



Avaya Solution & Interoperability Test Lab

Application Notes for Austin Logistics OnQ with Avaya Proactive Contact - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Austin Logistics OnQ to successfully interoperate with Avaya Proactive Contact.

OnQ 2.0 is a software solution that automates and centralizes campaign as well as list management. OnQ 2.0 uses the Event Service of Avaya Proactive Contact 3.0 to extract job statistic event information. The test configuration consisted of Avaya Communication Manager 4.0 (running on Avaya S8700 Server with a MCC1 Media Gateway) and Avaya Proactive Contact 3.0.

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

1. Introduction

These Application Notes describe the compliance-tested configuration utilizing Avaya Proactive Contact 3.0 (Avaya PC3) and Austin Logistics OnQ 2.0 (OnQ). OnQ is a software solution that automates and centralizes campaign as well as list management. OnQ utilizes customer data such as number and type of enterprise relationships to determine calling schedules. Unlike traditional call strategies that are limited to customer phone number and call history, these strategies use a new level of intelligence to regulate recall of high valued customers.

At the start of a day, OnQ receives a file of accounts to be called from a host system. This list is loaded into OnQ's database and accounts are sent to Avaya PC3 throughout the day on an as-needed basis. After each send, OnQ polls the Avaya PC3 for status that helps OnQ determine how many records to send next and when to send them. At the end of the day, OnQ gathers campaign statistics from the Avaya PC3.

The OnQ integration with Avaya PC3 requires custom development scripts on Avaya PC3 from Avaya Professional Services. These scripts are loaded to Avaya PC3 and are used to append call records to the OnQ infinite calling lists on Avaya PC3 and to create call results and statistics files. OnQ retrieves these files from the public FTP site on Avaya PC3 and also receives the Job Statistics events from the Event Service on Avaya PC3. With this data, OnQ is able to reprioritize and rework the call records and distribution based on the workload and the on-going call results.

1.1. Integration Overview

Figure 1 depicts an overview of the Austin Logistics OnQ 2.0 integration to Avaya Proactive Contact 3.0. The configuration consists of a pair of redundant Avaya S8700 Server, an Avaya MCC1 Media Gateway, Avaya IP Telephones, an Avaya Proactive Contact System Cabinet, agent workstations, and the OnQ server.

OnQ uses the Event Service of Avaya PC3 to receive job statistics events. OnQ sends call records to Avaya PC3 via File Transfer Protocol (FTP). The FTP command "put" is used to send call records to Avaya PC3 while "get" is used to retrieve call result information.

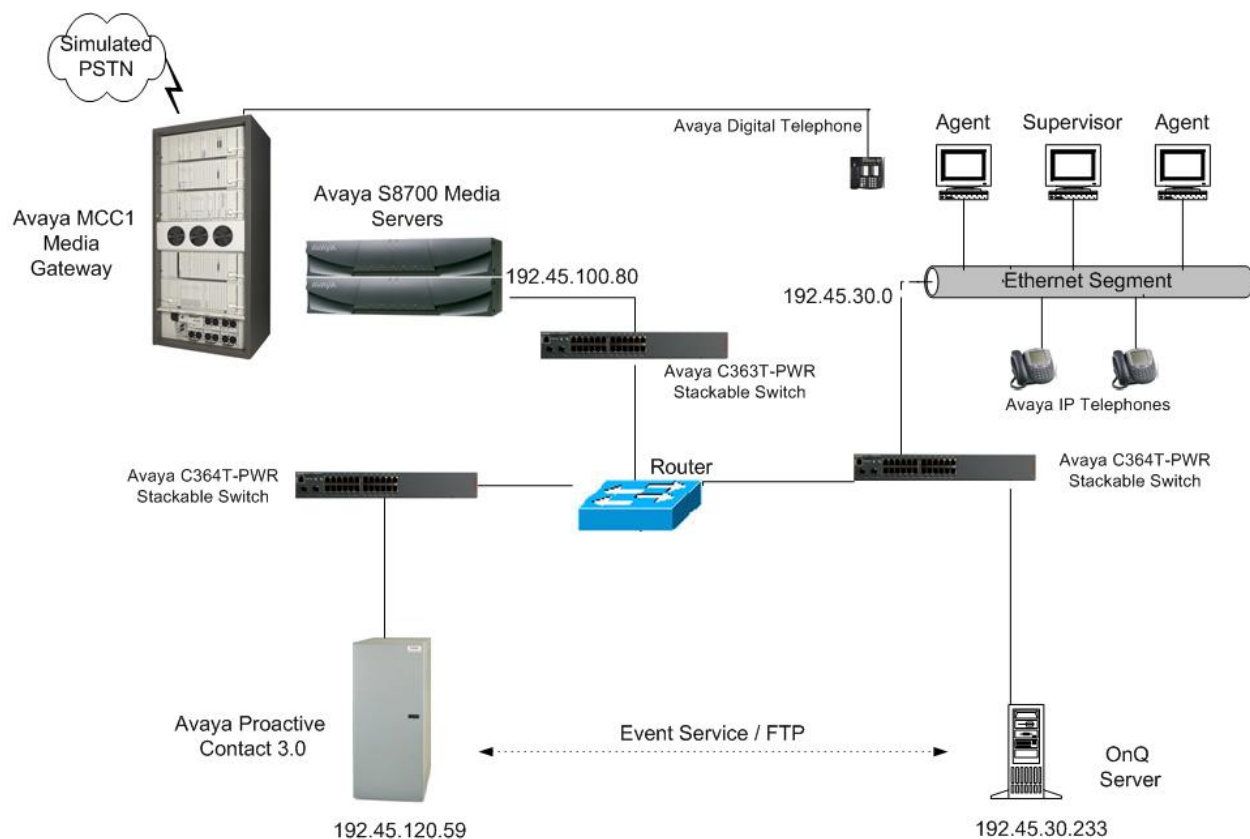


Figure 1: Avaya Proactive Contact 3.0 and Austin Logistics OnQ 2.0 Integration

2. Equipment and Software Validated

The following equipment and software were used for the tested configuration:

Equipment	Software
Avaya Proactive Contact System Cabinet with B2600 HP Server and Digital PG230 Switch	Avaya Proactive Contact 3.0 SP 1, Build 36
Avaya MCC1 Media Gateway with Avaya S8700 Servers	Avaya Communication Manager 4.0 (R014x.00.0.730.5)
TN464F DS1	Version 16
Avaya 4610SW IP Telephones (H.323)	2.8
Avaya C364T-PWR Converged Stackable Switch	4.5.14
Austin Logistics Linux Server	OnQ 2.0

3. Configure Avaya Communication Manager

The Avaya Communication Manager to Avaya Proactive Contact configuration is outside the scope of these Application Notes and should already be operating properly. [2].

4. Configure Avaya Proactive Contact 3.0

These Application Notes assume that the interface with Avaya Proactive Contact 3.0, Avaya S8700 Server and Avaya Communication Manager has been configured and is operational. The following features should have already been configured on Avaya PC3.

- Outbound Calling
- Infinite Job Feature

Avaya Professional Services needs to install custom scripts and modify configuration files on Avaya PC3 for the OnQ integration. Austin Logistics also needs to create a call records raw file that will be FTP'ed to Avaya PC3 to continuously append the calling list throughout the day.

