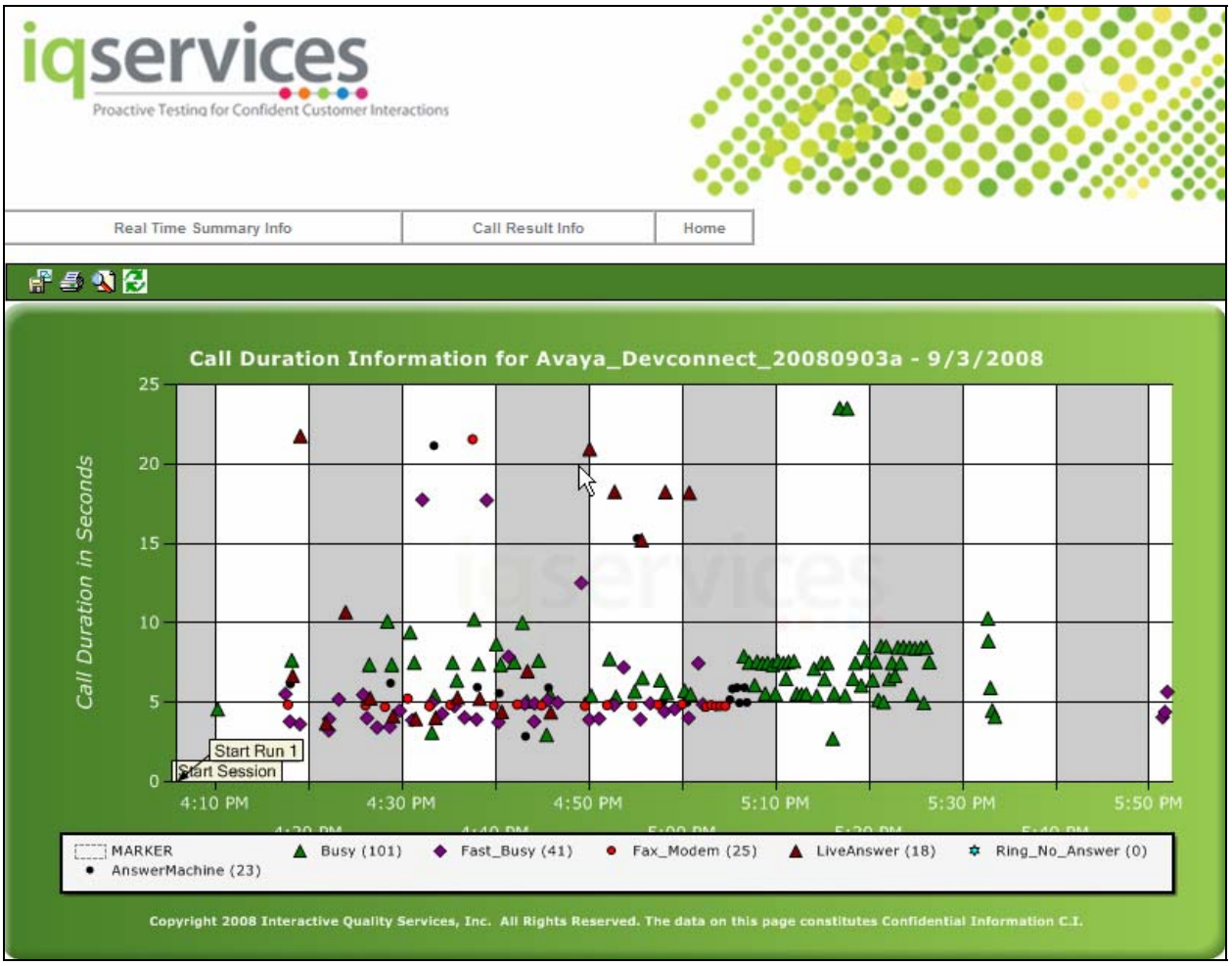
5.6. Call Duration Report

Click in the **Standard** cell of **Chart Type** "Call Duration" at the screen shown in **Section 5.2**. The **Call Duration Information** scatter diagram shows the length of each call placed during a performance test session. A placed call's duration is plotted against the time the call was placed. The legend at the bottom of the chart lists the number of calls handled by each test case during the performance test.



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6. Interoperability Compliance Testing

This interoperability compliance test included basic call classification testing. The IQ Services' Outbound Dialer StressTest service was used to answer outbound calls from Avaya Proactive Contact 4.0 with different answer conditions such as live voice, answering machine, busy tone, ring/no answer.

6.1. General Test Approach

For the compliance testing, Avaya Proactive Contact 4.0 placed outbound calls over the PSTN to IQ Services. The outbound calling numbers mapped to specific answer conditions provided by IQ Services. The answer conditions that were tested include: live voice, answering machine, busy, fax/modem tones, and ringing/no answer. The compliance test verified that the answer conditions provided by IQ Services were classified correctly by Avaya Proactive Contact 4.0. The agent response time, the time from when IQ Services answered the outbound call to when the agent responds, was also verified during the compliance testing. Test results were compiled and presented via the internet reporting tool, ORCA.

6.2. Test Results

All test cases were executed and passed. IQ Services does not report the unanswered calls as the call is never answered. Avaya PC4 is able to classify the unanswered call properly.

7. Verification Steps

7.1. Avaya Verification

The "**jobmon**" command from the command prompt on the Avaya PC4 server can be used to verify the call classification that Avaya PC4 has reported. This can then be compared to the answer conditions provided by IQ Services.

8. Support

Technical support on IQ Services' Outbound Dialer StressTest can be obtained through the following:

- **Phone:** 612.243.6700
- **Email:** info@iq-services.com
- **Web:** www.iq-services.com

9. Conclusion

These Application Notes describe the compliance test configuration, customer deliverables, results that were collected as part of a sample run of IQ Services' Outbound Dialer StressTest Service with Avaya Proactive Contact 4.0. All test cases executed as expected.

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10. Additional References

The following documents may be found at http://support.avaya.com:

- *Administrator Guide for Avaya Communication Manager*, Document ID 03-300509, Issue 4.0, February 2007
- *Administering Avaya Proactive Contact*(Linux-based Interface), January 2008
- *Implementing Proactive Contact 4.0*, May, 2008

IQ Services product documentation is available as on-line help

- *ORCA User Guide*

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