Avaya Solution & Interoperability Test Lab

Application Notes for IPC System Interconnect with Avaya Modular Messaging in a Centralized Messaging Environment – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for IPC System Interconnect 16.1 to interoperate with Avaya Modular Messaging 5.2 using Avaya Aura® Communication Manager 5.2.1 and Avaya Aura® SIP Enablement Services 5.2.1 in a centralized messaging environment.

IPC System Interconnect is a trading communication solution. In the compliance testing, IPC System Interconnect used SIP trunks to Avaya Aura® SIP Enablement Services, for IPC turret users to obtain basic voice messaging services from 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 System Interconnect 16.1 to interoperate with Avaya Modular Messaging 5.2 using Avaya Aura® Communication Manager 5.2.1 and Avaya Aura® SIP Enablement Services (SES) 5.2.1 in a centralized messaging environment.

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1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing included subscriber login, greeting, display, voice message, message waiting indicator, call forward, multiple call forward, call me, and auto attendant.

The serviceability testing focused on verifying the ability of IPC System Interconnect to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cables to IPC System Interconnect.

1.2. Support

Technical support on IPC System Interconnect can be obtained through the following:

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

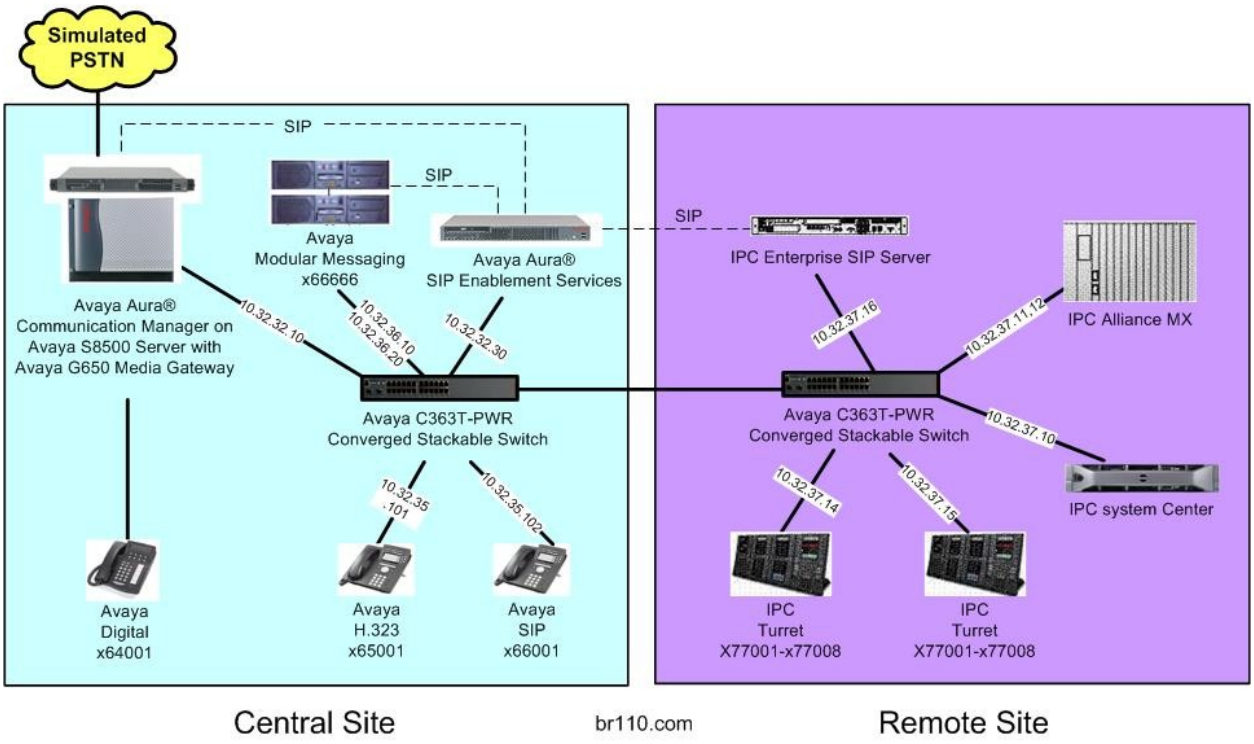
2. Reference Configuration

As shown in the test configuration below, IPC System Interconnect at the Remote Site consists of the Enterprise SIP Server (ESS), Alliance MX, System Center, and Turrets. SIP trunks are used from IPC System Interconnect to Avaya Aura® SES, to reach Avaya Modular Messaging for voice messaging services. Avaya Modular Messaging is configured as an adjunct system on Avaya Aura® SES.

The detailed administration of basic connectivity among Avaya Aura® Communication Manager, Avaya Aura® SIP Enablement Services, and Avaya Modular Messaging is not the focus of these Application Notes and will not be described.