4.1. Avaya Professional Services Custom Scripts

Avaya Professional Services custom development on Avaya PC3 is required for this integration. The custom development includes the creation of new scripts and modification of some existing files on Avaya PC3. The following scripts were created:

- **onq_readtape** - Resets the OnQ infinite calling lists each evening.
- **onq_checkfile** – Looks for call records from the OnQ server to append to the OnQ infinite lists.
- **onq_append** – Appends the new call records to the call list.
- **onq_list#.job** – Runs the infinite job call selection process.
- **onq_extract** – Creates the results.dat files every 10 minutes by running a PC Analysis extract on each OnQ calling list.
- **onq_stat_files** – Creates the statistics.dat file each evening with the transaction statistics.

4.2. OnQ Call Records Raw File

OnQ needs to create call records raw files to send to the public/onq folder on Avaya PC3. The following files from Avaya PC3 are needed to help Austin Logistics create the call records raw file.

- /opt/avaya/pds/tape/hg_in10.conf – This contains the raw file configuration.
- /opt/avaya/pds/tape/lt_in10.dict - This is the dictionary file which includes the fields required in the raw file.

An example of the call records raw files is shown below. It contains three customer records that can be appended to an existing calling list.

```
107292004014302209860101546JOHN DOEJOHN DOE0000000000002033234562FD00000000000000
0000000000008790010800000000690286011107292004014302209860095714JOHN DOEJOHN DOE
020335984772033483589FD00000000000000000000000005789031000000000690286011107292
004014302209860093776JOHN DOEJOHN DOE1000000000002032459424FD00000000000000000000
0000004889120800000000644386011
```

4.3. Avaya PC3 FTP

The existing Anonymous FTP on Avaya PC3 is used by OnQ to send the call record raw files and retrieve the results.dat and statistics.dat files.

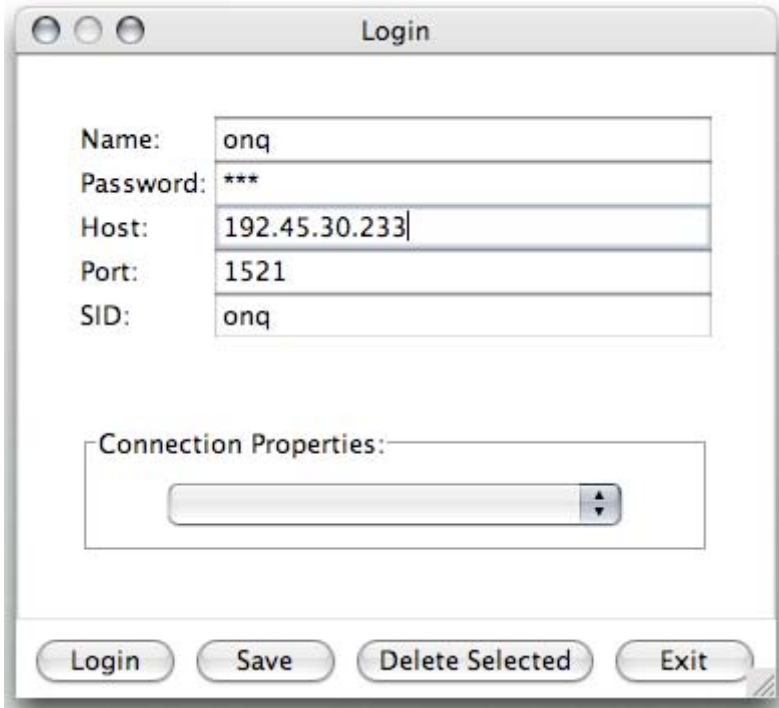
Note: The FTP configuration in HP-UX 11i does not display the file size and date/time. Since OnQ requires this information, the following commands must be executed on Avaya PC3 to fix this problem:

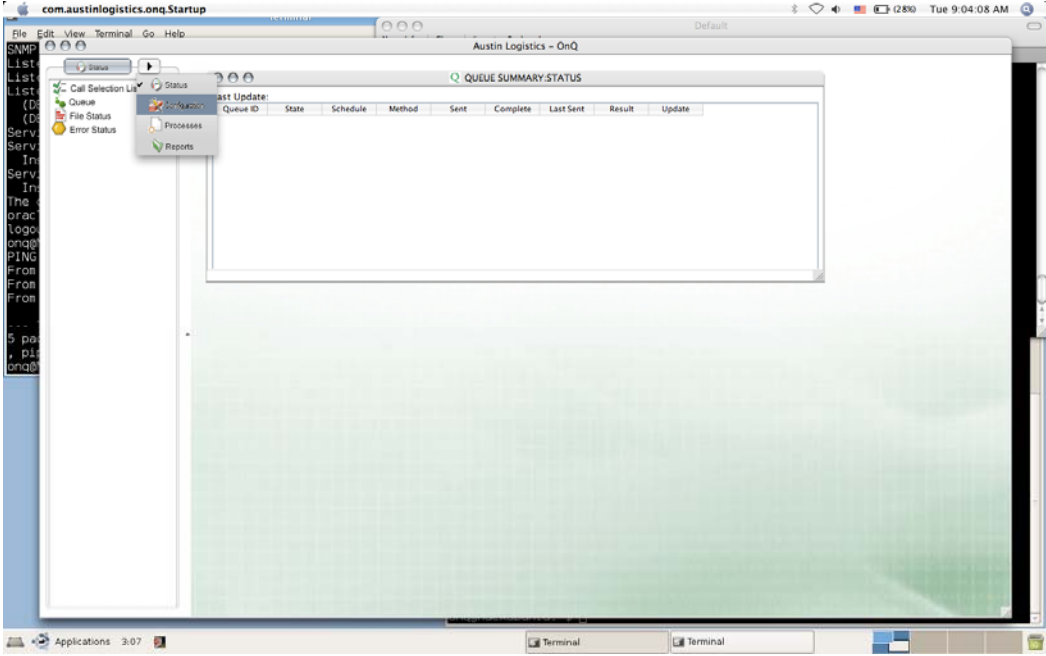
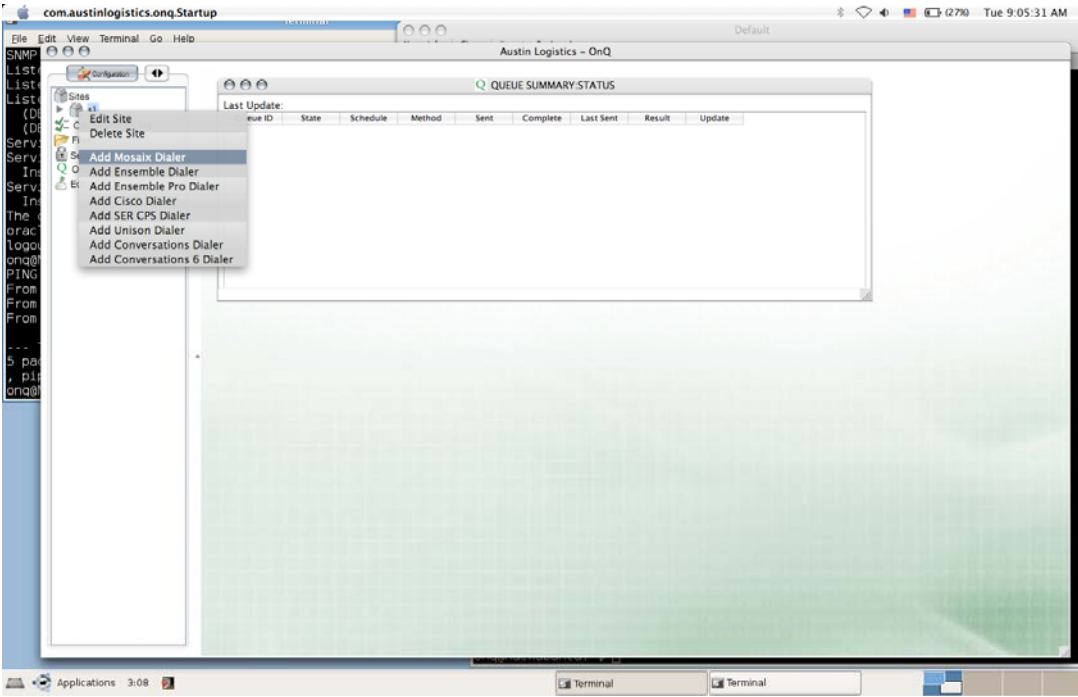
- “cp -R /home/ftp/usr /opt/avaya/pds/xfer/public”
- “cp -R /home/ftp/etc /opt/avaya/pds/xfer/public”

