AVAYA

Avaya Solution & Interoperability Test Lab

Application Notes for BBX Technologies Vuesion Multimedia Contact Center Additional Client Features with Avaya IP Office 8.0 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for BBX Technologies Vuesion Multimedia Contact Center additional Client features to interoperate with Avaya IP Office. In the compliance testing, BBX Technologies Vuesion Multimedia Contact Center provided skill based routing and announcements using the SIP User, TAPI, and DevLink interfaces from Avaya IP Office 8.0.

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.

RS; Reviewed:
SPOC 5/11/2012

Solution & Interoperability Test Lab Application Notes
©2012 Avaya Inc. All Rights Reserved.

1 of 48
IPO8VuesionClnt

1. Introduction

These Application Notes describe the configuration steps required for BBX Technologies Vuesion Multimedia Contact Center additional Client features to interoperate with Avaya IP Office. In the compliance testing, BBX Technologies Vuesion Multimedia Contact Center provided skill based routing and announcements by using the SIP User, TAPI, and DevLink interfaces from Avaya IP Office.

The SIP User interface was used by Vuesion to register virtual SIP users and to route incoming calls via an available SIP user in a hunt group to the Vuesion server. The TAPI interface was used by Vuesion to monitor and control the virtual SIP and physical agent and supervisor users, and to provide call control via the agent and supervisor desktops. The Client performs the same features of a physical or softphone agent on a desktop agent in addition to extra features of its own.

The BBX Technologies Vuesion Multimedia Contact Center consisted of the Vuesion Server and Vuesion Client software.

2. General Test Approach and Test Results

The feature test cases were performed manually. Upon start of the BBX Technologies Vuesion Multimedia Contact Center application, the application automatically registers the virtual SIP users to Avaya IP Office.

For the manual part of the testing, incoming calls were made to the main hunt group. The Vuesion server used the TAPI event messages to track agent states, and specified calls to be redirected to available agents. Since the testing concentrated on the additional features of a Client, various menu and control features of the Client were verified.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on BBX Technologies Vuesion Multimedia Contact Center Client's additional features:

- Proper registration of virtual SIP users.

- Initiate call by double clicking on user's icon in List, Large and Detail Views.

- Verify Speed Dial List by double click method and dial box method.

- Verify if calls can be initiated by using the Inbound/Outbound history information by using both double click and dial box method.

- Verify the Chat feature between agents that are logged in to the client.

- Verify Extended State feature of a client.

- Verify test calls to a number that are designated as an emergency number.

- Verify Marquee message from a Supervisor.

The serviceability testing focused on verifying the ability of BBX Technologies Vuesion Multimedia Contact Center to recover from adverse conditions, such as disconnecting and reconnecting the Ethernet cables to the Vuesion server and to the Vuesion client.

2.2. Test Results

All test cases were executed and passed. The following observations were made on BBX Technologies Vuesion Multimedia Contact Center Client's additional features during the compliance testing:

- When a user is in Extended State then Do Not Disturb (DND) overrides Forward (FWD) and therefore the call cannot be forwarded.

- In case of conference call, user cannot release the call from desktop agent and has to be released from the physical agent.

During an active call if the link goes down and after the recovery of the link between the Vuesion server and IP Office, the Vuesion client can no longer control the call via the desktop. The workaround is to manually control the call via the phone. However after the first manual control from the phone, the agent can once again control the call via the desktop. If the link goes down at the same instant as a call is presented to the agent, then after recovery, the incoming call is still shown and the agent has no control on the desktop. Agent has to manually refresh to get control back of the desktop.

2.3. Support

Technical support on BBX Technologies Vuesion Multimedia Contact Center can be obtained through the following:

- **Phone:** (800) 930-4229, option 4
- **Email:** bbxservice@bbxtech.com
- **Web:** www.bbxtech.com

3. Reference Configuration

The configuration used for the compliance testing is as shown in **Figure 1** below.

In the compliance testing, the Vuesion Manager, Vuesion Reports and Vuesion Client software were running on the Vuesion server, while another server was hosting the Avaya IP Office Manager and IP Office Softphone. During compliance testing two Vuesion clients were loged in on the same server where one was connected to the Desktop agent and the other to the Desktop Supervisor agent. During testing with IP Office Softphone one of the Vuesion clients was logged in to connect to the IP Office Softphone. Emulated PSTN was used to make inbound/outbound calls.
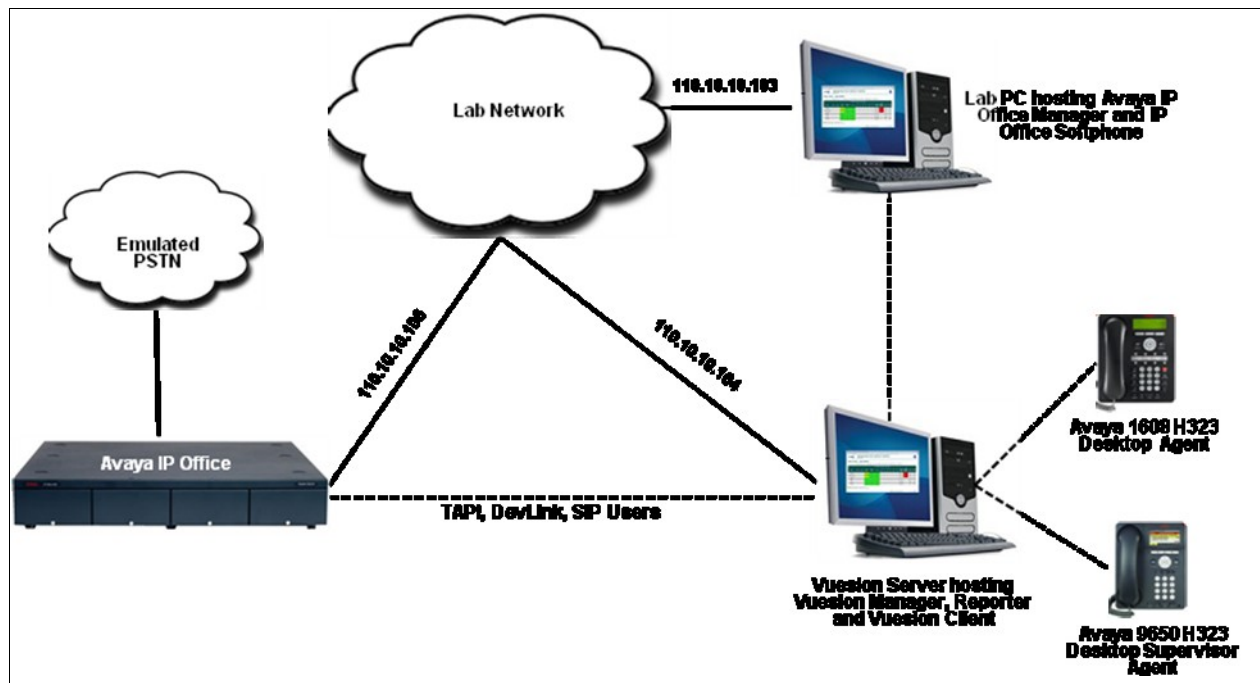
Figure 1: Compliance Test Lab Configuration

4. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office 500	8.0 (18)
Avaya IP Office Manager	10.0 (18)
Avaya 9650 IP Telephone (H.323)	3.186a
Avaya 1608 IP Telephone (H.323)	1.300B
Avaya IP Office Softphone (SIP)	3.2.3.15.64595
BBX Technologies Vuesion Server on Windows 2008 Server R2 Standard • Avaya TAPI (tspi2w.tsp) • Avaya DevLink (devlink.dll)	V7.03 1.0.0.35 1.0.0.5
BBX Technologies Vuesion Client	V7.03

5. Configure Avaya IP Office

This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

- Verify IP Office license
- Obtain LAN IP address
- Administer SIP Registrar
- Administer SIP extensions
- Administer SIP users
- Administer hunt groups
- Administer agents
- Administer supervisors
- Administer incoming call route
- Administer short code

5.1. Verify IP Office License

From a PC running the Avaya IP Office Manager application, select **Start → Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system, and log in with the appropriate credentials.

