



Avaya Solution & Interoperability Test Lab

Application Notes for Hua Pu SmartCom with Avaya Aura™ Communication Manager and Avaya Meeting Exchange Express Edition - Issue 1.0

Abstract

These Application Notes describe the procedures for configuring Hua Pu SmartCom to interoperate with Avaya Aura™ Communication Manager and Avaya Meeting Exchange Express Edition. Hua Pu SmartCom is a unified communication solution which integrates Communication Manager and Meeting Exchange Express with Tencent Real Time Exchange (RTX), an instant messaging platform launched by Tencent for enterprises.

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 Hua Pu SmartCom to interoperate with Communication Manager and Meeting Exchange Express. Hua Pu SmartCom is a unified communication solution which integrates Communication Manager and Meeting Exchange Express with Tencent Real Time Exchange (RTX), an instant messaging platform launched by Tencent for enterprises. Hua Pu SmartCom communicates with Meeting Exchange Express using the Bridge Control Application Programming Interface (BCAPI) to provide features such as Click-to-Conference and conference control.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying Hua Pu SmartCom for the following:

- Click-to-Conference feature, such as inviting multiple users to join a conference or starting a conference as the host using the RTX Client.
- Adding new participant to the conference using the RTX Client. The new participant can be adding using the Contact List or by entering the telephone number directly into the Conference Host window provided by the SmartCom Plug-in.
- Muting and un-muting of participants.
- Putting the conference into Lecture mode (muting all participants except for the host).
- Dropping participants from the conference.
- Ending the conference.

The serviceability testing focused on verifying the ability of Hua Pu SmartCom to recover from adverse conditions, such as disconnecting the Ethernet cables on the Hua Pu SmartCom server and Meeting Exchange Express server, and rebooting Communication Manager and Hua Pu SmartCom Server.

1.2. Support

Technical support on Hua Pu SmartCom can be obtained through the following:

- Phone: 4007-06-0023 (within China)
- Email: hotline_tech@huapu.com

2. Reference Configuration

Figure 1 illustrates a test configuration consisting of Communication Manager running on Avaya S8300 Server, an Avaya G350 Media Gateway, a Meeting Exchange Express server and Avaya 9630 IP Telephones. Hua Pu SmartCom and Tencent RTX are installed on a Microsoft Windows 2003 Server. Hua Pu SmartCom communicates with the Meeting Exchange Express server using BCAPI. The desktop PCs are running the RTX Client with the Hua Pu SmartCom Plug-in installed. The Avaya C364T-PWR Converged Stackable Switch provides Ethernet connectivity to the servers and IP telephones.

