



Application Notes for IPC Alliance MX 15.03 with Avaya Modular Messaging 5.2 and Avaya Aura® Session Manager 6.1 in a Centralized Messaging Environment using QSIG Trunks – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for IPC Alliance MX 15.03 to interoperate with Avaya Modular Messaging 5.2 and Avaya Aura® Session Manager 6.1 in a centralized messaging environment using QSIG trunks to Avaya Aura® Communication Manager 5.2.1.

IPC Alliance MX is a trading communication solution. In the compliance testing, IPC Alliance MX used E1 QSIG trunks to Avaya Aura® Communication Manager, for IPC turret users to obtain voice messaging services from Avaya Modular Messaging. E1 QSIG trunks were used from IPC Alliance MX to Avaya Aura® Communication Manager, and SIP trunks were used from Avaya Aura® Communication Manager to Avaya Aura® Session Manager to reach Avaya Modular Messaging. The Avaya Modular Messaging system in the Central site supported local subscribers from Avaya Aura® Communication Manager at the Central site, and from IPC turret users at the Remote site.

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 configuration steps required for IPC Alliance MX 15.03 to interoperate with Avaya Modular Messaging 5.2 and Avaya Aura® Session Manager 6.1 in a centralized messaging environment using QSIG trunks to Avaya Aura® Communication Manager 5.2.1.

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2. General Test Approach and Test Results

The feature test cases were performed manually. Calls were manually established among IPC turret users with Avaya H.323, Avaya Digital, PSTN users, and/or the Avaya Modular Messaging voicemail pilot to verify various call scenarios. The Avaya Modular Messaging Web Subscriber Options web-based interface was used to configure subscriber features such as Call Me.

The serviceability test cases were performed manually by disconnecting and reconnecting the E1 connection to IPC.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing included subscriber login, greeting, voice message, message waiting indicator, call forward, multiple call forward, personal operator, auto attendant, find me, call me, call sender, and transfer.

The serviceability testing focused on verifying the ability of IPC Alliance MX to recover from adverse conditions, such as disconnecting/reconnecting the E1 connection to IPC Alliance MX.

2.2. Test Results

All test cases were executed and passed. The following were the observations from the compliance testing.

- IPC does not offer the Coverage feature, therefore coverage to voicemail for the turret users were accomplished by setting the Modular Messaging pilot number as the Call Forwarding destination for the users.

2.3. Support

Technical support on IPC Alliance MX can be obtained through the following:

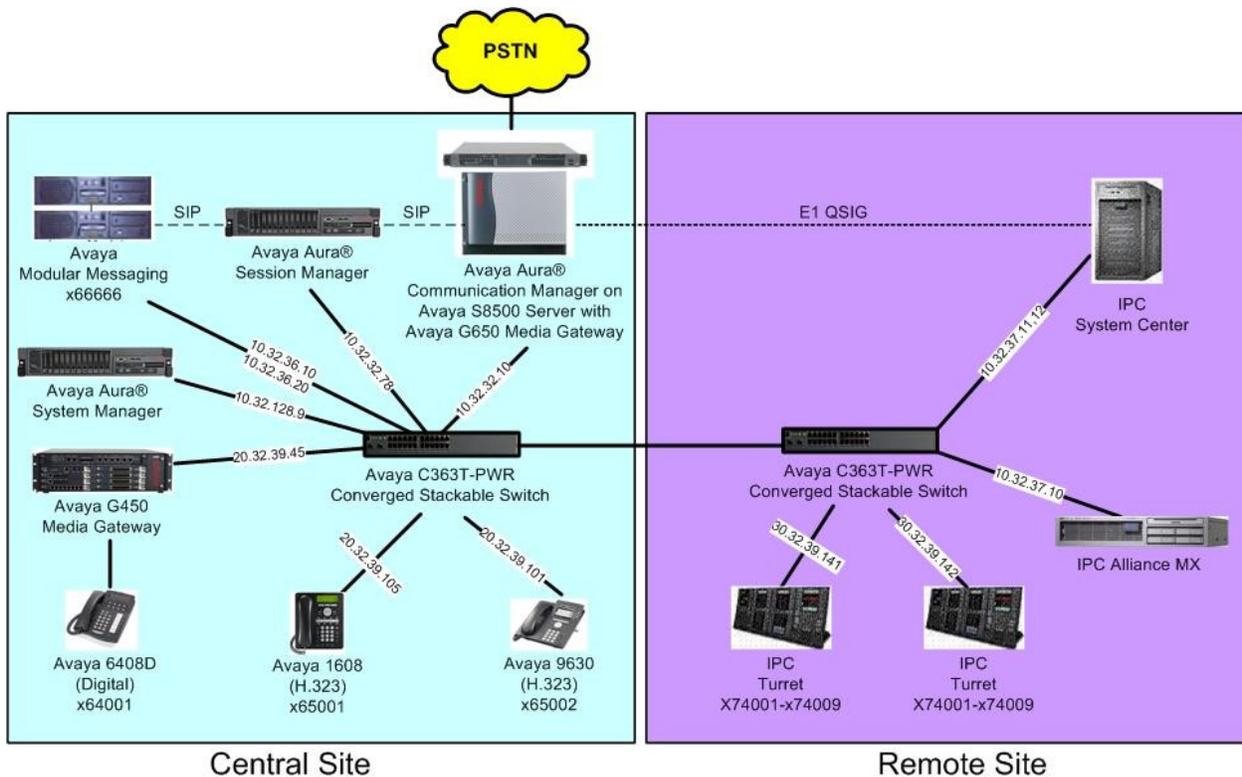
- **Phone:** (800) NEEDIPC, (203) 339-7800
- **Email:** systems.support@ipc.com

3. Reference Configuration

As shown in the test configuration below, IPC Alliance MX at the Remote Site consisted of the Alliance MX, System Center, and Turrets. E1 QSIG trunks were used from IPC Alliance MX to Avaya Aura® Communication Manager, and SIP trunks were used from Avaya Aura® Communication Manager to Avaya Aura® Session Manager to reach Avaya Modular Messaging. In the test configuration, QSIG allowed IPC turret users at the Remote Site to “cover” to Avaya Modular Messaging at the Central site for voice messaging services.

The configuration of Avaya Aura® Session Manager is performed via the web interface of Avaya Aura® System Manager. The detailed administration of basic connectivity among Avaya Aura® Communication Manager, Avaya Aura® Session Manager, and Avaya Modular Messaging is not the focus of these Application Notes and will not be described. These Application Notes will focus on the additional configuration required to support IPC turret users as local subscribers on Avaya Modular Messaging.

The detailed administration of E1 QSIG trunks between Avaya Aura® Communication Manager 5.2.1 and IPC Alliance MX 15.03, to enable IPC turret users to reach users on Avaya Aura® Communication Manager and on the PSTN, is assumed to be in place with details described in [4]. A five digit Uniform Dial Plan (UDP) was used to facilitate dialing between the Central and Remote sites. Unique extension ranges were associated with Avaya Aura® Communication Manager users at the Central site (64xxx-65xxx), and IPC turret users at the Remote site (74xxx). The Avaya Modular Messaging pilot number was 66666.



4. Equipment and Software Validated

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

Equipment	Software
Avaya Modular Messaging <ul style="list-style-type: none">Messaging Storage ServerMessaging Application Server	5.2 SP8 5.2 SP8
Avaya Aura® Communication Manager on Avaya S8500 Server	5.2.1 SP7.01 with special patch 19086, 19141* (R015x.02.1.016.4-19086)
Avaya G650 Media Gateway <ul style="list-style-type: none">TN799DP C-LAN Circuit PackTN2302AP IP Media ProcessorTN464HP DS1 Interface	HW01 FW038 HW20 FW122 HW02 FW024
Avaya G450 Media Gateway <ul style="list-style-type: none">MM712AP DCP	28.17 HW07 FW011
Avaya Aura® Session Manager	6.1 SP2
Avaya Aura® System Manager	6.1 SP2
Avaya 1608 IP Telephone (H.323)	1.3
Avaya 9630 IP Telephone (SIP)	2.6.4
Avaya 6408D Digital Telephone	NA
IPC <ul style="list-style-type: none">Alliance MXSystem Center<ul style="list-style-type: none">QSIG Line CardTurrets	15.03.00.06b 15.03.00.06b 15.03.00.06b 15.03.00.06b