The **Avaya IP R8 Office Manager** screen is displayed. From the configuration tree in the left pane, select **License → 3rd Party IP End-points** to display the **3rd Party IP End-points** screen in the right pane. Verify that the **License Status** is "Valid".
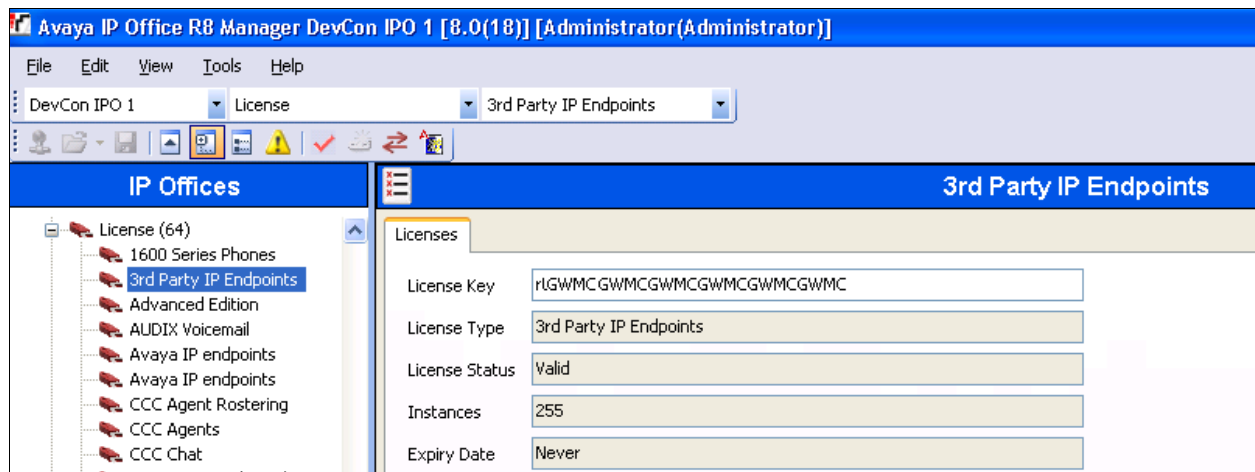
Scroll down the left pane and select **License → CTI Link Pro**, to display the **CTI Link Pro** screen in the right pane. Verify that the **License Status** is "Valid".
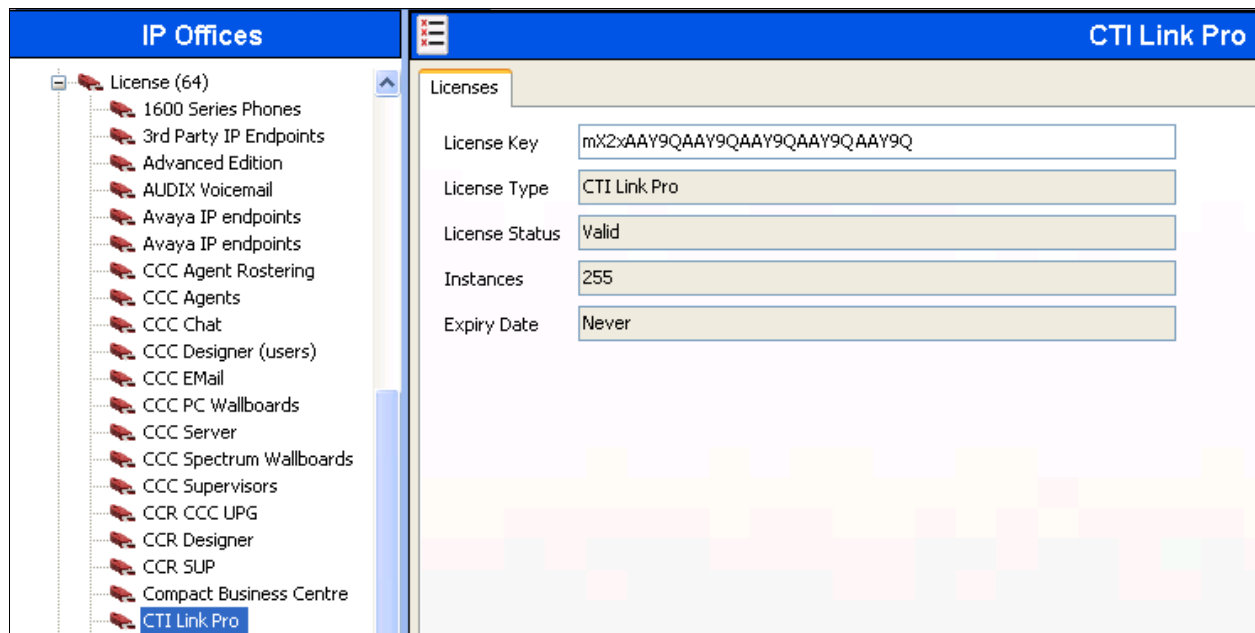
5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select **System** to display the **DevCon IPO 1** screen in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure Vuesion. Note that IP Office can support SIP on the LAN1 and/or LAN2 interfaces, and the compliance testing used the LAN1 interface.
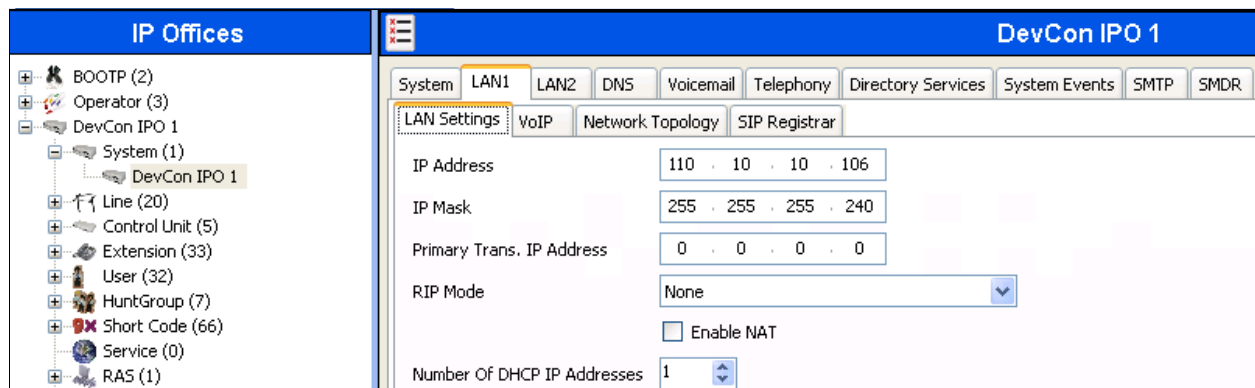
5.3. Administer SIP Registrar