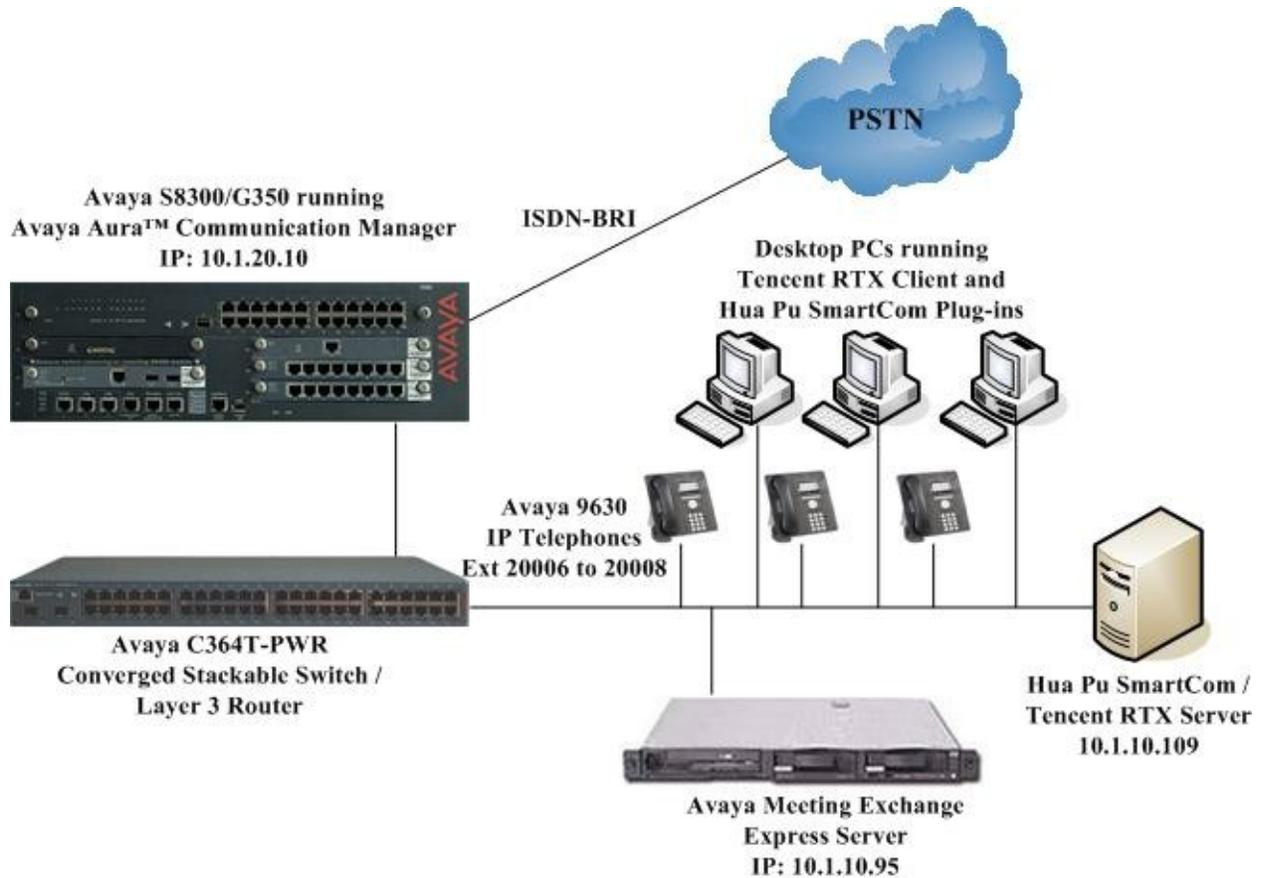


Figure 1: Test Configuration

3. Equipment and Software Validated

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

Equipment/Software	Version
Avaya S8300 Server	Communication Manager 5.2 Service Pack 2.01 (02.0.947.3-17534)
Avaya G350 Media Gateway <ul style="list-style-type: none">MM722AP BRI Media Module	29.24.2 HW01, FW008
Meeting Exchange Express	2.0 Service Pack 1 (3.0.1.7)
Avaya C364T-PWR Converged Stackable Switch	4.5.18
Avaya 9630 IP Telephones	3.0 (H.323)
Hua Pu SmartCom	2.0
Hua Pu SmartCom RTX Client Plug-in (MXPlugin)	2.8.6.1
Tencent Real Time Exchange (RTX)	2008