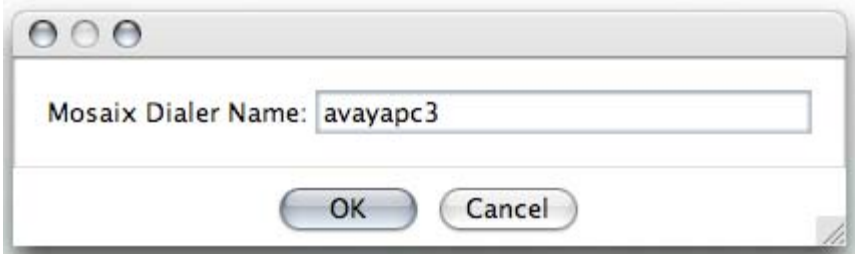
5. Configure Austin Logistics OnQ

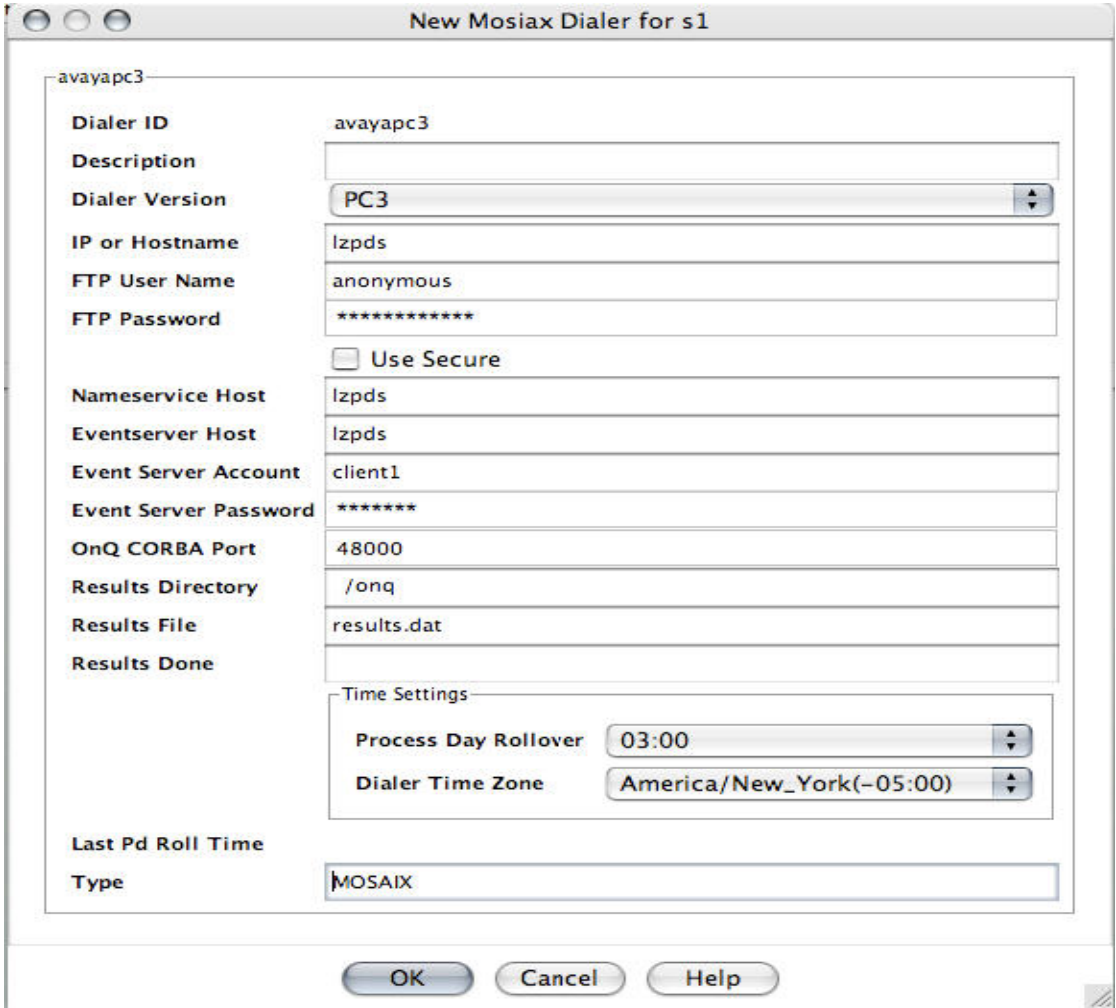
These Application Notes assume the Austin Logistics OnQ 2.0 software has been installed successfully.