* Patch 19141 was used to verify the multiple call forward scenarios.

5. Configure Avaya Aura® Communication Manager

This section provides the procedures for configuring Avaya Aura® Communication Manager.

Use the “change system-parameters coverage-forwarding” command. Enable **QSIG/SIP Diverted Calls Follow Diverted to Party’s Coverage Path**, as shown below.

```
change system-parameters coverage-forwarding                               Page 1 of 2
                                SYSTEM PARAMETERS CALL COVERAGE / CALL FORWARDING

CALL COVERAGE/FORWARDING PARAMETERS
  Local Cvg Subsequent Redirection/CFWD No Ans Interval (rings): 2
  Off-Net Cvg Subsequent Redirection/CFWD No Ans Interval (rings): 2
                                Coverage - Caller Response Interval (seconds): 4
  Threshold for Blocking Off-Net Redirection of Incoming Trunk Calls: n
                                Location for Covered and Forwarded Calls: called
                                PGN/TN/COR for Covered and Forwarded Calls: caller
                                COR/FRL check for Covered and Forwarded Calls? n
                                QSIG/SIP Diverted Calls Follow Diverted to Party's Coverage Path? y
COVERAGE
```

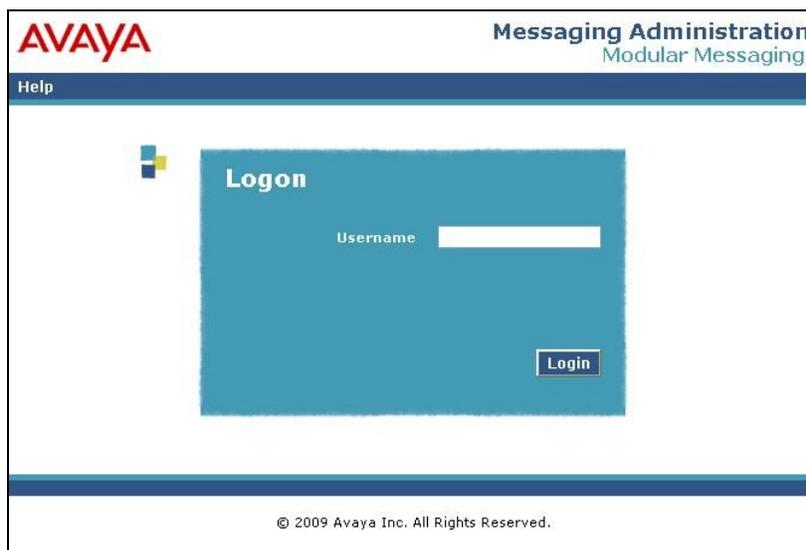
6. Configure Avaya Modular Messaging MSS

This section provides the procedures for configuring IPC turret users as local subscribers on Avaya Modular Messaging. The subscriber management is configured on the Messaging Storage Server (MSS) component. The configuration procedures include the following areas:

- Launch messaging administration
- Administer subscriber extension ranges
- Administer subscribers

6.1. Launch Messaging Administration

Access the MSS web interface by using the URL “http://ip-address” in an Internet browser window, where “ip-address” is the IP address of the MSS server. The **Logon** screen is displayed. Log in using a valid user name and password. The **Password** field will appear after a value is entered into the **Username** field.



The **Messaging Administration** screen appears, as shown below.