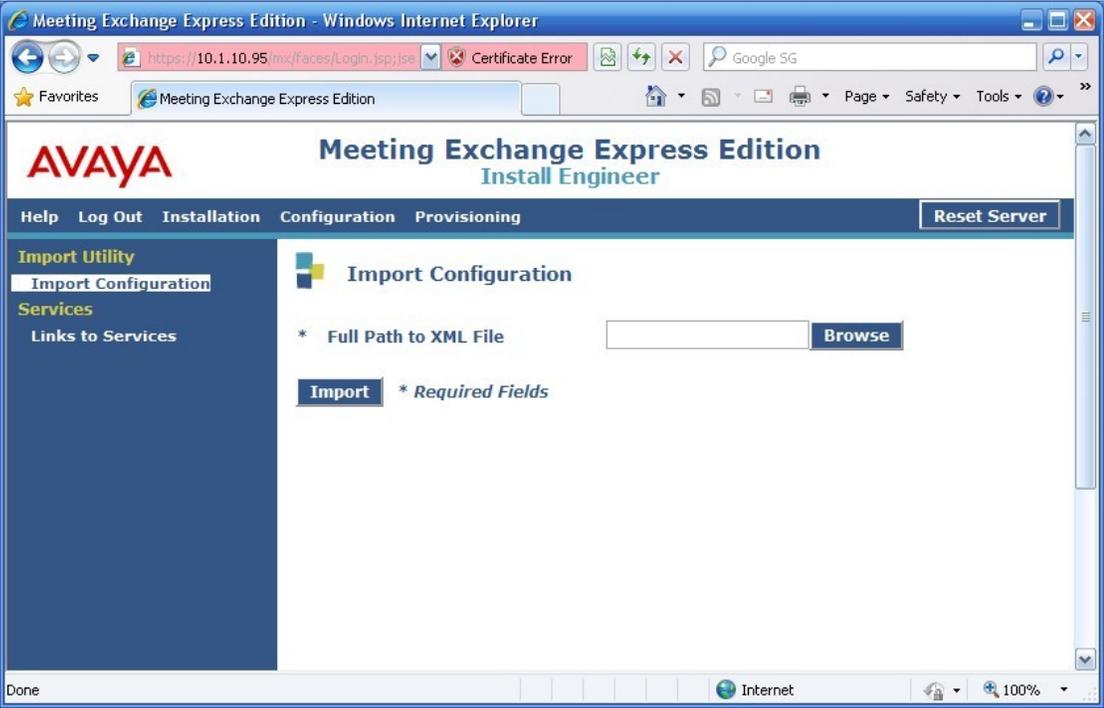
Table 1: Equipment/Software Validated

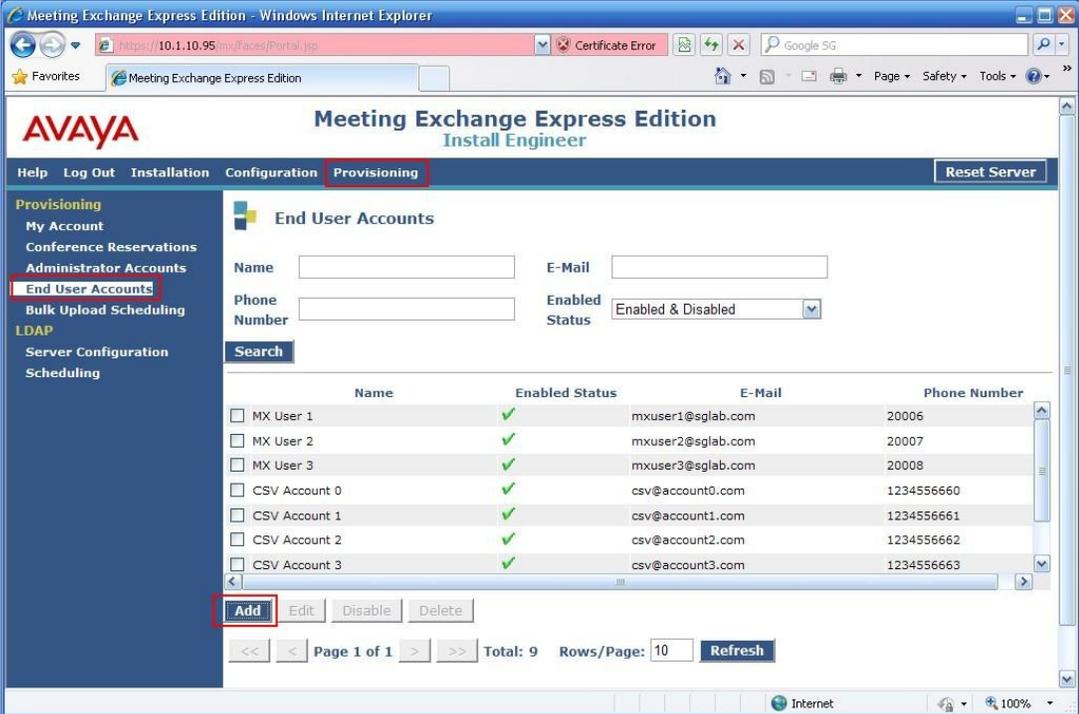
4. Configure Communication Manager

This application notes assumes that Communication Manager is provisioned to support the Meeting Exchange Express. For details in the configuration of Communication Manager, please refer to [3].