The detailed administration of SIP trunks among Avaya Aura® Communication Manager, Avaya Aura® SIP Enablement Services, and IPC System Interconnect, to enable IPC turret users to reach users on Avaya Aura® Communication Manager and on the PSTN, is assumed to be in place 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.



3. Equipment and Software Validated

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

Equipment	Software
Avaya Modular Messaging • Messaging Storage Server • Messaging Application Server	 5.2 SP4 5.2 SP4
Avaya Aura® Communication Manager on Avaya S8500 Server	5.2.1 (R015x.02.1.016.4-18433)
Avaya G650 Media Gateway • TN799DP C-LAN Circuit Pack • TN2302AP IP Media Processor	 HW01 FW038 HW20 FW121
Avaya Aura® SIP Enablement Services	5.2.1 (SES-5.2.1.0-016.4)
Avaya 6408D Digital Telephone	NA
Avaya 1608 IP Telephone (H.323)	1.3
Avaya 9630 IP Telephone (H.323)	3.1
Avaya 9630 IP Telephone (SIP)	2.6.2
IPC System Interconnect • Alliance MX • Enterprise SIP Server • System Center o SIPX Line Card • Turrets	SipProxy-2.00.01-13 16.01.01.03.0007 16.01.01.03.0007 16.01.01.03.0007 16.01.01.03.0007 16.01.01.03.0007

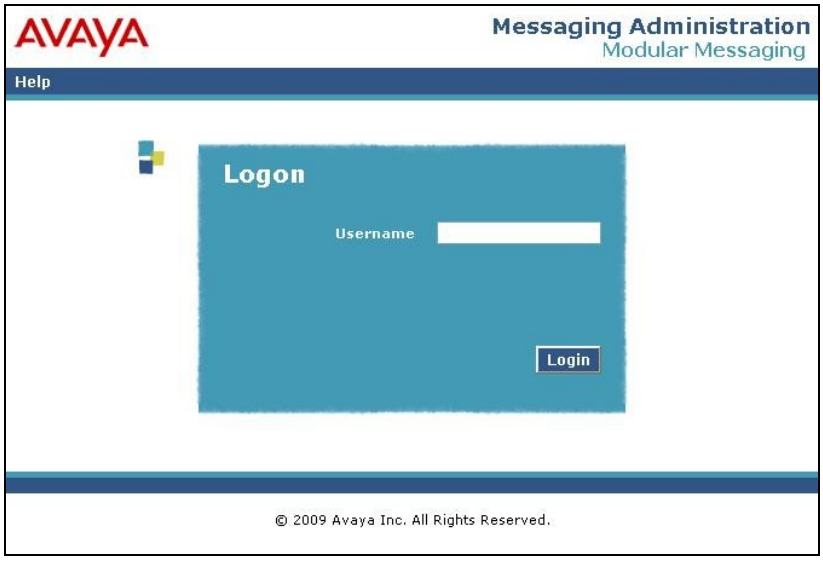
4. Configure Avaya Modular Messaging MSS

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

4.1. Launch Messaging Administration

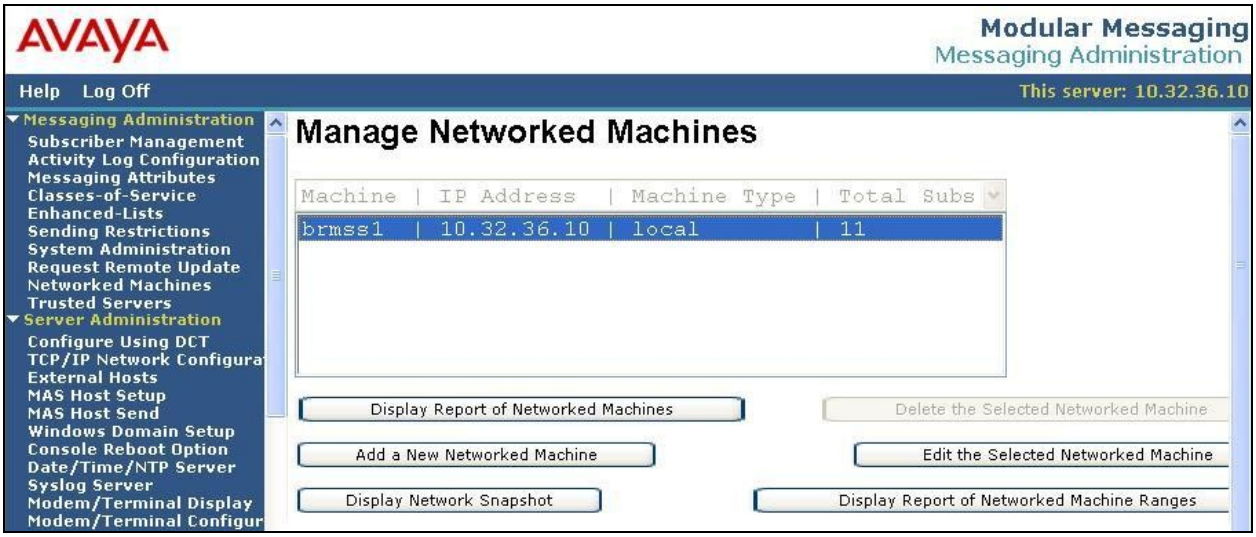
Access the MSS web interface by using the URL "http://ip-address" in an Internet browser window, where "ip-address" is the IP address of the MSS server. The **Logon** screen is displayed. Log in using a valid user name and password. The **Password** field will appear after a value is entered into the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