6.2. Administer Subscriber Extension Ranges

Select **Messaging Administration > Networked Machines** from the left pane, to display the **Manage Networked Machines** screen. Select the MSS server from the table listing, and click **Edit the Selected Networked Machine** toward the bottom right of the screen.

The screenshot shows the Avaya Modular Messaging Messaging Administration interface. The left navigation pane is expanded to 'Networked Machines'. The main area displays the 'Manage Networked Machines' screen. A table lists the following machine:

Machine	IP Address	Machine Type	Total Subs
brmss1	10.32.36.10	local	11

Below the table are several buttons: 'Display Report of Networked Machines', 'Delete the Selected Networked Machine', 'Add a New Networked Machine', 'Edit the Selected Networked Machine', 'Display Network Snapshot', and 'Display Report of Networked Machine Ranges'.

The **Edit Networked Machine** screen is displayed. Under the **MAILBOX NUMBER RANGES** sub-section, locate an available entry line and enter the desired starting and ending mailbox numbers to be used for the IPC subscribers as necessary. In the compliance testing, the entry 70000-79999 was added for the IPC turret users.

The screenshot shows the Avaya Modular Messaging Messaging Administration interface. The left navigation pane is expanded to 'Networked Machines'. The main area displays the 'Edit Networked Machine' screen. The form contains the following fields:

- Machine Name: brmss1
- IP Address: 10.32.36.10
- Machine Type: tcpip
- Mailbox Number Length: 5
- Default Community: 1
- Updates In: yes
- Updates Out: yes
- LDAP Port: 56389
- Log Updates In: no

Below the form is the 'MAILBOX NUMBER RANGES' section, which contains a table with the following columns: Prefix, Starting Mailbox Number, and Ending Mailbox Number.

Prefix	Starting Mailbox Number	Ending Mailbox Number
	60000	69999
	70000	79999

6.3. Administer Subscribers

Select **Messaging Administration > Subscriber Management** from the left pane, to display the **Manage Subscribers** screen. For the **Local Subscriber Mailbox Number** field toward the top of the screen, enter the first IPC turret user extension to add as a local subscriber, in this case “74008”. Click **Add or Edit**.

AVAYA Modular Messaging Messaging Administration
 This server: 10.32.36.10

Help Log Off

Manage Subscribers

- Local Subscriber Mailbox Number

	Machine Name	Local Subscriber Mailboxes	Total Subscribers	Filtered Subscribers
Local Subscribers	brmss1	22	23	23

The **Add Local Subscriber** screen is displayed next. Enter the desired string into the **Last Name**, **First Name**, and **Password** fields.

In the compliance testing, the same telephone extensions for the IPC subscribers were used for the **Mailbox Number**, **Numeric Address**, **PBX Extension**, and **Email Handle** fields. Select the appropriate **Class Of Service**, and retain the default values in the remaining fields. Repeat this section to add all IPC subscribers.

AVAYA Modular Messaging Messaging Administration
 This server: 10.32.36.10

Help Log Off

Add Local Subscriber

BASIC INFORMATION * (Required Fields)

*Last Name	<input type="text" value="IPC"/>	First Name	<input type="text" value="Trad 8"/>
*Password	<input type="password" value="....."/>	*Mailbox Number	<input type="text" value="74008"/>
*Numeric Address	<input type="text" value="74008"/>	PBX Extension	<input type="text" value="74008"/>
*Class Of Service	<input type="text" value="0 - class00"/>	*Community ID	<input type="text" value="1"/>

SUBSCRIBER DIRECTORY

Email Handle	<input type="text" value="74008@brmss1.br110.com"/>	Telephone Number	<input type="text"/>
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7. Configure Avaya Aura® Session Manager

This section provides the procedures for configuring Avaya Aura® Session Manager. The procedures include the following areas:

- Launch System Manager
- Administer dial patterns

7.1. Launch System Manager

Access the System Manager web interface by using the URL “https://ip-address” in an Internet browser window, where “ip-address” is the IP address of the System Manager server. Log in using the appropriate credentials.