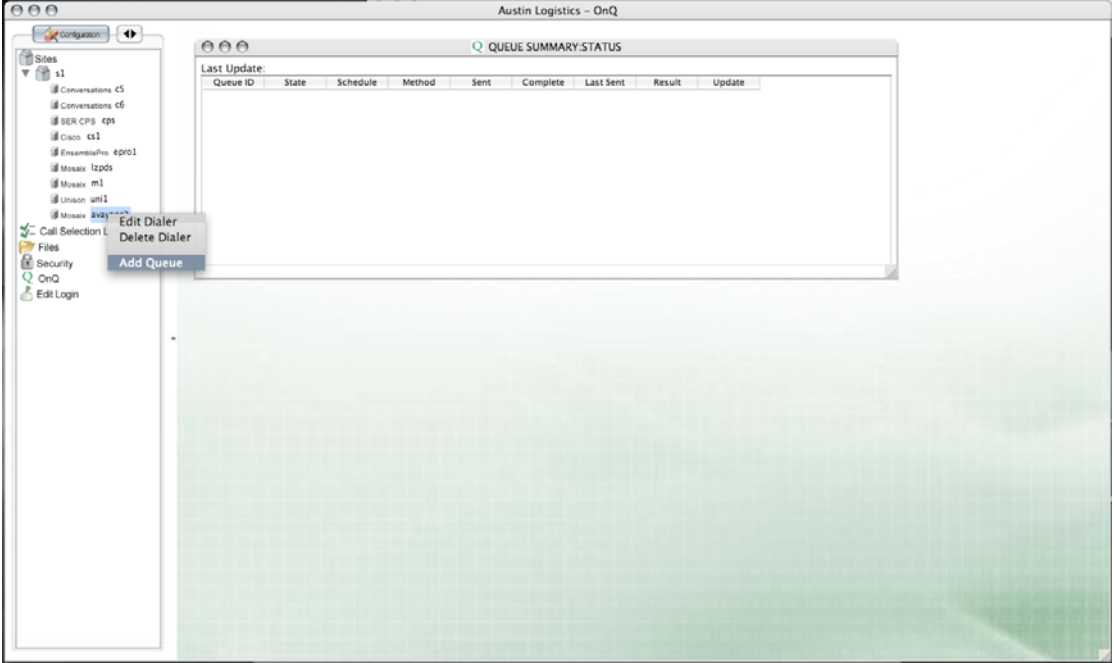

5.1. Configure OnQ

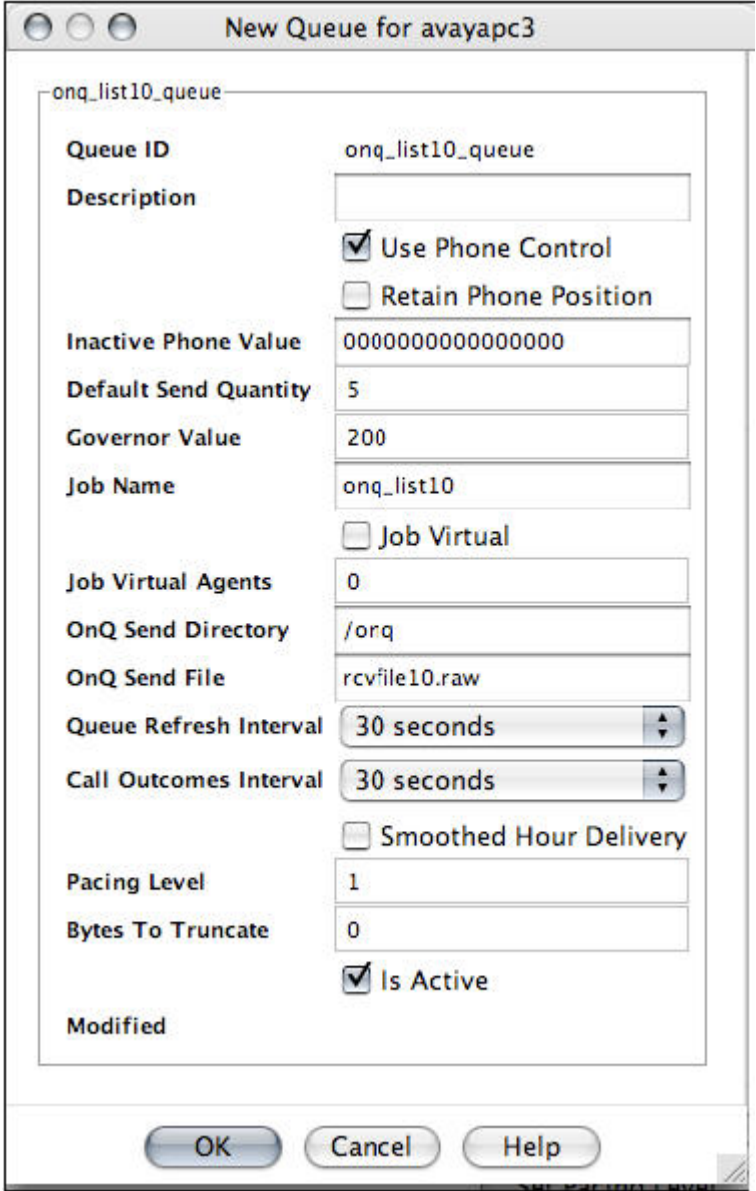
Step	Description
1.	<p>Access the OnQ administration interface by clicking the OnQ icon created on the server during the installation procedure. Enter the Name, Password, Host, Port and SID fields supplied by Austin Logistics. Click Login.</p> 



Step	Description
2.	<p>In the Austin Logistics – OnQ window, click the arrow button then select Configuration.</p> 
3.	<p>In the left pane, select Sites → s1. Right click and select Add Mosaix Dialer.</p> 

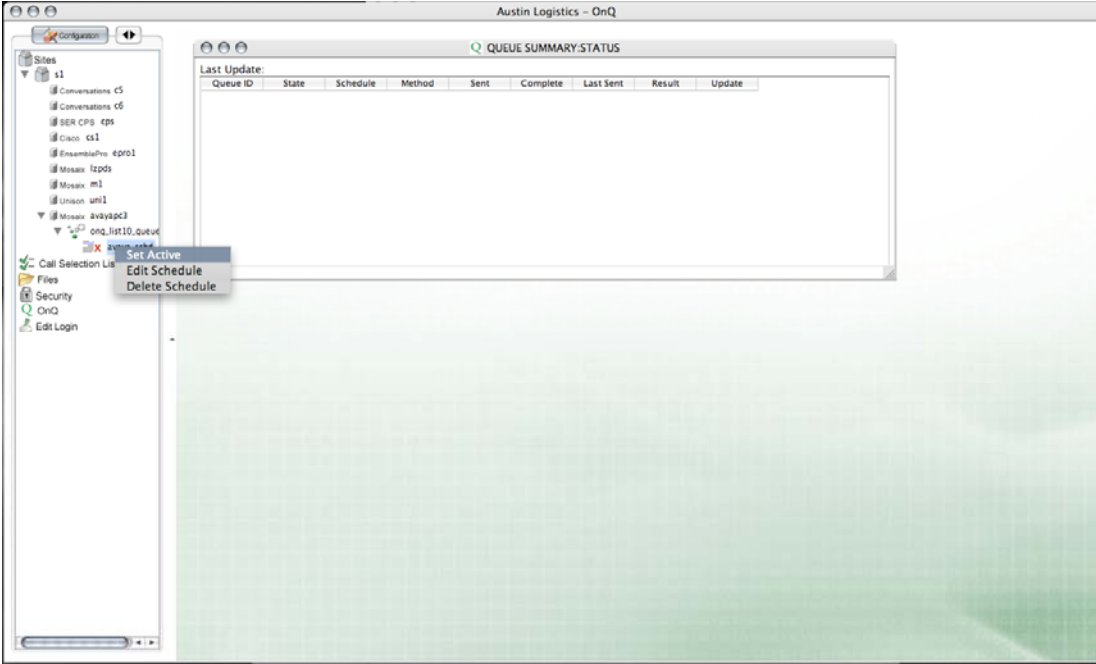
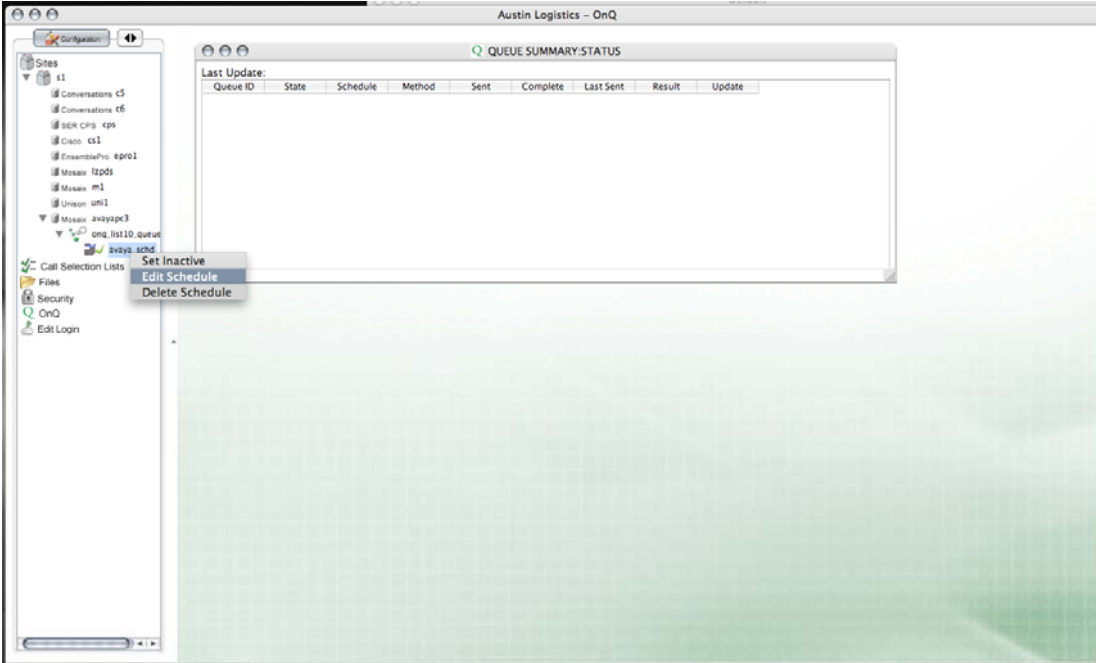
Step	Description
4.	<p>Enter a unique name for the Mosaix Dialer Name field. Click OK.</p> 