Select the **VoIP** sub-tab. Make certain that **SIP Registrar Enable** is checked, as shown below. Retain default values for the remaining fields.
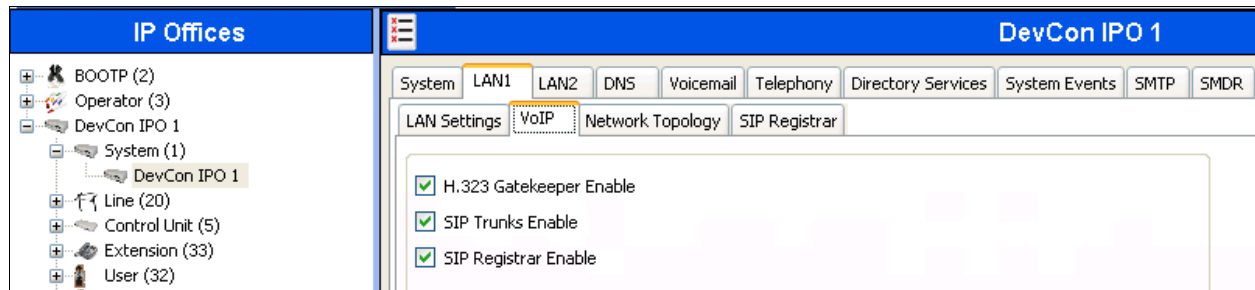
Select the **SIP Registrar** sub-tab, and enter a valid **Domain Name** for SIP endpoints to use for registration with IP Office. In the compliance testing, the **Domain Name** was left blank, so the LAN IP address was used for registration.
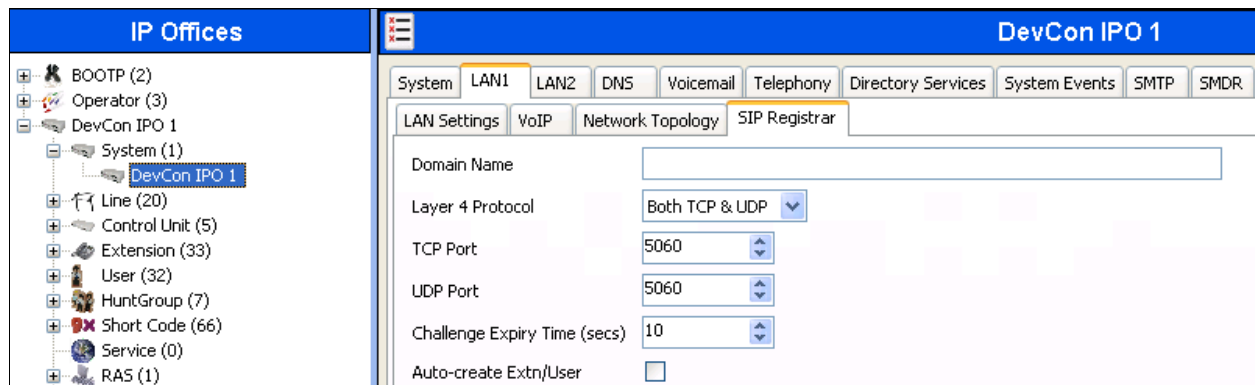
5.4. Administer SIP Extensions

From the configuration tree in the left pane, right-click on **Extension**, and select **New → SIP Extension** from the pop-up list to add a new SIP extension. Enter the desired digits for **Base Extension**, and retain the default values in the remaining fields. The screen below shows the added SIP extension.
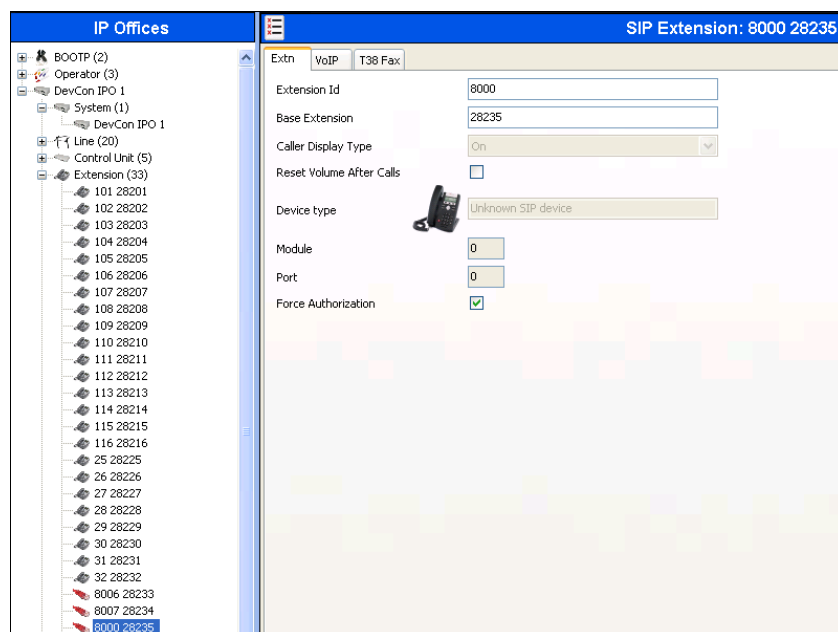
Select the **VoIP** tab. Check **Re-invite Supported**, and **Reserve 3rd party IP endpoint license**, as shown below. Uncheck **Allow Direct Media Path**. Select "Custom" from **Codec Selection** drop down box and move "G.729 (a) 8K CS-ACELP" to the **Selected** column. Retain the default values in the remaining fields.

Repeat this section to add the desired number of SIP extensions. In the compliance testing, five SIP extensions with base extensions of 28235-28239 were created.

RS; Reviewed:
SPOC 5/11/2012
Solution & Interoperability Test Lab Application Notes
©2012 Avaya Inc. All Rights Reserved.
10 of 48
IPO8VuesionClnt

Solution & Interoperability Test Lab Application Notes
©2012 Avaya Inc. All Rights Reserved.

5.5. Administer SIP Users

From the configuration tree in the left pane, right-click on **User**, and select **New** from the pop-up list. For **Name** and **Full Name**, enter the same desired value prefixed with "IVR", as required by Vuesion. For **Extension**, enter the first SIP base extension from **Section 5.4**. Retain the default values in the remaining fields. The screen below shows the added SIP user.

Select the **Voicemail** tab, and uncheck **Voicemail On**, as shown below.

Select the **Telephony** tab, followed by the **Supervisor Settings** sub-tab. Enter a desired **Login Code**.

Repeat this section to add a new user for each SIP extension from **Section 5.4**. In the compliance testing, five users with extensions of 28235-28239 were created.

5.6. Administer Hunt Groups

Administer three hunt groups for the following purposes:

- Main hunt group for delivering of incoming trunk calls to Vuesion.
- Monitor hunt group for supervisor monitoring of agents.
- Transfer hunt group for use by Vuesion for internal transfers.

5.6.1. Administer Main Hunt Group

From the configuration tree in the left pane, right-click on **HuntGroup** and select **New** from the pop-up list to add a new hunt group. This hunt group will be used to deliver incoming trunk calls to Vuesion.

Enter desired values for **Name** and **Extension**. For **Ring Mode**, select "Rotary" from the drop-down list. Retain the default values in the remaining fields

In the **User List** section, add the desired number of virtual SIP users from **Section 5.5** as members. In the compliance testing, 28235 to 28237 were added as members as shown below.