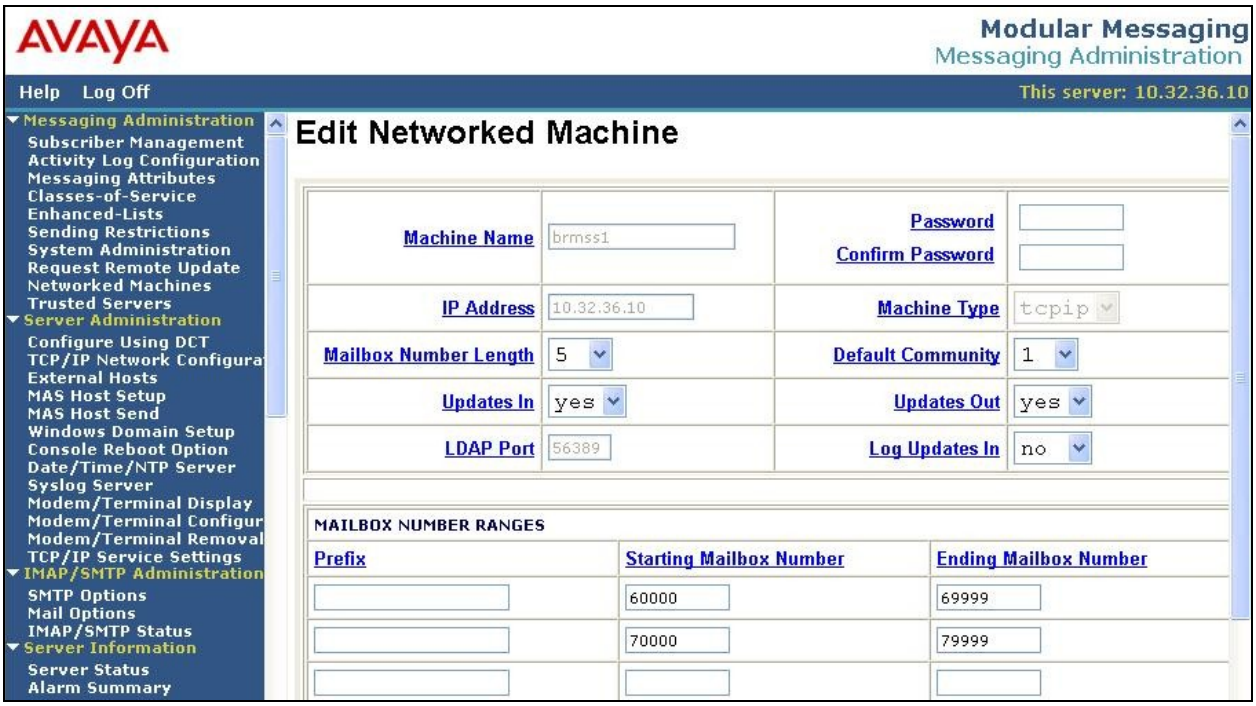
The **Messaging Administration** screen appears, as shown below.

4.2. 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.