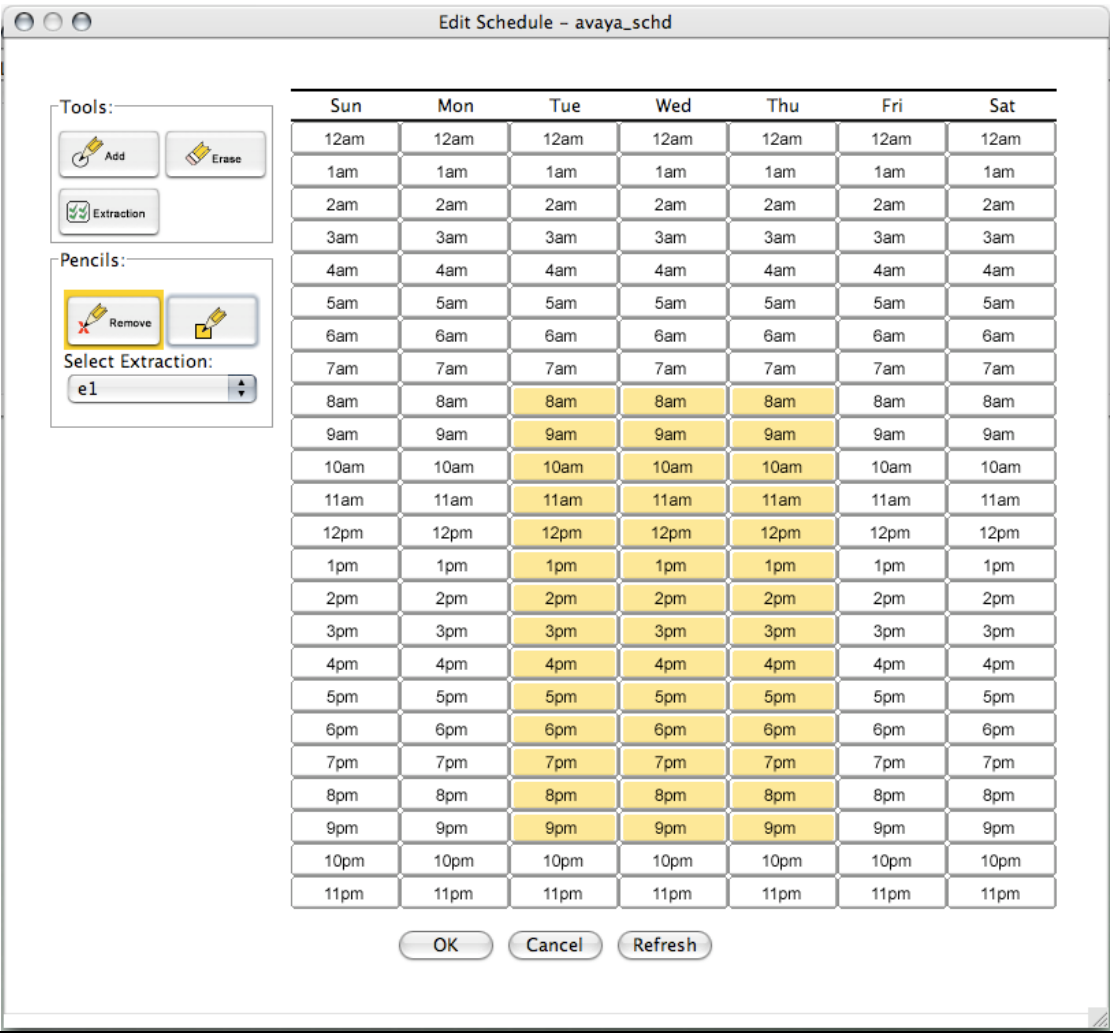
Step	Description
5.	<p>On the New Mosaix Dialer for s1 window, configure the following:</p> <ul style="list-style-type: none"> • Dialer Version – set to “PC3” from the dropdown list. • IP or Hostname – enter the hostname of the Avaya PC3 server. • FTP User Name – enter “anonymous”. • FTP Password – enter any email address. • Nameservice Host – enter the hostname of the Avaya PC3 server. • Eventserver Host – enter the hostname of the Avaya PC3 server • Event Server Account – enter the login for the Event Service on Avaya PC3. • Event Server Password – enter the password for the Event Service on Avaya PC3. • Results Directory – enter the directory that will contain the results.dat file. This directory was created by Avaya Professional Services on Avaya PC3. • Results File – enter “results.dat”. <p>Retain the default values for the remaining fields. Click OK.</p> 

Step	Description
6.	<p>Right click on the new dialer name that was created in Step 5. Select Add Queue.</p> 
7.	<p>Enter a unique name for the New Queue Name field. Click OK.</p> 