The screenshot shows the Avaya Aura System Manager 6.1 login interface. At the top left is the Avaya logo, and to its right is the text "Avaya Aura® System Manager 6.1". Below this is a red navigation bar with the text "Home / Log On". The main heading is "Log On". On the left side, there is a box containing the following text: "Recommended access to System Manager is via FQDN." followed by a link "Go to central login for Single Sign-On". Below this, it says "If IP address access is your only option, then note that authentication will fail in the following cases:" followed by a bulleted list: "• First time login with 'admin' account" and "• Expired/Reset passwords". On the right side, there are two input fields: "User ID:" and "Password:". Below these fields are two buttons: "Log On" and "Cancel". At the bottom right, there is a link "Change Password".

7.2. Administer Dial Patterns

Select **Routing > Dial Patterns** from the left pane, and click **New** in the subsequent screen (not shown) to add a new dial pattern for Modular Messaging to reach IPC turret users.

The **Dial Pattern Details** screen is displayed. In the **General** sub-section, enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Pattern:** A dial pattern to match.
- **Min:** The minimum number of digits to be matched.
- **Max:** The maximum number of digits to be matched.
- **SIP Domain:** Select the applicable domain for the relevant Communication Manager.
- **Notes:** Any desired description.

In the **Originating Locations and Routing Policies** sub-section, click **Add** and create a new policy for reaching IPC turret users. In the compliance testing, the policy allowed for call origination from all locations, and the destination is Communication Manager, as shown below. Retain the default values in the remaining fields. Modular Messaging will dial out to IPC turret users for features such as Call Sender, and the call will be delivered as SIP from Modular Messaging to Session Manager, and SIP from Session Manager to Communication Manager, and then QSIG from Communication Manager to Alliance MX.

The screenshot shows the Avaya Aura System Manager 6.1 interface. The top navigation bar includes the Avaya logo, the product name, and links for Help, About, Change Password, and Log off admin. The breadcrumb trail is Home / Elements / Routing / Dial Patterns - Dial Pattern Details. The left sidebar lists various configuration categories, with Dial Patterns selected. The main content area is titled 'Dial Pattern Details' and contains a 'General' section with the following fields: Pattern (74), Min (5), Max (5), Emergency Call (unchecked), SIP Domain (br110.com), and Notes (IPC). Below this is the 'Originating Locations and Routing Policies' section, which includes an 'Add' button and a table with one item. The table has columns for Originating Location Name, Originating Location Notes, Routing Policy Name, Rank, Routing Policy Disabled, Routing Policy Destination, and Routing Policy Notes. The single entry is '-ALL-' with 'Any Locations' as notes, 'To-BR110-CM' as the policy name, rank 0, and 'BR110-CM' as the destination. A 'Filter: Enable' option is present at the top right of the table. At the bottom of the table, it says 'Select : All, None'. Below the table is a section for 'Denied Originating Locations'.

8. Configure IPC Alliance MX

This section provides the procedures for configuring IPC Alliance MX. The procedures include the following areas:

- Launch SysView
- Administer voicemail buttons

The configuration of Alliance MX is typically performed by IPC installation technicians. The procedural steps are presented in these Application Notes for informational purposes.