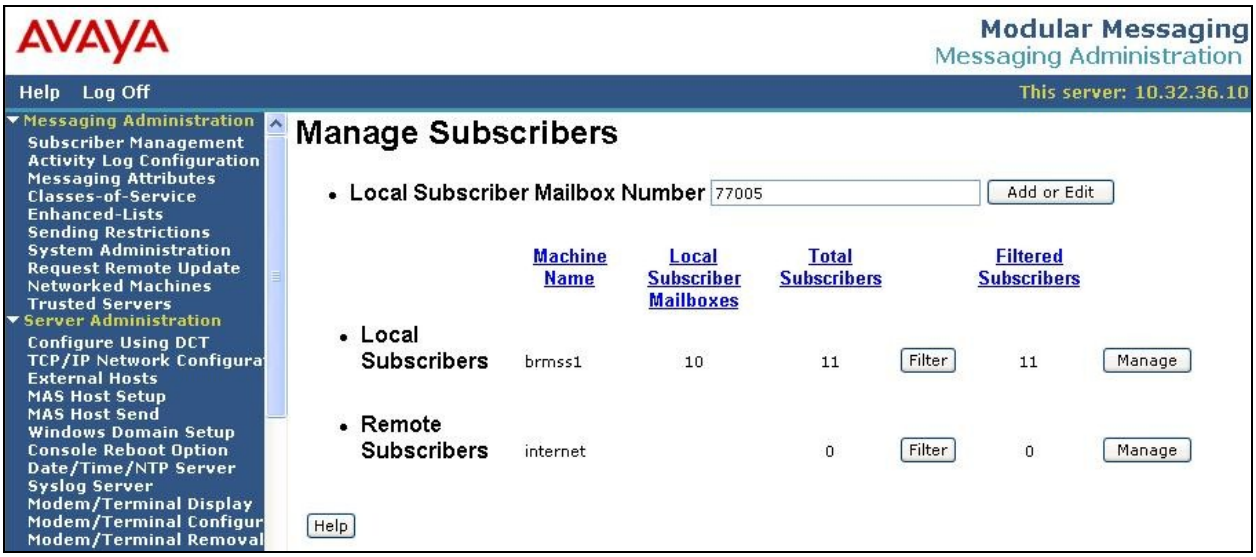


The **Edit Networked Machine** screen is displayed. Under the **MAILBOX NUMBER RANGES** section, locate an available entry line and enter the desired starting and ending mailbox numbers to be used for the IPC subscribers, in this case "70000" to "79999". Scroll down to the bottom of the screen and click **Save** (not shown).



4.3. Administer Subscribers

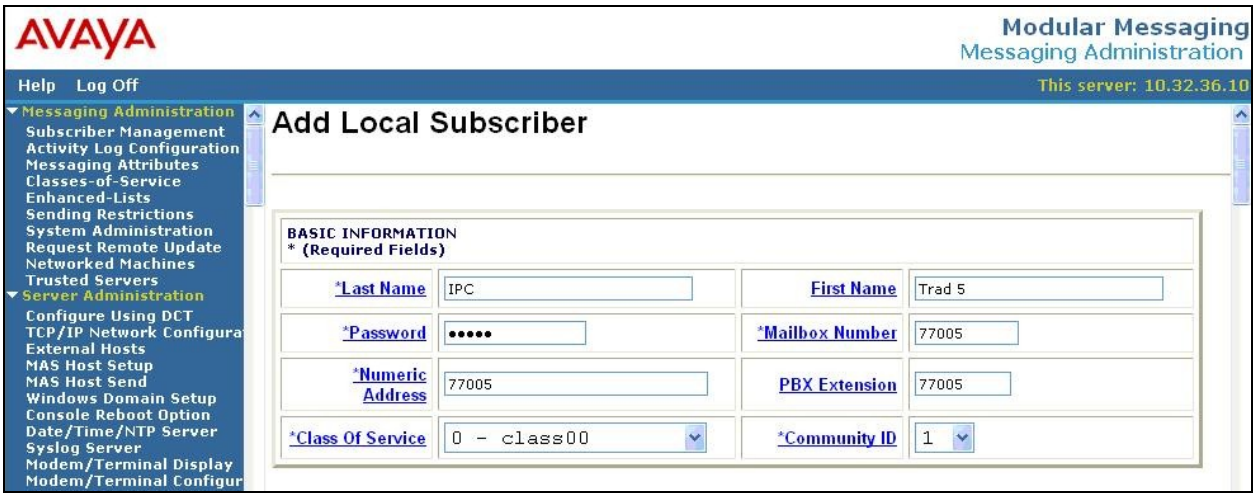
Select **Messaging Administration > Subscriber Management** from the left pane, to display the **Manage Subscribers** screen. For the **Local Subscriber Mailbox Number** field toward the top of the screen, enter the first IPC turret extension to add as a local subscriber, in this case "77005". Click **Add or Edit**.



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**, and **PBX Extension** fields. Select the appropriate **Class Of Service**, and retain the default values in the remaining fields.