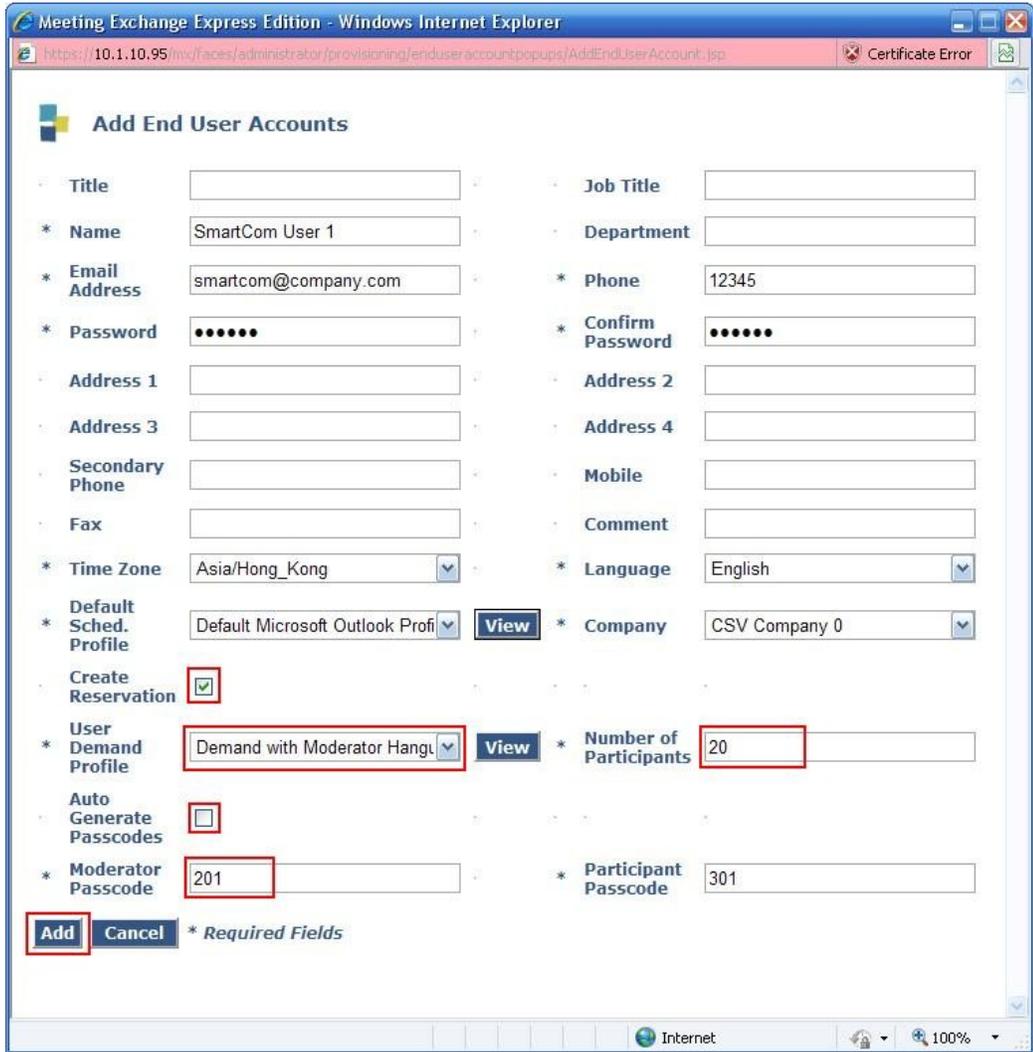
5. Configure Meeting Exchange Express

This application notes assumes that Meeting Exchange Express is configured and connectivity to Communication Manager is provisioned. For details in the configuration of Meeting Exchange Express, please refer to [3]. This section describes the steps required to interoperate with Hua Pu SmartCom. Hua Pu SmartCom uses the on-demand conference feature of Meeting Exchange Express. On-demand conferences are reservation-less and they share the conferencing capacity on Meeting Exchange Express.

Step	Description
1.	<p>Meeting Exchange Express is administered and maintained using a standard web browser over a secure connection by entering https://< Meeting Exchange Express IP Address>/mx into the web browser's Uniform Resource Locator (URL) bar. Log in using an account with administrative privileges and the following web page will be shown.</p> 