Select the **Voicemail** tab, and uncheck **Voicemail On**.

Select the **Queuing** tab, and uncheck **Queuing On**.

5.6.2. Administer Monitor Hunt Group

From the configuration tree in the left pane, right-click on **HuntGroup** and select **New** from the pop-up list to add a new hunt group. This hunt group will be used for supervisor monitoring of agents.

Enter desired values for **Name** and **Extension**, and retain the default values in the remaining fields.

Follow the procedures in **Section 5.6.1** to uncheck **Voicemail On**.

In the **User List** section, add the agent users as members. In the compliance testing, 28233, 28234 and 28240 were added as members as shown below.

5.6.3. Administer Transfer Hunt Group

From the configuration tree in the left pane, right-click on **HuntGroup** and select **New** from the pop-up list to add a new hunt group. This hunt group will be used by Vuesion for internal transfers.

Enter desired values for **Name** and **Extension**. For **Ring Mode**, select "Rotary" from the drop-down list. Retain the default values in the remaining fields.

In the **User List** section, add the desired number of virtual SIP users from **Section 5.5** as members. In the compliance testing, 28235 to 28237 were added as members as shown below.

Follow the procedures in **Section 5.6.1** to uncheck **Voicemail On** and **Queuing On**.

5.7. Administer Agents

From the configuration tree in the left pane, select the first agent user, in this case "28233".

Select the **Telephony** tab, followed by the **Supervisor Settings** sub-tab. Uncheck **Cannot be Intruded**, as shown below. If this agent needs to be monitored then select the required monitoring group from the **Monitor Group** drop down menu.

Repeat this section for all agent users.

5.8. Administer Supervisors

From the configuration tree in the left pane, select the first supervisor user that will be monitoring agents, in this case "28234".

Select the **Telephony** tab, followed by the **Supervisor Settings** sub-tab. For **Monitor Group**, select the Monitor hunt group from **Section 5.6.2**. Check **Can Intrude** and **Cannot be Intruded**.

Repeat this section for all supervisors that will be monitoring agents. In the compliance testing, one supervisor user with extension 28234 was configured, as shown below.

5.9. Administer Incoming Call Route

If necessary, create an incoming call route to route incoming calls to the Main hunt group. In the compliance testing, a SIP line "17" was created for incoming route

As shown in the screen below, the **Line Group ID** of "17" is selected.

In the **Destinations** tab, the use of "." in the **Destination** field enables the routing to reach all extensions in the IP Office.

If desired, the Main hunt group can be selected from the **Destination** drop-down to route all incoming trunk calls to Vuesion.

5.10. Administer Short Code

From the configuration tree in the left pane, right-click on **Short Code** and select **New** from the pop-up list to add a new short code for Outbound dialing.   Configure the fields as shown below in the right pane.

Note that the short code **9N;** was used during compliance testing for making outbound calls. Outbound calls were routed using **Line Group ID** "17", which is a SIP Line created on IP Office.

6. Configure BBX Technologies Vuesion Multimedia Contact Center

This section provides the procedures for configuring the Vuesion server. The procedures include the following areas:

- Administer TAPI driver.
- Administer Switch.txt.
- Stop service.
- Launch Vuesion Manager.
- Administer communication settings.
- Administer local extensions.
- Administer tenants.
- Administer VMAIL extensions.
- Administer queues sizing.
- Administer ACD members.
- Administer ACD groups.
- Start service.

The configuration of the Vuesion server is typically performed by BBX Technologies technicians. The procedural steps are presented in these Application Notes for informational purposes.

In addition to the shown procedural steps, the application also requires the auto attendant, and the class of service for the agents and supervisors be configured by following reference in **Section 9 [2]**.

6.1. Administer TAPI Driver

From the Vuesion server, select **Start → Control Panel**, and click on the **Phone and Modem** icon (not shown below). In the **Phone and Modem Options** screen, select the **Advanced** tab. Select the **Avaya IP Office TAPI2 Service Provider** entry, and click **Configure**.
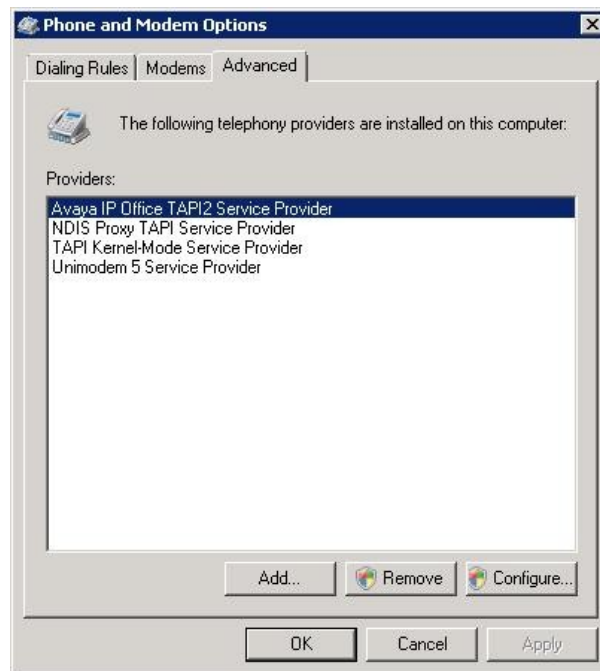

The **Avaya TAPI2 configuration** screen is displayed. For **Switch IP Address**, enter the IP address of Avaya IP Office. Select the radio button for **Third Party**, and enter the IP Office password into the **Switch Password** field. Reboot the Vuesion server.
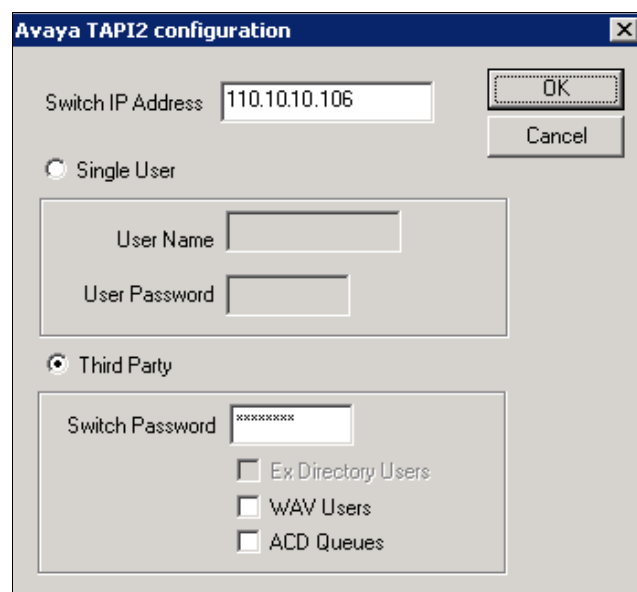
6.2. Administer Switch.txt