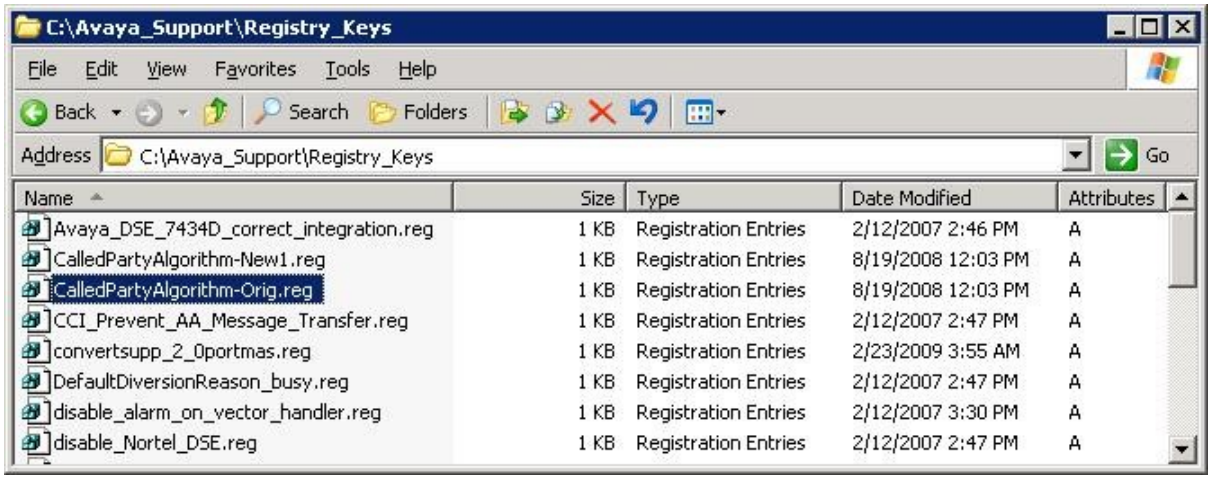
Scroll down to the bottom of the screen and click **Save** (not shown). Repeat this section to add all IPC subscribers.



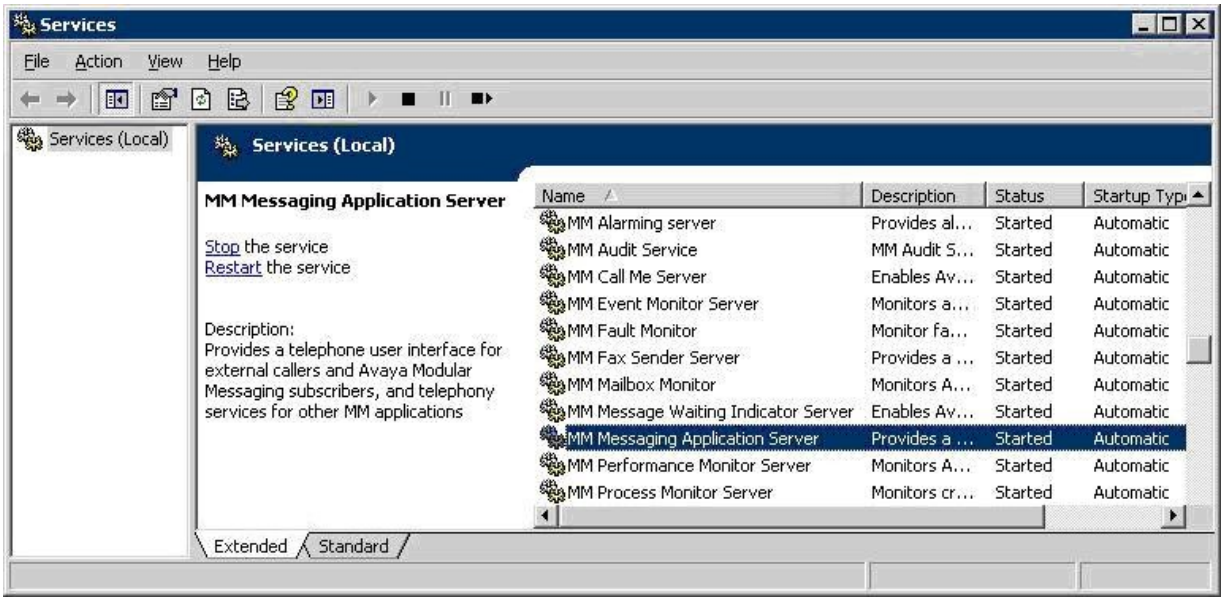
5. Configure Avaya Modular Messaging MAS

This section provides the procedures for configuring the Avaya Messaging Application Server (MAS) servers. A change is needed on each MAS server, to set the way Modular Messaging reads the SIP History Information records for proper integration with IPC. Note that enabling this setting has an impact on the proper identification of calling party number for Vectoring call scenarios.

From the first MAS server, navigate to the **C:\Avaya_Support\Registry_Keys** directory, and double-click on **CalledPartyAlgorithm-Orig.reg**.



Select **Start > Settings > Control Panel > Administrative Tools > Services**, to display the **Services** screen. Navigate to the **MM Messaging Application Server** entry, right-click on the entry and select **Restart**. Repeat these procedures on all MAS servers.



6. Configure Avaya Aura® SIP Enablement Services

The detailed configuration for adding Avaya Modular Messaging as an adjunct system on Avaya SES is assumed to be in place and will not be described. This section provides the procedures for enabling unsolicited Notify messages, which is required for proper IPC integration.

Log in to the Linux shell of the SES server with the appropriate credentials. Navigate to the **/usr/impress/sip-server/etc** directory, and open the **ccs.conf** file.