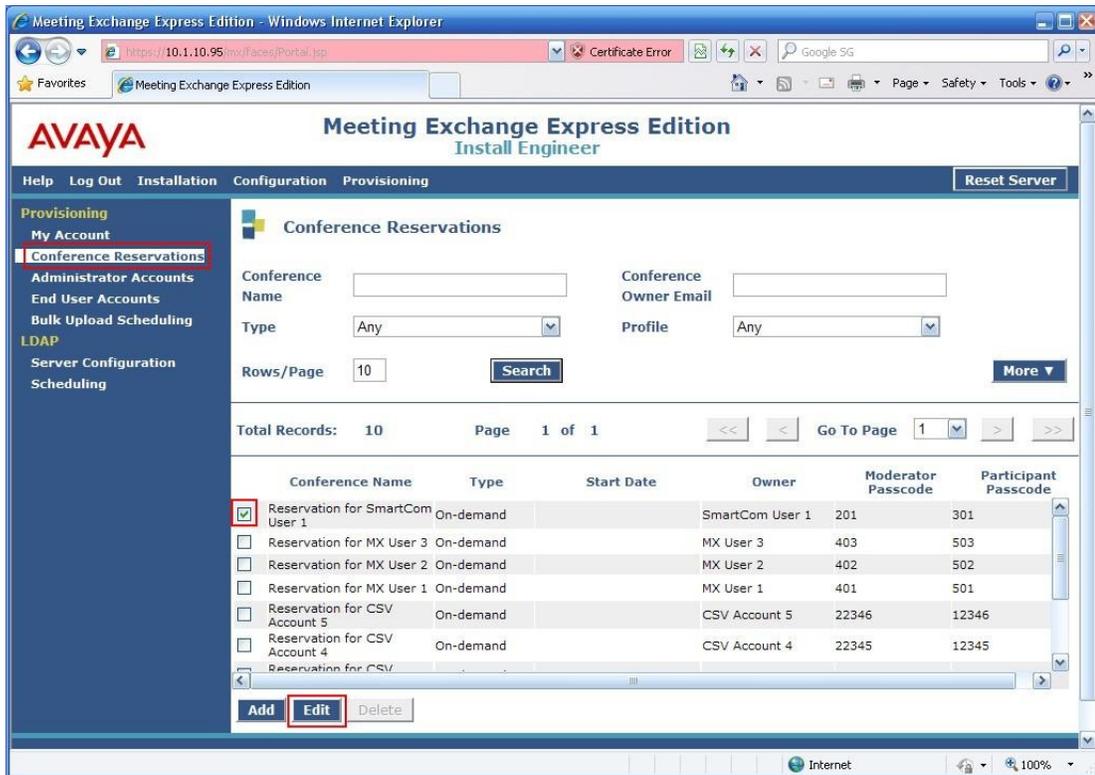
Step	Description																																								
2.	<p>To provide end users access to on-demand conferencing, add an end user account as follows:</p> <ul style="list-style-type: none"> • From the web interface toolbar, click Provisioning. • Click End User Accounts under Provisioning. • Click Add.  <p>The screenshot shows the Avaya Meeting Exchange Express Edition Install Engineer web interface. The 'Provisioning' tab is selected, and the 'End User Accounts' sub-tab is active. A table lists existing accounts with columns for Name, Enabled Status, E-Mail, and Phone Number. The 'Add' button is highlighted with a red box.</p> <table border="1" data-bbox="544 835 1372 1039"> <thead> <tr> <th></th> <th>Name</th> <th>Enabled Status</th> <th>E-Mail</th> <th>Phone Number</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>MX User 1</td> <td>✓</td> <td>mxuser1@sglab.com</td> <td>20006</td> </tr> <tr> <td><input type="checkbox"/></td> <td>MX User 2</td> <td>✓</td> <td>mxuser2@sglab.com</td> <td>20007</td> </tr> <tr> <td><input type="checkbox"/></td> <td>MX User 3</td> <td>✓</td> <td>mxuser3@sglab.com</td> <td>20008</td> </tr> <tr> <td><input type="checkbox"/></td> <td>CSV Account 0</td> <td>✓</td> <td>csv@account0.com</td> <td>1234556660</td> </tr> <tr> <td><input type="checkbox"/></td> <td>CSV Account 1</td> <td>✓</td> <td>csv@account1.com</td> <td>1234556661</td> </tr> <tr> <td><input type="checkbox"/></td> <td>CSV Account 2</td> <td>✓</td> <td>csv@account2.com</td> <td>1234556662</td> </tr> <tr> <td><input type="checkbox"/></td> <td>CSV Account 