Navigate to the **C:\Program Files\BBX Technologies\Vuesion Server_C** directory to locate the **Switch** text file shown below.
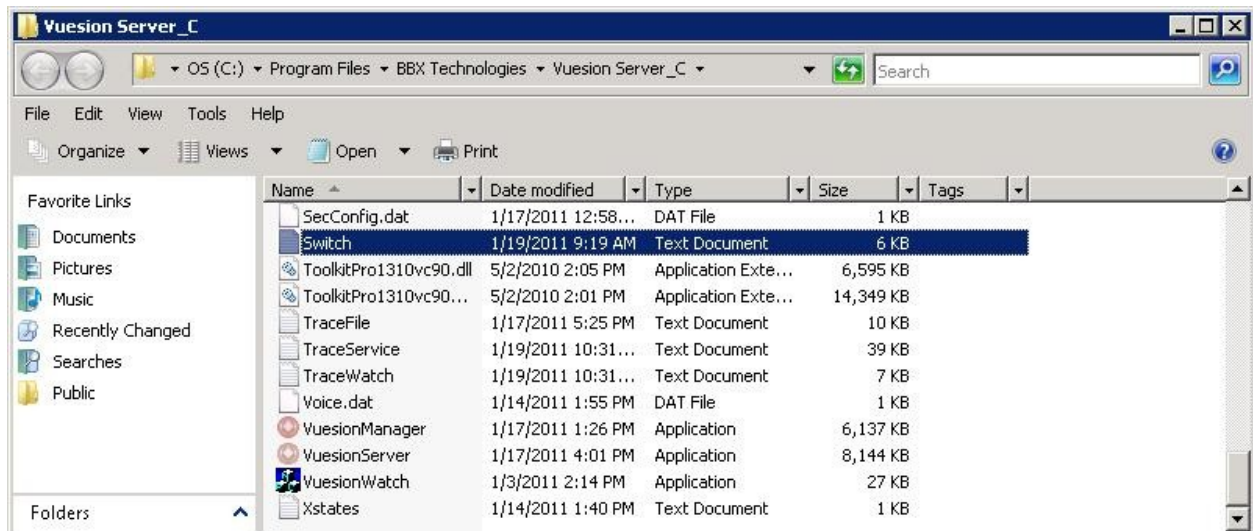
Open the **Switch** text file with the NotePad application. For **SIPPROXYADDRESS**, enter the IP address of IP Office from **Section 5.2**. For **SIPPROXYPORT**, enter the UDP port number from **Section 5.3**. For **SIPMYIPADDRESS**, enter the IP address of the local Ethernet interface used for connectivity with IP Office, in this case "110.10.10.104".
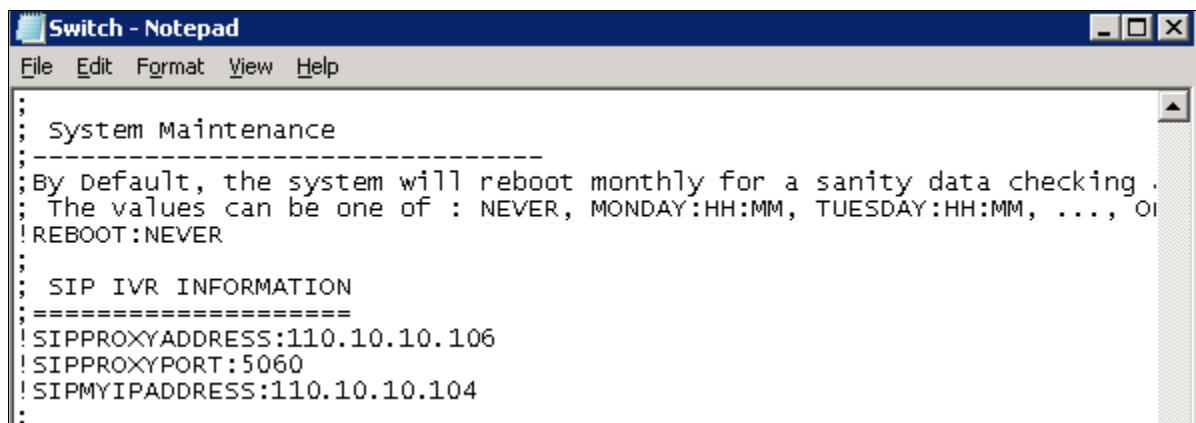
6.3. Stop Service

Select **Start → Control Panel → Administrative Tools → Services**, to display the **Services** screen. Navigate to the **Vuesion ServerC** entry, right-click on the entry and select **Stop**.
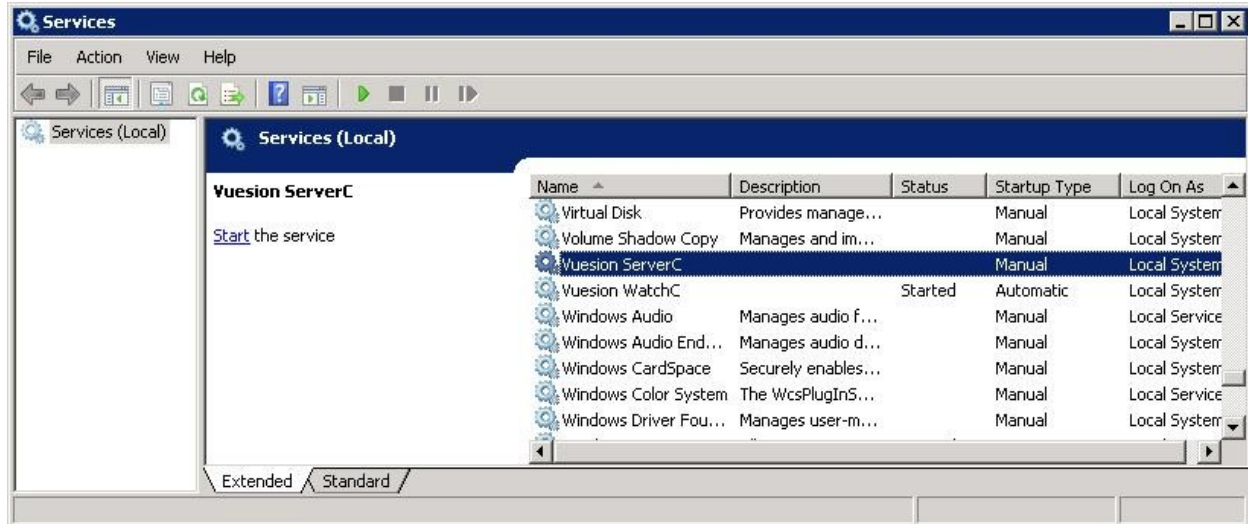
6.4. Launch Vuesion Manager

From the Vuesion server, double-click the **VuesionManager** icon shown on the desktop, which was created as part of installation.