Step	Description
8.	<p>On the New Queue for avayapc3 window, configure the following.</p> <ul style="list-style-type: none"> • Job Name – enter the Avaya PC3 infinite job name. • OnQ Send Directory – enter “/onq”. • OnQ Send File – enter the name of the raw file containing the call records. It should be in the format “rcvfile<calling list #>.raw”. • Is Active – check the checkbox. <p>Retain the default values for the remaining fields. Click OK.</p> 

Step	Description
9.	<p>Right click on the queue created in Step 8. Select Add Schedule.</p> 
10.	<p>Enter a unique name for the New Schedule Name field. Click OK.</p> 

Step	Description
11.	<p>Right click on the new schedule created in Step 10. Select Set Active.</p> 
12.	<p>Right click on the new schedule created in Step 10. Select Edit Schedule.</p> 

Step	Description
13.	<p>On the Edit Schedule – avaya_schd window, click the Add icon in the Tools section, then click the Highlight icon  in the Pencils section. In the hourly table, highlight the time and day the schedule should be active. Select “e1” from the drop down list in the Select Extraction field. Click OK.</p> 
14.	<p>From the Linux server , enter “onqctl –start onq –debug 2” to start the OnQ service.</p> <pre># merge resolved # commit onq@MacXubuntu:~/install/local/logs\$ onqctl -start onq -debug 2</pre>

6. Interoperability Compliance Testing

This interoperability compliance testing covered feature functionality and serviceability. Feature functionality focused on verifying that Austin Logistics OnQ 2.0 could successfully send call records to Avaya Proactive Contact 3.0 based on the workload and on-going call results. Serviceability testing verified that the OnQ server recovered from adverse conditions, such as rebooting, power failure and network disconnect.

6.1. General Test Approach

All feature functionality test cases were performed manually to verify proper operation. The general test approach entailed:

- Establishing connectivity between Austin Logistics OnQ and Avaya Proactive Contact 3.0.
- Verifying job statistics events are received by OnQ from the Event Service on Avaya Proactive Contact 3.0
- Verifying files can be sent and retrieved using FTP on Avaya Proactive Contact 3.0.
- Verifying call records can be added to the infinite job's calling list running on Avaya Proactive Contact 3.0 using the list management feature of OnQ.

6.2. Test Results

All feature and serviceability tests passed. Austin Logistics OnQ 2.0 successfully sent the call records to Avaya PC3 throughout the day while the infinite job was running. OnQ polled Avaya PC3 for the results.dat file and the job statistics in order to determine how many records to send next and when to send them. For serviceability testing, OnQ was able to resume sending the call records after restoration of connectivity to the Avaya PC3 server, from network disconnect/re-connect, and OnQ server resets.

The following observations were obtained from testing:

1. The OnQ Queue Status screen does not show the updated status of the Event Service connection to PC3 when the connection is down. Currently the administrator will see a static screen with no indication that the connection to Avaya PC3 is down on the Queue Status screen. The job state field will continue to display "active". The connection failure is only recorded to the log files.
2. The Avaya PC3 FTP configuration in HP-UX 11i does not display the file size and date/time. Since OnQ requires this information, the following commands must be executed on Avaya PC3 to fix this problem. The commands will create the required sub-directories under the /opt/avaya/pds/xfer/public directory.
 - "cp -R /home/ftp/usr /opt/avaya/pds/xfer/public"
 - "cp -R /home/ftp/etc /opt/avaya/pds/xfer/public"

7. Verification Steps

7.1. Avaya Verification

The “**netstat -a**” command from the command prompt on the Avaya PC3 server can be used to verify the communication between Avaya PC3 and the OnQ server. Execute the “**netstat -a**” command. The results of the “**netstat -a**” should show an established **Event Server** connection and **FTP** connection between the dialer (lzpds) and the OnQ server (192.45.30.233). Please note that the server names and IP addresses may vary based on the particular configuration.

```
Select Command Prompt - telnet 192.45.120.59
tcp        0    0  lzpds.NameService      lzpds.50779      ESTABLISHED
tcp        0    0  *.soe_routed            *.               LISTEN
tcp        0    0  lzpds.serviceMonitor    lzpds.50772      ESTABLISHED
tcp        0    0  lzpds.50772             lzpds.serviceMonitor ESTABLISHED
tcp        0    0  lzpds.logger            lzpds.50780      ESTABLISHED
tcp        0    0  lzpds.50804             lzpds.logger      ESTABLISHED
tcp        0    0  lzpds.50803             lzpds.NameService ESTABLISHED
tcp        0    0  lzpds.50763             lzpds.1521        ESTABLISHED
tcp        0    0  *.logger                *.               LISTEN
tcp        0    0  localhost.50759          *.               LISTEN
tcp        0    0  *.dialer6A              *.               LISTEN
tcp        0    0  lzpds.enserver          192.45.30.233.54634 ESTABLISHED
tcp        0    0  *.hdsc                  *.               LISTEN
tcp        0    0  lzpds.ftp-data          192.45.30.233.58738 TIME_WAIT
udp        0    0  *.49152                 *.               *
udp        0    0  *.instl_boots           *.               *
udp        0    0  *.syslog                 *.               *
udp        0    0  *.                       *.               *
udp        0    0  *.135                    *.               *
udp        0    0  *.bootpc                 *.               *
udp        0    0  *.portmap                *.               *
udp        0    0  *.22370                  *.               *
udp        0    0  *.instl_bootc            *.               *
udp        0    0  *.2121                   *.               *
udp        0    0  *.49156                  *.               *
```

Execute the “**enclient \$NS -J**” command from Avaya PC3. The job statistics results will be shown. The highlighted fields are the statistics used by Austin Logistics OnQ. Verify the data in these fields match the data on the OnQ Queue Status screen (See **Section 7.2 Step 3**).

jobStatNotify: timeStamp=16:55:14 dialerID=1 received 1 items:

Static Job Data:

jobName = "onq_list10"
callingList = "lzpds-list10"
recordSelectionFile="onq_list10"
phoneStrategyFile="infinite_strategy"
jobStartTimeStamp = 2007/11/27-16:48:16 jobEndTimeStamp=Null
jobNumber = 213 jobSlot = 1 jobType = 'O'
linesAssigned = 4 totRecsToCall = 20

Dynamic Job Data:

cruiseControl = 0
desiredServiceLevel = 0.990000, connectTolerance = 1
servicedCalls = 18, offeredCalls = 19
runningHitRate = 90 currentHitRate = 91
inbTotalQueueCalls = 0 inbOutQueueCalls = 0

```

inbAverageQueTime = 0 inbTotalQueTime = 0
outbTotalQueCalls = 1 outbOutQueCalls = 0
outbAverageQueTime= 16 outbTotalQueTime= 16
recordsCalled = 22 recordsAvailable= 0 recordsRecalled= 1
activeStatus=1 setupFinished=1 inShutdown=0 noMoreCalls=0
Inb Stats:
inbCallsAnswered = 0 inbCallsInWait = 0 inbCallsWorked = 0
inbIdleCount = 0 inbWaitQueueTime= 0 inbWorkTime = 0
inbIdleTime = 0 inbTalkTime = 0 inbUpdateTime = 0
Outb Stats:
outCallsPlaced = 22 outRecallsPlaced= 1
outCallsAnswered = 19 outCallsInWait = 1 outCallsWorked = 22
outIdleCount = 22 outWaitQueueTime= 16 outWorkTime = 382
outIdleTime = 401 outTalkTime = 287 outUpdateTime = 95
Job Stats:
jobCallsAnswered = 19 jobCallsInWait = 1 jobCallsWorked = 22
jobIdleCount = 22 jobWaitQueueTime= 16 jobWorkTime = 382
jobIdleTime = 401 jobTalkTime = 287 jobUpdateTime = 95
Agent Counts:
I=0 O=2 B=0 M=0 P=0 A=0
Comp Codes:
code= 45 callType=I racCode=0x2 count=0
code= 46 callType=I racCode=0x2 count=0
code= 47 callType=I racCode=0x2 count=0
code= 48 callType=I racCode=0x2 count=0
code= 15 callType=O racCode=0x0 count=3
code= 45 callType=O racCode=0x2 count=0
code= 46 callType=O racCode=0x2 count=0
code= 47 callType=O racCode=0x2 count=0
code= 48 callType=O racCode=0x2 count=0
code= 89 callType=O racCode=0x0 count=19

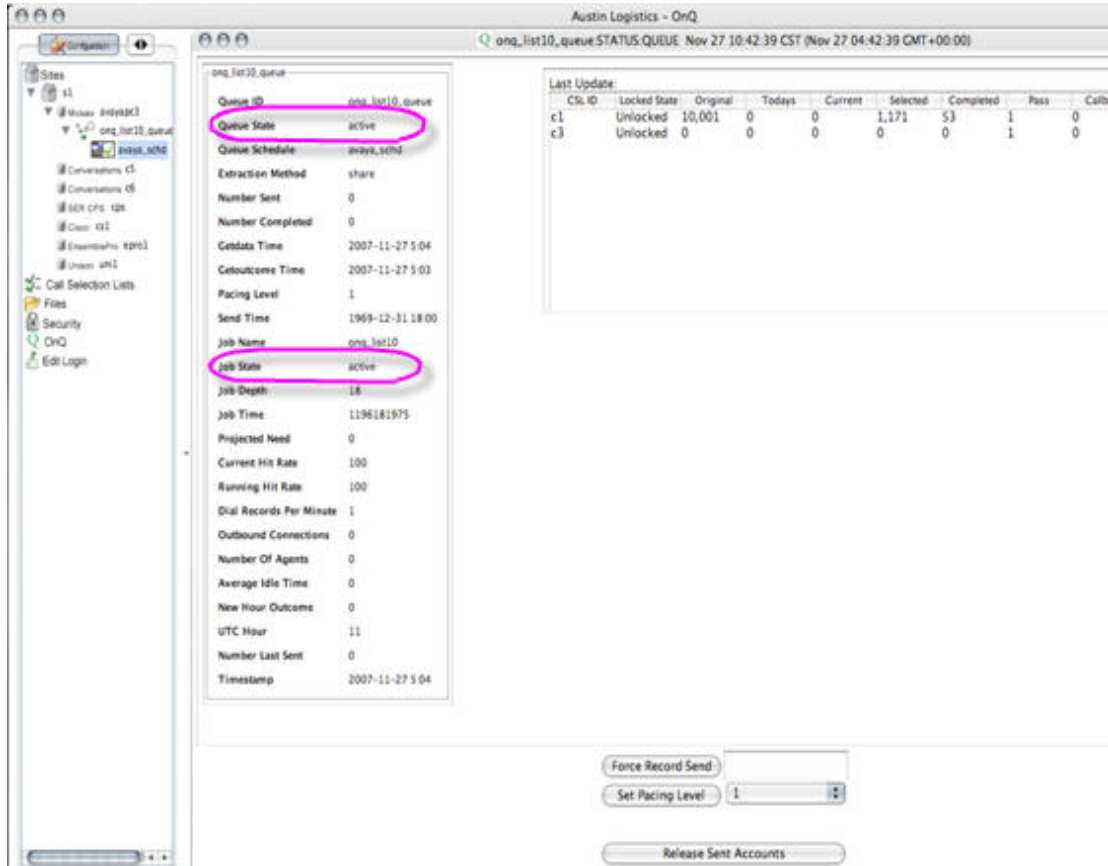
```

7.2. OnQ Verification

The following steps can ensure that the communication between OnQ and Avaya Proactive Contact 3.0 is working.

Step	Description
1.	On the OnQ server, open the avayapc3_es_client.log log file and verify that “Avaya PDS Corba ready and waiting” is displayed in the log files.

Step	Description
	<pre>File Edit View Terminal Go Help INFO: I found password for user: client1 Nov 27, 2007 4:56:54 AM com.ali.onq.avayapds corba.AvayaPDSCorba main INFO: Starting PDS client keep alive thread. Nov 27, 2007 4:56:54 AM com.ali.onq.avayapds corba.AvayaPDSCorba runPDSClient INFO: start(): initialize ORB on local port 48000 Nov 27, 2007 4:56:54 AM com.ali.onq.avayapds corba.KeepAliveThread run INFO: Waiting 60000 millis to ensure events are firing. Nov 27, 2007 4:56:54 AM com.ali.onq.avayapds corba.AvayaPDSCorba runPDSClient INFO: start(): narrowing to POA Nov 27, 2007 4:56:55 AM com.ali.onq.avayapds corba.AvayaPDSCorba runPDSClient INFO: start(): getting DialerEventServer Nov 27, 2007 4:56:55 AM com.ali.onq.avayapds corba.AvayaPDSCorba getDialerEventServerIF INFO: using name service name corbaloc:iiop:1.1@lpds:23200/NameService Nov 27, 2007 4:56:55 AM com.ali.onq.avayapds corba.AvayaPDSCorba getDialerEventServerIF INFO: resolving CORBA Object from string corbaloc:iiop:1.1@lpds:23200/NameService Nov 27, 2007 4:56:55 AM com.ali.onq.avayapds corba.AvayaPDSCorba getDialerEventServerIF INFO: got corba object IOR:0000000000000001000000000000000100000000000000240001010000000000 66c7a706473005aa000000000b4e616d65536572766963655000000000000000 Nov 27, 2007 4:56:55 AM com.ali.onq.avayapds corba.AvayaPDSCorba getDialerEventServerIF INFO: narrowing object to NamingContext Nov 27, 2007 4:56:55 AM com.ali.onq.avayapds corba.AvayaPDSCorba getDialerEventServerIF INFO: narrowing NamingContext path Nov 27, 2007 4:56:55 AM com.ali.onq.avayapds corba.AvayaPDSCorba runPDSClient INFO: start(): logging into dialer Nov 27, 2007 4:56:55 AM com.ali.onq.avayapds corba.AvayaPDSCorba runPDSClient INFO: Avaya PDS Corba ready and waiting. Nov 27, 2007 4:56:59 AM com.ali.onq.avayapds corba.EventClientImpl systemStatNotify FINE: System Stats notification Nov 27, 2007 4:56:59 AM com.ali.onq.avayapds corba.EventClientImpl jobStatNotify FINE: Job Stats notification Nov 27, 2007 4:57:06 AM com.ali.onq.avayapds corba.EventClientImpl systemStatNotify FINE: System Stats notification Nov 27, 2007 4:57:06 AM com.ali.onq.avayapds corba.EventClientImpl jobStatNotify FINE: Job Stats notification Nov 27, 2007 4:57:14 AM com.ali.onq.avayapds corba.EventClientImpl systemStatNotify FINE: System Stats notification --More-- (46%)</pre>
2.	<p>Double click on avaya_schdl in the left pane. Verify the Queue State and Job State display “active”.</p>