3</td> <td>✓</td> <td>csv@account3.com</td> <td>1234556663</td> </tr> </tbody> </table>		Name	Enabled Status	E-Mail	Phone Number	<input type="checkbox"/>	MX User 1	✓	mxuser1@sglab.com	20006	<input type="checkbox"/>	MX User 2	✓	mxuser2@sglab.com	20007	<input type="checkbox"/>	MX User 3	✓	mxuser3@sglab.com	20008	<input type="checkbox"/>	CSV Account 0	✓	csv@account0.com	1234556660	<input type="checkbox"/>	CSV Account 1	✓	csv@account1.com	1234556661	<input type="checkbox"/>	CSV Account 2	✓	csv@account2.com	1234556662	<input type="checkbox"/>	CSV Account 3	✓	csv@account3.com	1234556663
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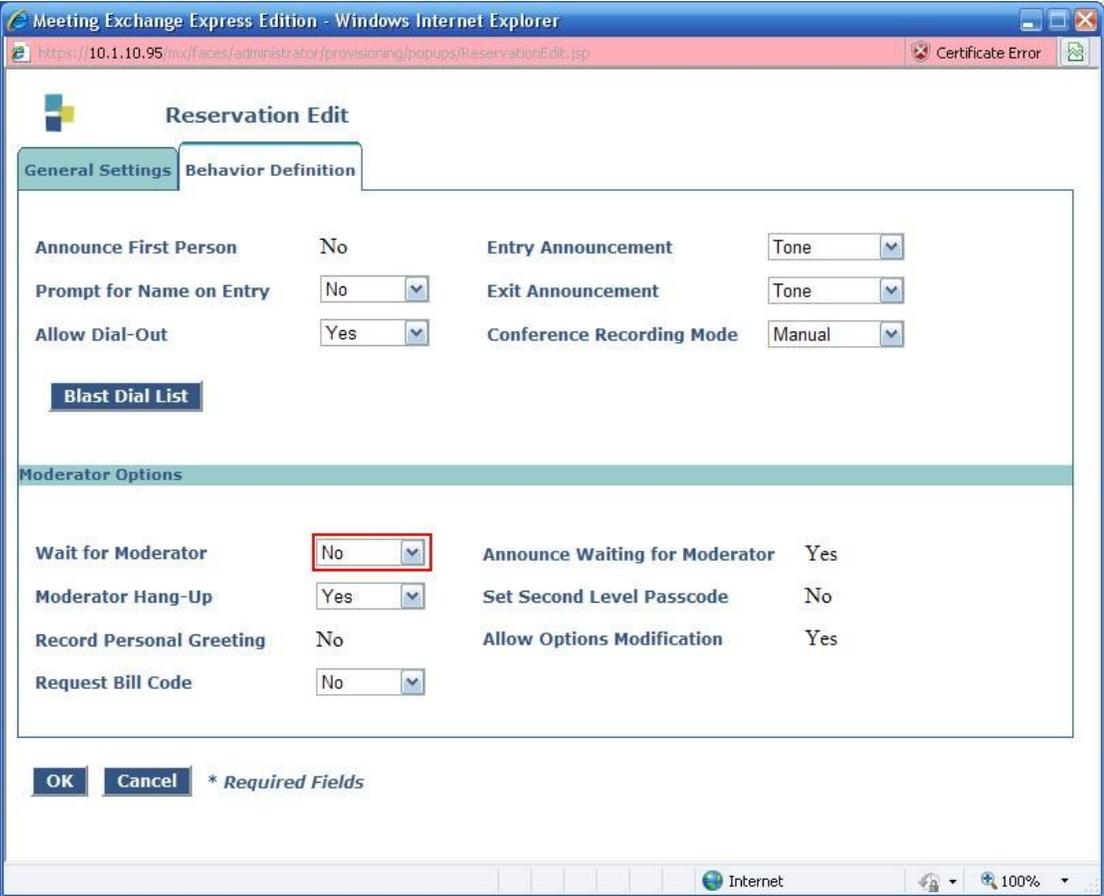
Step	Description
3.	<p>From the Add End User Accounts screen, provision an end user account as follows:</p> <ul style="list-style-type: none"> To generate a conference reservation for an on-demand conference that is associated with this end user account, verify that the Create Reservation field is checked. Choose a User Demand Profile from the list. For this testing, the Demand with Moderator Hangup profile is used. Enter the number of participants assigned to this conference in the Number of Participants field. This value will determine the number of participants that Hua Pu SmartCom can add to a conference. Uncheck the Auto Generate Passcodes field and enter an unused passcode for the Moderator Passcode and Participant Passcode fields. The Moderator Passcode field will be used to configure Hua Pu SmartCom in Section 6. Refer to [1] for definitions regarding the remaining fields on this screen. Click Add to add the account to the database.