RS; Reviewed:
SPOC 5/11/2012
Solution & Interoperability Test Lab Application Notes
©2012 Avaya Inc. All Rights Reserved.
25 of 48
IPO8VuesionClnt

6.5. Administer Communication Settings

The **Vuesion Manager** screen is displayed. Click on the icon in the top left corner, and select **Initial Communication Setup** from the drop-down list.
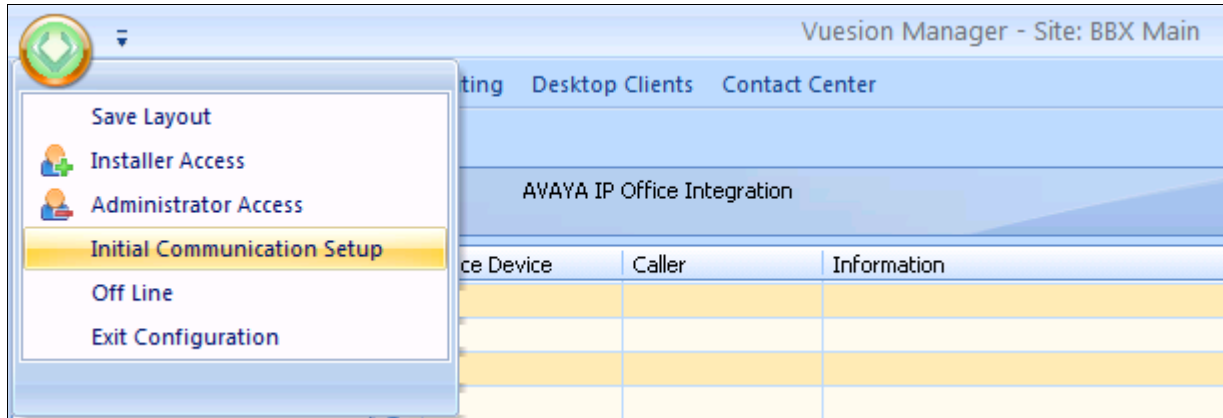
The **VuesionServer** dialog box is displayed, click **OK**

The **COMMUNICATION SETTINGS** screen is displayed next. Check **IP Enabled**. Enter the IP address and password for IP Office in **PBX IP Addr** and **PBX Password. IVR Pilot Number** should be a unique number and therefore use available extension numbers on IP Office. Retain the default values in the remaining fields.

6.6. Administer Local Extensions

The **Vuesion Manager** screen is displayed again. Select **Switch Setup → Local Extensions** from the left pane.

The **DIRECTORY CONFIGURATION** screen is displayed as shown below. Click on **Add** to start adding required agents, supervisors and hunt groups.

The **Extension Range Selection** screen is shown below where Local User Extensions can be added and if required a range can be provided too.

The screen below shows an entry for each agent user from **Section 5.7**, each supervisor user from **Section 5.8**, and for the Transfer hunt group from **Section 5.6.3**.

Update the **Full Name** field as desired, and retain the default values in the remaining fields. **Class of Service** can be set from the drop down menu depending on each user's requirement. Note that the port numbers are automatically assigned by the system subsequently.

6.7. Administer Tenants

From the **Vuesion Manager** screen, select **Messaging/IVR → Tenants** from the left pane.
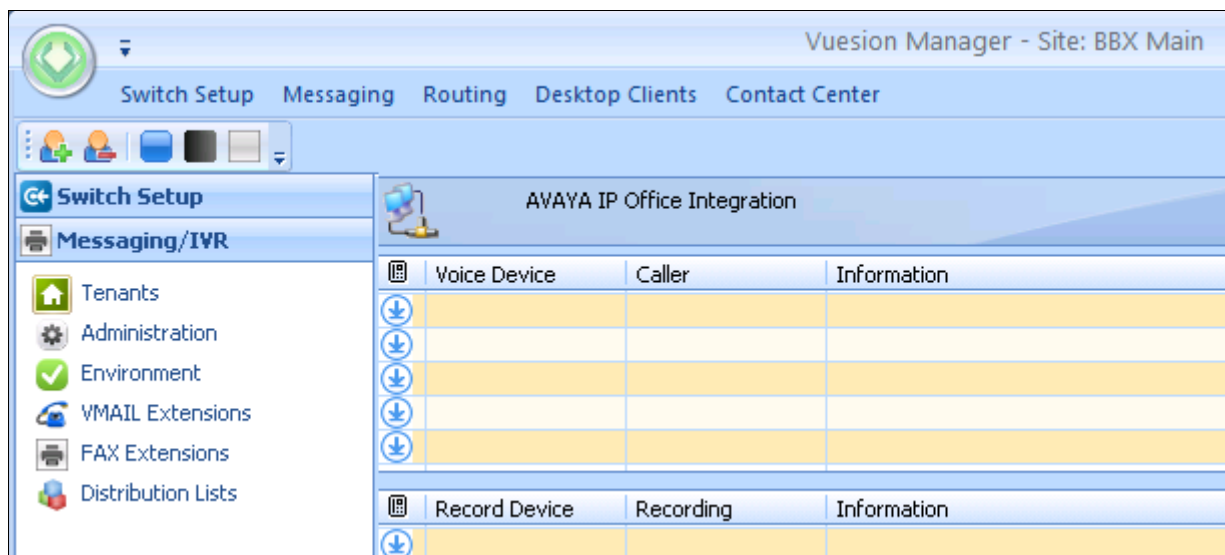
The **TENANTS/GROUPS** screen is displayed as shown below. Click on **Add Tenant**.

The **Tenants/Group** screen is shown as below. Create an entry for the Main hunt group from **Section 5.6.1**, as shown below.

For **Name**, enter the Main hunt group name from **Section 5.6.1**. For **ID** and **Password**, enter the Main hunt group extension from **Section 5.6.1**. Retain the default values in the remaining fields, and click **Edit Members**.

The **Selected Tenant** screen is displayed. Select the applicable entries in the **Available User List** section, and click the double-left-arrow to move the entries to the **Tenant/Group Members List** section, as shown in screen below. Click on **Save** to complete the selection.

6.8. Administer VMAIL Extensions

From the **Vuesion Manager** screen, select **Messaging/IVR → VMAIL Extensions** from the left pane.
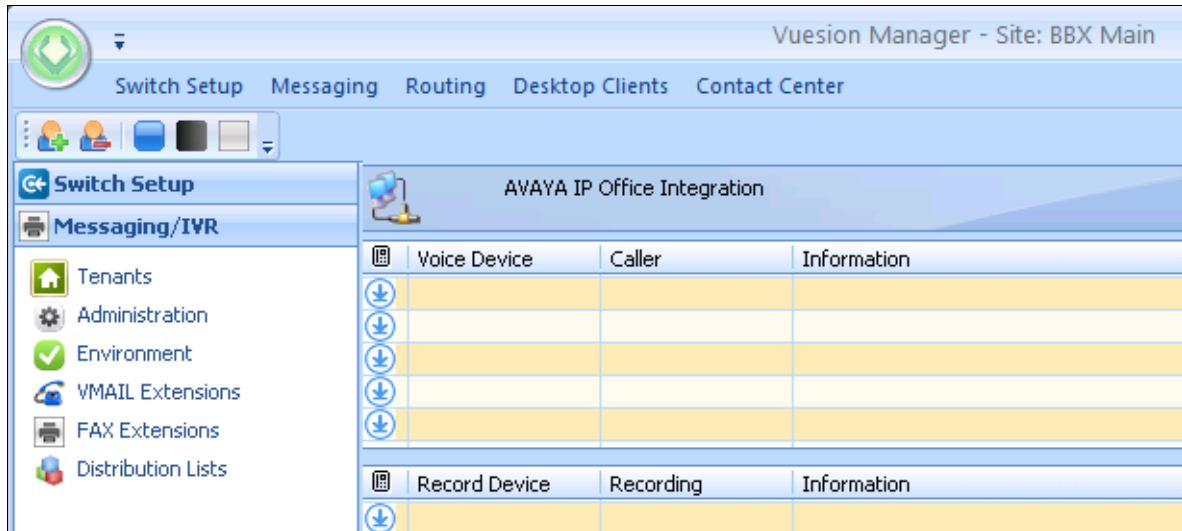
The **DIRECTORY CONFIGURATION** screen is displayed as shown below. Click on **Add** to start adding IVR Extensions.