Navigate to the **Proxy** section, and set the **RouteUnsolicitedNotifyToPermanentContacts** parameters to "true", as shown below. This will enable SES to support unsolicited Notify messages from Avaya Modular Messaging for the IPC subscriber.

```
;==============================================================================
[Proxy]
;
; EnableTlsClientAuthentication values are no longer true or false. Valid
; values are:
; none      - never use client certificates
; optional  - client certificates may or may not be present
; mandatory - client certificates must be present
;==============================================================================
EnableAuthentication=true
;EnableSpoofingCheck=false
EnableTlsClientAuthentication=optional
EnableSubscribeRouting=false
EnableWCallFlow=true
PerContactWaitTime=180
MM_PerContactWaitTime=0
TimerB=2000
TimerC=180000
LocationSetTimer=180
EnableUnregisteredOptimContacts=true
InsertRecordRoute=false
CorrectReferToHeader=true
;EnableThirdPartyOriginatingProcessing=true
;SourcePaiHeaderFromFromHeader=true
ProxyType=TransactionStateful
EnableRecursion=true
EnableRecordRoute=true
;EnableOODReferRouting=false;
RouteUnsolicitedNotifyToPermanentContacts=true
```

From the Linux command line, restart the SipServer component using the commands shown below.

```
xxxxx@brses1> stop -s SipServer
Do you really want to continue? (y or n) y

xxxxx@brses1> start -s SipServer
xxxxx@brses1>
```

7. Configure IPC System Interconnect

This section provides the procedures for configuring IPC System Interconnect. The procedures include the following areas:

- Launch One Management System
- Administer voicemail domain
- Administer voicemail buttons

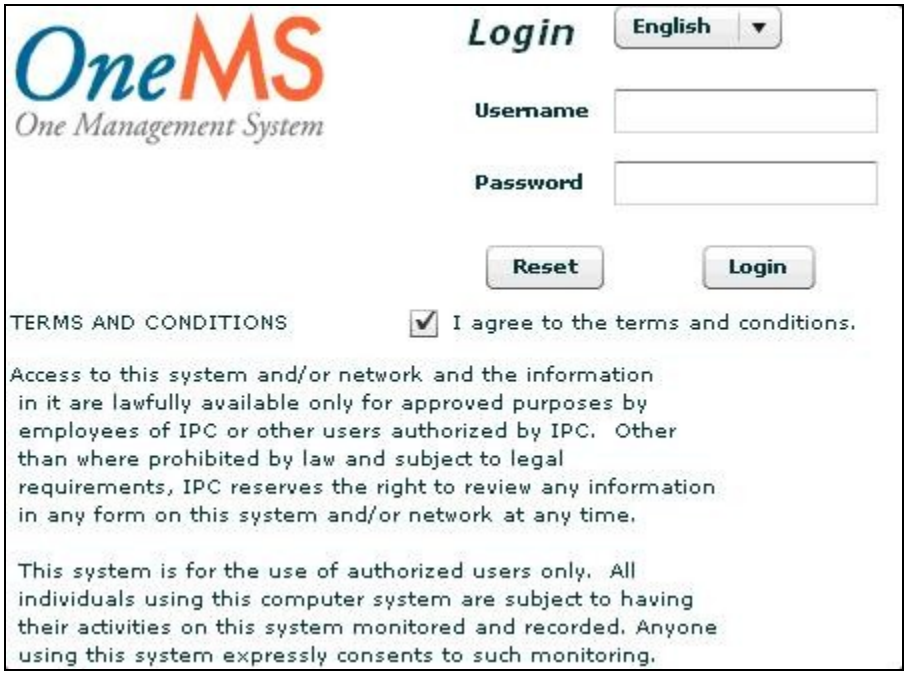
The configuration of System Interconnect is typically performed by IPC installation technicians. The procedural steps are presented in these Application Notes for informational purposes.

7.1. Launch One Management System

Access the One Management System web interface by using the URL "http://ip-address/oneview" in an Internet browser window, where "ip-address" is the IP address of IPC System Center. Log in using the appropriate credentials.