Step	Description
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- | | |
|----|---|
| 4. | <p>Modify the conference reservation corresponding to the end user account provisioned in Step 3 as follows:</p> <ul style="list-style-type: none"> • Click Conference Reservations under Provisioning. • Check the conference reservation corresponding to the end user account provisioned in Step 3. • Click Edit. |
|----|---|



Step	Description
5.	<p>Click the Behavior Definition tab. Verify that the Wait for Moderator field is set to No. Otherwise, it will interfere with the setting up of the conference by Hua Pu SmartCom.</p> 
6.	Repeat Steps 2 to 5 to provision more End User Accounts to be used by Hua Pu SmartCom.

6. Configure Hua Pu SmartCom

Hua Pu installs, configures and customizes Hua Pu SmartCom for their end customers. This section describes only the interface configuration for Hua Pu SmartCom to communicate with Meeting Exchange Express. Refer to [4] and [5] for the detail configuration of Hua Pu SmartCom.

Step	Description
1.	<p>On the Hua Pu SmartCom Server, edit the file bridge.properties located in the folder C:\HuaPu\RTX-MEE\JavaApplication using Notepad. Configure the SERVICE_NAME field and enter the IP address of the Meeting Exchange Express server on this line.</p> <p style="text-align: center;">SERVICE_NAME=jnp://10.1.10.95:1099</p>
2.	<p>On the Hua Pu SmartCom Server, edit the file Conferences.properties located in the folder C:\HuaPu\RTX-MEE\JavaApplication using Notepad. On each line, configure the Moderator Passcode of the end user account created in Section 5 Step 3 as shown below.</p> <p style="text-align: center;">Conference1=201 Conference2=202 Conference3=203</p>
3.	<p>Deploy the Hua Pu SmartCom Plug-in mxplugin.rpi located in the folder C:\HuaPu\RTX-MEE\RTXPlugin\ to all the RTX Clients. This is accomplished by using the Auto Upgrade tool in Tencent RTX Manager such that the RTX Clients will be prompted to install the plug-in the next time they logged in. Refer to [6] for more details.</p>

Step	Description
4.	Using Tencent RTX Manager, configure phone extensions and mobile number for all RTX Users in the Tel and Mobile fields respectively and click Apply .

The screenshot displays the Tencent RTX Manager interface. At the top, there are tabs for 'Department Structure', 'All Contacts', and 'Configure hierarchy'. Below the tabs is a navigation bar with buttons for 'Add Contact', 'Delete Contact', 'Hide info', 'Previous', 'Next', and 'Find Contact'. A status bar indicates 'Total Contacts: 7, Contacts in the current page: 7 Page 1/1'. The main area contains a table of contacts with columns for ID, Name, RTX Number, Owning department, Owning hierarchy, Contact certification, and Level. The contact 'DZH' (Paul Deng) is highlighted. Below the table is a 'Basic Information' section with tabs for 'Basic Information', 'Change Password', and 'Contact Role'. The 'Basic Information' tab is active, showing fields for User ID (DZH), Name (Paul Deng), Position, Level (0), Gender (Male), Mobile (13500000002), Tel (20006), and Email (dzh@tencent.com). There are 'More' and 'Apply' buttons at the bottom right of the form.

7. General Test Approach and Test Results

The feature test cases were performed manually. Using Tencent RTX Clients with the Hua Pu Plug-in installed, on-demand conferences were set up on the Meeting Exchange Express. Features provided by Hua Pu SmartCom such as Click-to-Conference, adding and dropping participants, muting and un-muting of participants, putting the conference into Lecture mode and ending of conferences were tested.

The serviceability test cases were performed manually by disconnecting the Ethernet cables on the Hua Pu SmartCom server and Meeting Exchange Express server, rebooting of the Communication Manager and Hua Pu SmartCom server.

All feature and serviceability test cases were executed and passed.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager, Meeting Exchange Express and Hua Pu SmartCom.

8.1. Verify Communication Manager

Verify the status of the trunk group by using the **status trunk-group n** command, where n is the trunk group connected to Meeting Exchange Express. The **Service State** field should display **in-service/idle** or **in-service/active**.

```
status trunk 5 Page 1
```

TRUNK GROUP STATUS			
Member	Port	Service State	Mtce Connected Ports Busy
0005/001	T00089	in-service/idle	no
0005/002	T00090	in-service/idle	no
0005/003	T00091	in-service/idle	no
0005/004	T00092	in-service/idle	no
0005/005	T00093	in-service/active	no S01342
0005/006	T00094	in-service/idle	no
0005/007	T00095	in-service/idle	no
0005/008	T00096	in-service/idle	no
0005/009	T00097	in-service/idle	no
0005/010	T00098	in-service/idle	no
0005/011	T00099	in-service/idle	no
0005/012	T00100	in-service/idle	no
0005/013	T00101	in-service/idle	no
0005/014	T00102	in-service/idle	no