The **Extension Range Selection** screen is shown below where IVR Extensions can be added and if required a range can be provided too.

The **DIRECTORY CONFIGURATION** screen is displayed with entry for each virtual SIP user from **Section 5.5**.

For **Full Name**, enter the SIP user name from **Section 5.5**. For **Password**, enter the SIP user login code from **Section 5.5**. Check **SIP IVR**. Retain the default values in the remaining fields. Note that the port numbers are automatically assigned by the system subsequently.

6.9. Administer Queues Sizing

From the **Vuesion Manager** screen, select **Contact Center** → **Queues Sizing** from the left pane.

The **DIRECTORY CONFIGURATION** screen is displayed. Click on **Add** to start adding Call Center Queue.

The **Extension Range Selection** screen is shown below where Call Center Queue numbers can be added and if required a range can be provided too.

Screen below shows the desired number of entries for queuing of incoming ACD calls used for compliance testing.

The **DN #** are used by Vuesion to park and unpark the queued calls on IP Office, therefore use available extension numbers on IP Office.

6.10. Administer ACD Members

From the **Vuesion Manager** screen shown in **Section 6.9**, select **Contact Center → ACD Members** from the left pane.

The **ACD Members** screen is displayed as shown below. Click on **Add** to start adding ACD Members.

Create an entry for each agent user from **Section 5.7**, and for each supervisor user from **Section 5.8**, as shown in screen below. Enter the desired **FullName**. For **Member ID**, enter a unique value for each agent and supervisor. The recommendation is to use available extension numbers on IP Office. For **Password**, enter desired values. In the compliance testing, the same values are used for member ID and password for simplicity. For **Type**, select "ACD Agent" for agents and "ACD Supervisor" for supervisors. For **Primary Group**, select the Transfer hunt group name from **Section 5.6.3**. For **Class**, select the appropriate class of service.

6.11. Administer ACD Groups

From the **Vuesion Manager** screen shown in **Section 6.9**, select **Contact Center → ACD Groups** from the left pane, to display the **SkillSets Administration** screen. Create an entry for the Transfer hunt group from **Section 5.6.3**, as shown below.

The **Voice Routing Options** section defines the parameters used for routing of ACD calls. The **Multimedia Contact Center Members Assignment** section defines the members and their skills level. The **Announcements** section defines the announcement treatments.

The screenshot below shows the values used in the compliance testing.

6.12. Start Service

Select **Start → Control Panel → Administrative Tools →Services,** to display the **Services** screen. Navigate to the **Vuesion ServerC** entry, right-click on the entry and select **Start**.
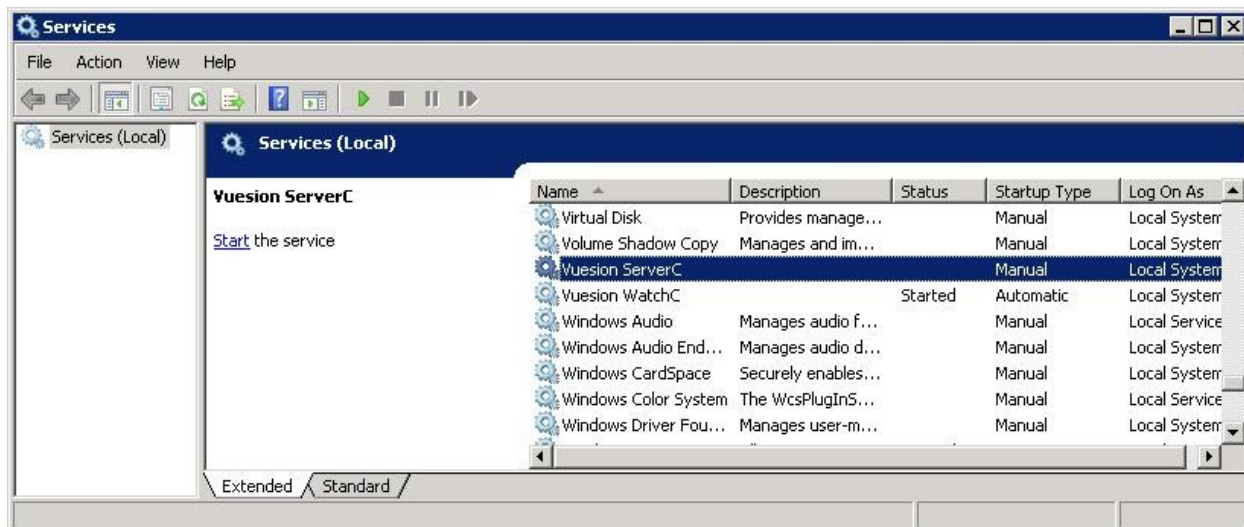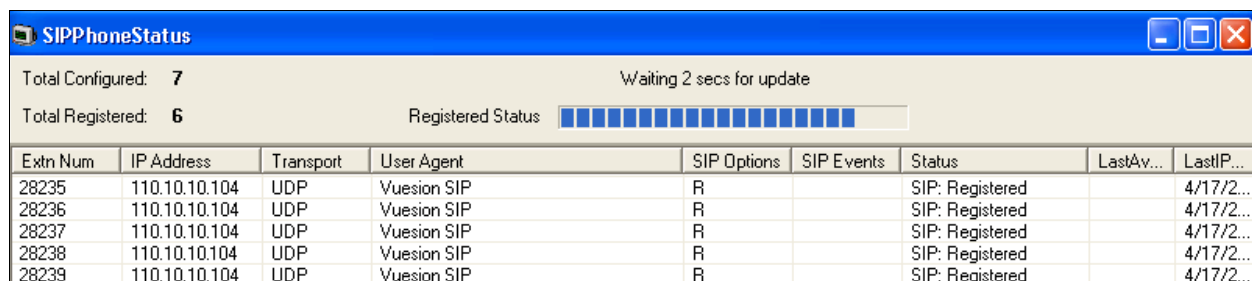
7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and BBX Technologies Vuesion Multimedia Contact Center Client's additional features.

7.1. Verify Avaya IP Office

From a PC running the Avaya IP Office Monitor application, select **Start → Programs → IP Office → Monitor** to launch the application. The **Avaya IP Office R8 SysMonitor** screen is displayed, as shown below. Select **Status → SIP Phone Status** from the top menu.

The **SIPPhoneStatus** screen is displayed. Verify that there is an entry for each virtual SIP user from **Section 5.5**, that the **User Agent** contains "Vuesion SIP", and that the **Status** is "SIP: Registered", as shown below.

RS; Reviewed:
SPOC 5/11/2012
Solution & Interoperability Test Lab Application Notes
©2012 Avaya Inc. All Rights Reserved.
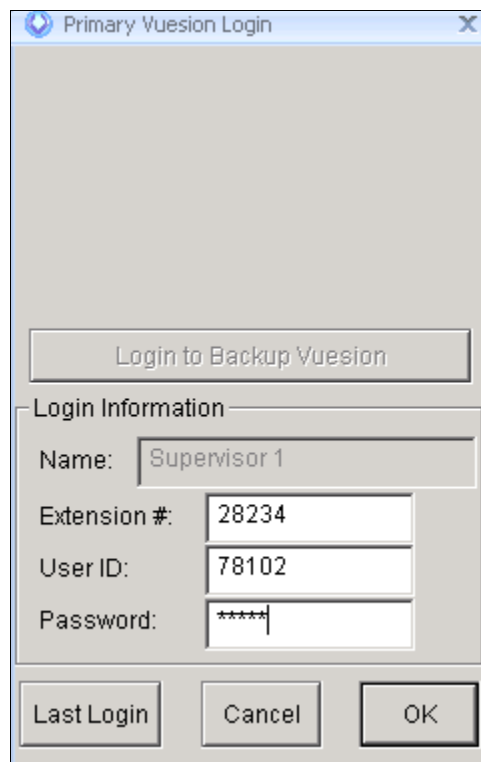42 of 48
IPO8VuesionClnt

7.2. Verify BBX Technologies Vuesion Multimedia Contact Center

From the agent user PC running Vuesion Client, double-click on the **VuesionClient** icon shown on the desktop, which was created as part of installation.