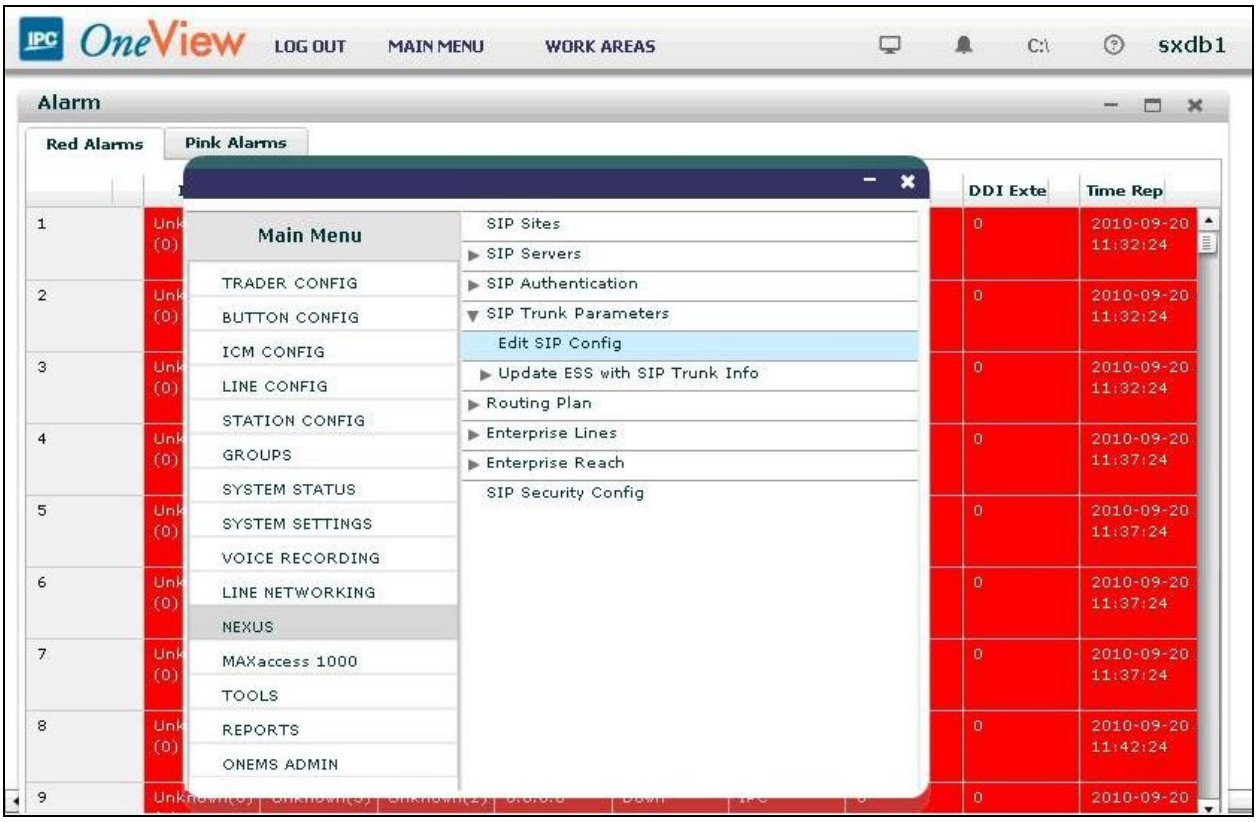
The **Login** screen is displayed. Enter the appropriate credentials. Check **I agree to the terms and conditions**, and click **Login**.

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



7.2. Administer Voicemail Domain

The screen below is displayed next, with the **Main Menu** screen in the forefront. Select **NEXUS > SIP Trunk Parameters > Edit SIP Config**, as shown below.



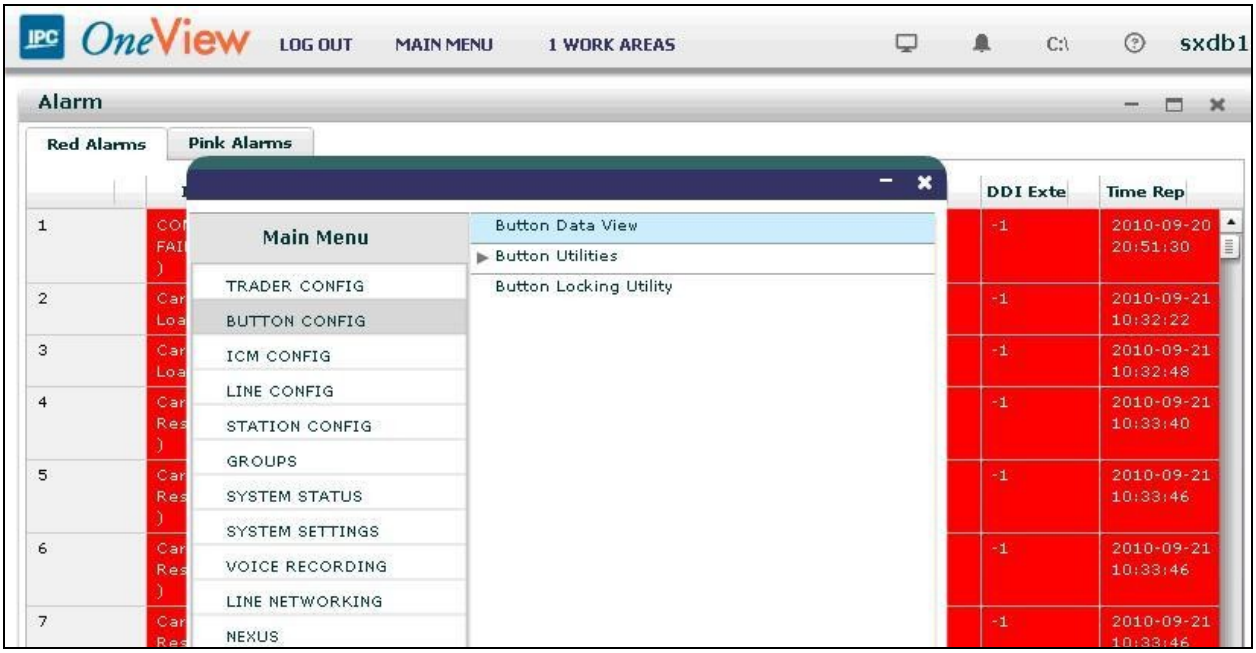
The **Edit SIP Config** screen is displayed. For **DDI Group ID/ DDI Group Name**, select the relevant SIP trunk card number from the drop-down list, in this case "5". Click **Submit**.