Austin Logistics - OnQ

onq_list10_queue STATUS QUEUE Nov 27 10:42:39 CST (Nov 27 04:42:39 GMT+00:00)

Last Update:

CSL ID	Locked State	Original	Today's	Current	Selected	Completed	Pass	Call
c1	Unlocked	10,001	0	0	1,171	53	1	0
c3	Unlocked	0	0	0	0	0	1	0

Queue ID: onq_list10_queue

Queue State: active

Queue Schedule: avaya_schdl

Extraction Method: share

Number Sent: 0

Number Completed: 0

Getdata Time: 2007-11-27 5:04

Getoutcome Time: 2007-11-27 5:03

Pacing Level: 1

Send Time: 1969-12-31 18:00

Job Name: onq_list10

Job State: active

Job Depth: 18

Job Time: 1196181975

Projected Need: 0

Current Hit Rate: 100

Running Hit Rate: 100

Dial Records Per Minute: 1

Outbound Connections: 0

Number Of Agents: 0

Average Idle Time: 0

New Hour Outcome: 0

UTC Hour: 11

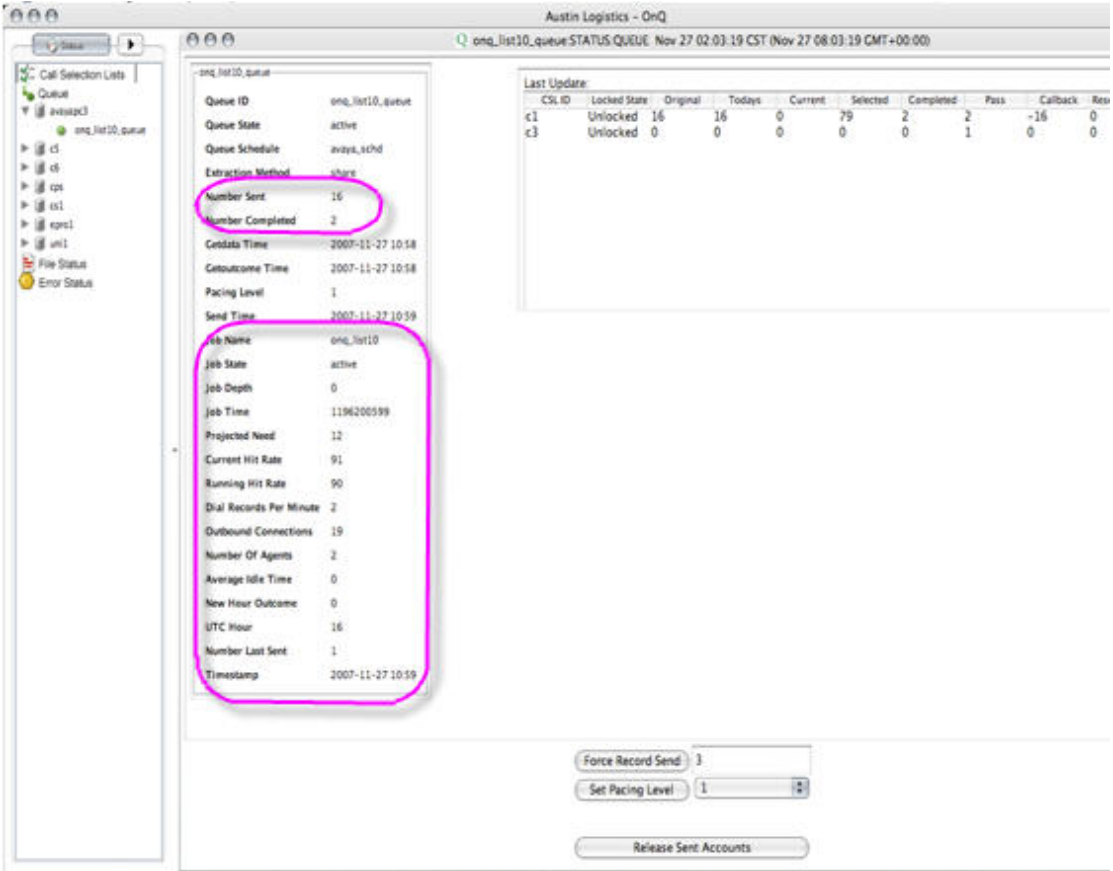
Number Last Sent: 0

Timestamp: 2007-11-27 5:04

Force Record Send: []

Set Pacing Level: 1 []

Release Sent Accounts: []

Step	Description												
3.	<p>While the Avaya PC3 infinite job is running, double-click the onq_list10.queue selection in the left pane. The onq_list10.queue STATUS QUEUE window will display the statistics information received from the Event Service on Avaya PC3. The following fields from the Event Service correspond to the Status Queue window:</p> <table border="1"> <thead> <tr> <th>Avaya PC3 Event Service</th><th>OnQ Status Queue</th></tr> </thead> <tbody> <tr> <td>jobName</td><td>Job Name</td></tr> <tr> <td>runningHitRate</td><td>Running Hit Rate</td></tr> <tr> <td>currentHitRate</td><td>Current Hit Rate</td></tr> <tr> <td>recordsAvailable</td><td>Job Depth</td></tr> <tr> <td>outCallsAnswered</td><td>Outbound Connections</td></tr> </tbody> </table> 	Avaya PC3 Event Service	OnQ Status Queue	jobName	Job Name	runningHitRate	Running Hit Rate	currentHitRate	Current Hit Rate	recordsAvailable	Job Depth	outCallsAnswered	Outbound Connections
Avaya PC3 Event Service	OnQ Status Queue												
jobName	Job Name												
runningHitRate	Running Hit Rate												
currentHitRate	Current Hit Rate												
recordsAvailable	Job Depth												
outCallsAnswered	Outbound Connections												

8. Support

If technical support is required for the Austin Logistics OnQ solution, then contact Austin Logistics Technical Support. Full details are available at <https://www.AustinLogistics.com>.

9. Conclusion

These Application Notes describe the required configuration steps for Austin Logistics OnQ 2.0 to successfully interoperate with the Event Service and FTP of Avaya Proactive Contact 3.0 list management. Custom development work is needed on Avaya PC3 from Avaya Professional Services to integrate this solution. Functionality and serviceability were successfully validated. The configuration described in these Application Notes has been successfully compliance tested.

10. Additional References

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

- [1] *Administrator Guide for Avaya Communication Manager*, Document ID 03-300509, Issue 3.0, February 2007
- [2] *Avaya Proactive Contact 3.0 Installation and Configuration*, November 2005; Doc ID: 07-300491
- [3] *Avaya Proactive Contact 3.0 Administration (UNIX-based)*, October 2005; Doc ID: 07-300488

Austin Logistics product documentation is available on request from <https://www.AustinLogistics.com>.

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