The **Vuesion User Login** screen is displayed. The screen shows the "Supervisor 1" **Login Information**.

For **Extension #**, enter the extension number of the supervisor from **Section 6.6**. For **User ID** and **Password**, enter the corresponding credentials for the supervisor from **Section 6.10**, as shown below. During compliance testing this client was run from the Vuesion server.

The **Vuesion** screen is displayed. Click on the **Login** icon from the left pane (not shown).

The screen is updated in the right pane, as shown below. Also top left of the screen shows the menu controls like Speed Dial List, Inbound/Outbound Call history, Dial Box etc.
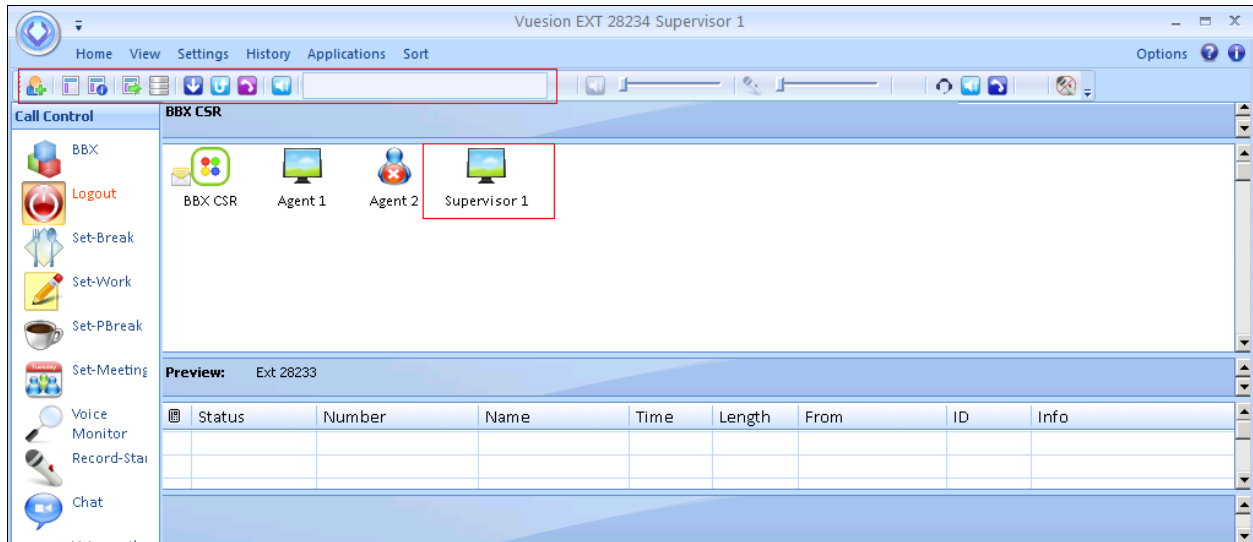
The screen below shows agents "28234" and "28233" using the Chat feature.
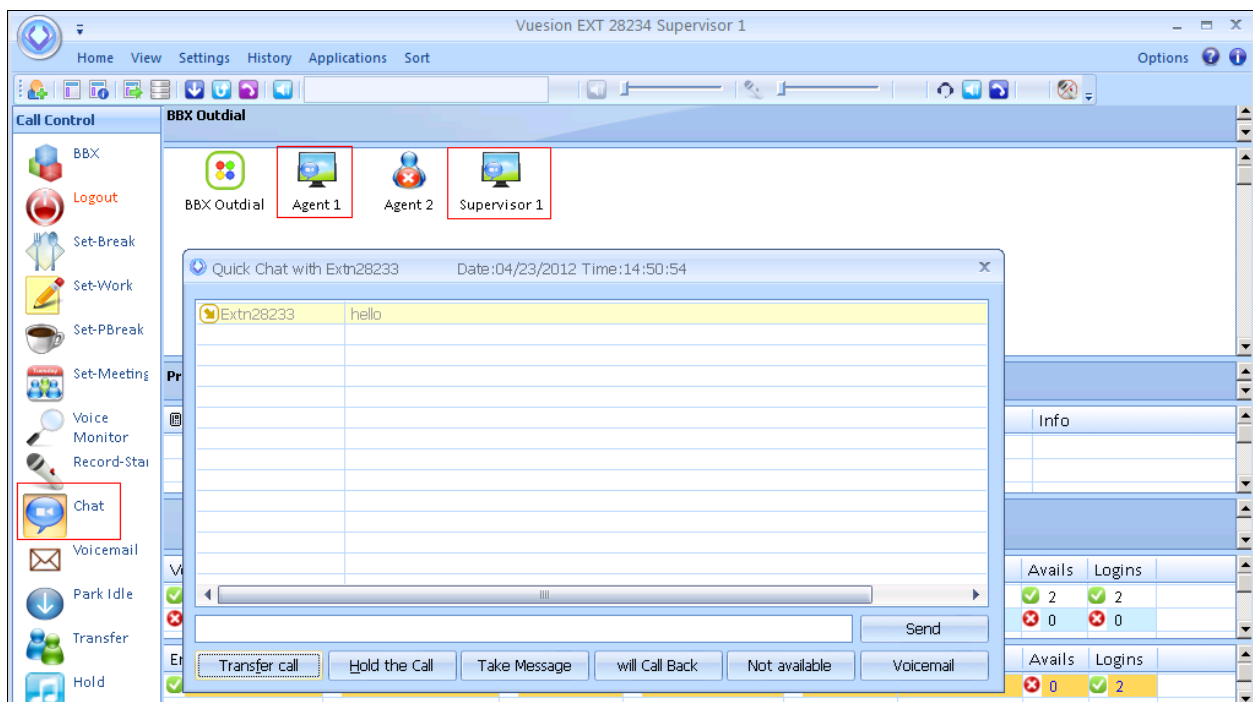
The screen below shows agent "28234" being configured to an Extended State, "On Vacation".

The screen below shows agent "28233" being able to see the Extended State of agent "28234".

Screen below shows the Marquee message being configured. Click on **Send Marquee** to send the message and on **Clear Marquee** to clear the message.

Screen below shows the Marquee message being displayed on agent "28233" desktop.

8. Conclusion

These Application Notes describe the configuration steps required for BBX Technologies Vuesion Multimedia Contact Center additional Client features to successfully interoperate with Avaya IP Office. All feature test cases were completed. Observations are noted in **Section 2.2.**

9. Additional References

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

1. *IP Office KnowledgeBase 8.0 Documentation CD,* December 2011, available at http://support.avaya.com.

2. *Vuesion Application Server Contact Center Configuration Guide*, available upon request to BBX Technologies Support.