The **Edit SIP Config** screen is updated with the located **DDI Group ID** entry, as shown below.

Scroll the screen to the right as necessary, and make certain the **VM Domain** field is set to blank as shown below. This setting will disable sending of SIP Subscribe messages from IPC, which is required for proper integration with Avaya Aura® SES.

7.3. Administer Voicemail Buttons

Select **MAIN MENU** from the top menu to display the **Main Menu** screen. Select **BUTTON CONFIG > Button Data View**, as shown below.



The **Button Data View** screen is displayed. For **TRID**, select the ID of the trader whose button sheet is being configured, in this case "1". For **Button Class**, select "MODULE BUTTON".

The **Button Data View** screen is updated with a list of configured module buttons. Follow [3] to add a voicemail button for each IPC subscriber, as shown below. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Button Type:** "VOICE MAIL"
- **Extended:** A desired name to use for the phone display.
- **Speed Dial:** The extension number of the IPC subscriber.
- **VM system:** The voicemail pilot number, in this case "66666".

Repeat this for all trade users. In the compliance testing, two voicemail buttons for IPC subscriber extensions "77005" and "77006" were created on each of the two trade users.

	Button #	Button Type	Extended	Speed Dial/	Incoming	Line LAC /	Line	VM system
85	93	LINE	SI 77005		HPr Rg Fl CLI	50005	2	
86	94	LINE	SI 77006		HPr Rg Fl CLI	50006	2	
87	99	VOICE MAIL	VM 77005	77005	NOT APPLICAB	-1	2	66666
88	100	VOICE MAIL	VM 77006	77006	NOT APPLICAB	-1	2	66666
89	101	BUTTON SEQUE	Suppress CLI	1314	NOT APPLICAB	-1	2	
90	102	BUTTON SEQUE	Toggle CLI	1318	NOT APPLICAB	-1	2	
91	103	BUTTON SEQUE	Privacy	1211	NOT APPLICAB	-1	2	
92	104	BUTTON SEQUE	Get CLI	1315	NOT APPLICAB	-1	2	

8. General Test Approach and Test Results

The feature test cases were performed manually. Calls were manually established among IPC turret users with Avaya SIP, 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 LAN cables to the IPC ESS and IPC turrets.

All test cases were executed. 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.

- IPC does not support the Transfer, Call Sender, Find Me, and Personal Operator features from Modular Messaging. Note that attempt of call scenarios involving IPC turret users with these features can result in calls without talk paths and automatic call disconnect by the system.

- The configuration in **Section 5** to set Modular Messaging to read the SIP History Information records in a different way has a direct impact on the proper identification of calling party number for Vectoring scenarios.

- When an Avaya SIP user calls an IPC turret user that covered/forwarded to the Modular Messaging pilot, the display on the Avaya SIP user will show “restricted” due to the privacy setting in the SIP message being turned on by IPC.

9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Modular Messaging, Avaya Aura® SIP Enablement Services, and IPC System Interconnect.

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 System Interconnect 16.1 to successfully interoperate with Avaya Modular Messaging 5.2 using Avaya Aura® Communication Manager 5.2.1 and Avaya Aura® SIP Enablement Services 5.2.1. All feature and serviceability test cases were completed with observations noted in **Section 8**.

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. *Installing, Administering, Maintaining, and Troubleshooting Avaya Aura™ SIP Enablement Services*, Document ID 03-600768, Issue 8.0, November 2009, available at http://support.avaya.com.

3. *CN 88010 Avaya S8xx0 Session Initiation Protocol (SIP) Integration*, Version AH, August 2010, available at http://support.avaya.com.

4. *Avaya Modular Messaging for the Avaya Message Store Server (MSS) Configuration,* Release 5.0, February 2009, available at http://support.avaya.com.

5. *Application Notes for IPC System Interconnect with Avaya Aura™ Communication Manager Using Avaya Aura™ SIP Enablement Services*, Issue 1.0, December 2010, available at http://support.avaya.com.

6. *Nexus Suite 2.0 SP1 Patch11 or Higher Deployment Guide*, Part Number B02200161, Revision Number 01, available upon request to IPC Support.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.