8.1. Launch SysView

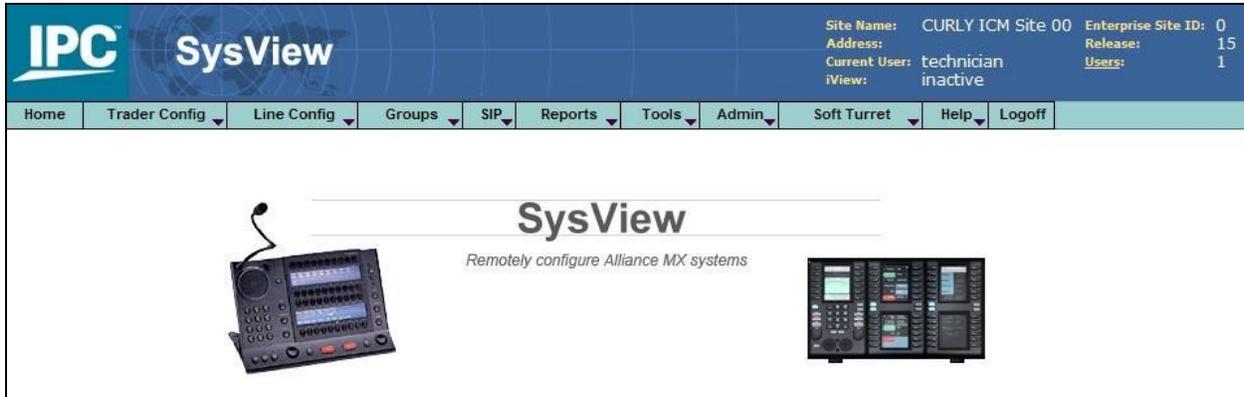
Access the Alliance MX web interface by using the URL “https://ip-address/webadmin” in an Internet browser window, where “ip-address” is the IP address of IPC System Center. Accept the conditions in the **Warning Notice** screen (not shown) and click **Log In**.

The **Log In** screen is displayed next. Enter the appropriate credentials. In the subsequent **Login Information** screen (not shown), click **Continue**.

The screenshot displays the login interface for IPC SysView. At the top left, the IPC logo and 'SysView' text are visible. The main heading is 'Log In: Enter Credentials'. Below this, there are two input fields: 'User Name:' and 'Password:'. Underneath the input fields are three buttons: 'Reset', 'Back', and 'Log In >>'. At the bottom of the page, the copyright notice 'Copyright ©2010 IPC Systems, Inc.' is displayed.

8.2. Administer Voicemail Buttons

The screen below is displayed next. Select **Trader Config > Buttons > Add Buttons** from the top menu.



The **Add Buttons** screen is displayed. Enter the following values for the specified fields, and retain the default values for the remaining fields. Repeat this section to add voicemail buttons for all IPC subscribers.

- **TRID(s):** The applicable TRID number, in this case “1”.
- **Button Number:** An available button number.
- **Type:** “VOICE MAIL”
- **Voice Mail System Access Number:** The first subscriber extension from **Section 6.3**.
- **Voice Mail Extension Number:** Modular Messaging pilot number from **Section 3**.

9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Aura® Communication Manager, Avaya Modular Messaging, and IPC Alliance MX.

Place a call from an IPC turret user to the Modular Messaging pilot number. Verify that Modular Messaging recognizes the calling party as a local subscriber.

10. Conclusion

These Application Notes describe the configuration steps required for IPC Alliance MX 15.03 to successfully interoperate with Avaya Modular Messaging 5.2 and Avaya Aura® Session Manager 6.1 in a centralized messaging environment using QSIG trunks to Avaya Aura® Communication Manager 5.2.1. All feature and serviceability test cases were completed with an observation noted in **Section 2.2**.

11. Additional References

This section references the product documentation relevant to these Application Notes.

1. *Administrator Guide for Avaya Aura™ Communication Manager*, Document 03-300509, Issue 8.0, Release 5.2, May 2009, available at <http://support.avaya.com>.
2. *CN 88011 Avaya S8xx0 SIP Integration using Avaya Session Manager*, Version M, August 2010, available at <http://support.avaya.com>.
3. *Avaya Modular Messaging for the Avaya Message Store Server (MSS) Configuration*, Release 5.0, February 2009, available at <http://support.avaya.com>.
4. *Application Notes for IPC Alliance MX 15.03 with Avaya Aura® Communication Manager 5.2.1 using QSIG Trunks*, Issue 1.0, available at <http://support.avaya.com>.
5. *IPC PATCH 15.03.00.06g Intall Guide*, Revision Number 7, April 2011, available upon request to IPC Support.

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