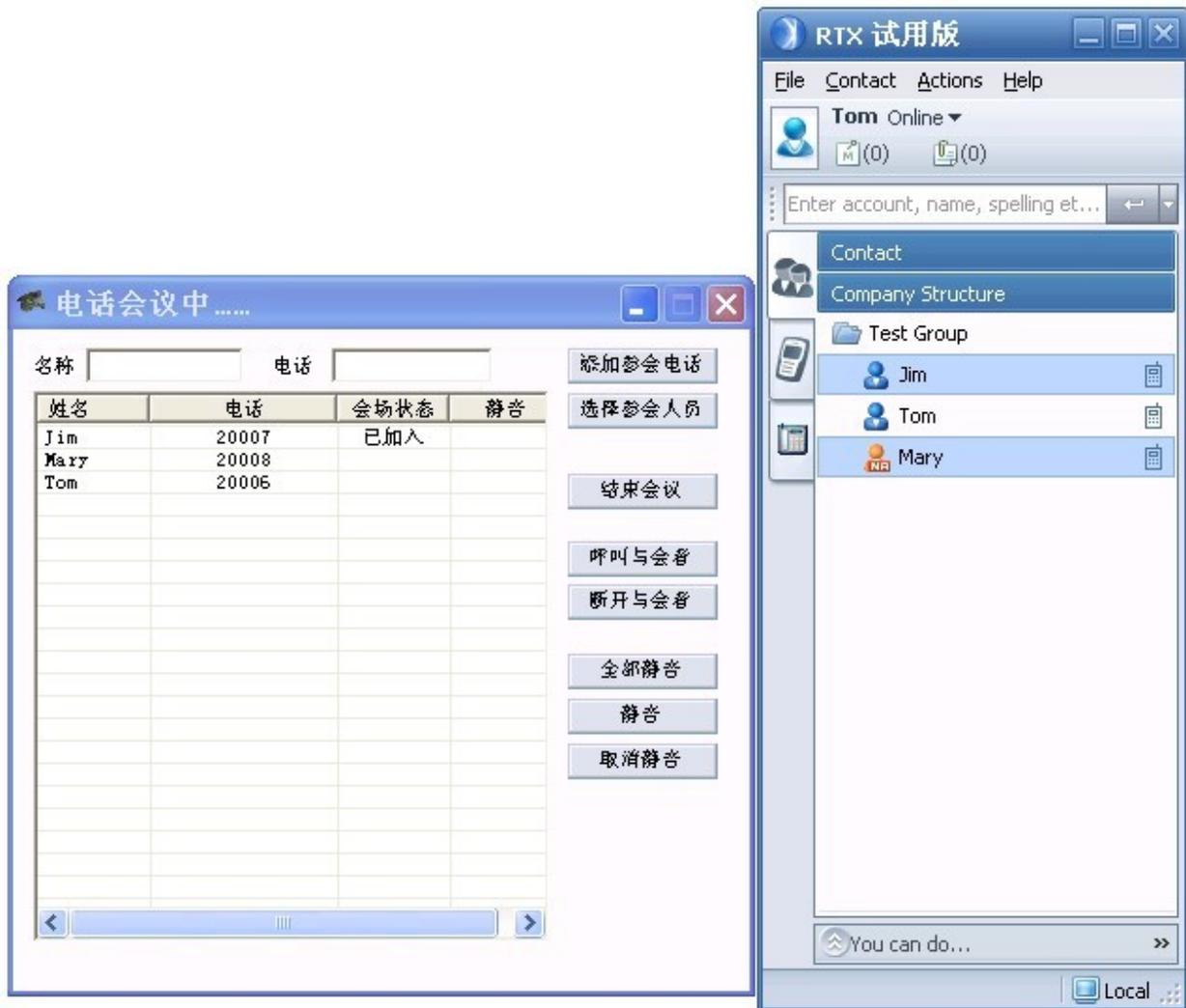
8.2. Verify Meeting Exchange Express

Log in to the Meeting Exchange Express using Secure Shell (SSH). Enter the command **lc status all** and confirm all processes are running.

```
[sroot@mxxpress1 ~]# lc status all
dbx is running.
httpd is running.
ipcb is running.
jboss is running.
notificationCtrlServer is running.
postgresql is running.
[sroot@mxxpress1 ~]#
```

8.3. Verify Hua Pu SmartCom

Using the Tencent RTX client, place a Click-to-Conference to another two users using the Contact List. Verify that all the participants receive a call from Meeting Exchange Express to invite them to the conference. Verify also that the user that initiated the conference has an additional Conference Control window to allow the moderator control over the conference.



9. Conclusion

These Application Notes describe the configuration steps required for Hua Pu SmartCom to interoperate with Communication Manager and Meeting Exchange Express using the Bridge Control Application Programming Interface (BCAPI). All feature and serviceability test cases were completed successfully.

10. Additional References

This section references the documentations that are relevant to these Application Notes.

The following Avaya product documentations can be found at <http://support.avaya.com>.

[1] *Meeting Exchange Express 2.0 Service Pack 1 Administration and Maintenance Guide*, Document ID 04-603239, Issue 1, May 2009.

[2] *Avaya Aura™ Communication Manager Feature Description and Implementation*, Issue 7, Release 5.2, May 2009, Document Number 555-245-205.

[3] *Configuring Secure SIP Connectivity Utilizing Transport Layer Security (TLS) Between Avaya Communication Manager and Avaya Meeting Exchange Express Edition - Issue 1.0*, May 2008.

The following product documentations are available from Hua Pu.

[4] *Hua Pu SmartCom MeC R2.0 User Guide*.

[5] *Hua Pu SmartCom Server R2.0 Installation Guide*.

The following product documentations are available from Tencent Technology.

[6] *RTX Administrator's Manual*, Version 2008, October 2007.

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