



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Avaya one-X Mobile, Avaya AP-8, Avaya SIP Enablement Services and Avaya Communication Manager – Issue 1.0

Abstract

These Application Notes describes the procedures for configuring Avaya one-X Mobile, Avaya AP-8 with Avaya SIP Enablement Services (SES) and Avaya Communication Manager.

Avaya one-X Mobile provides Avaya Communication Manager SIP feature functionality to a supported set of dual-mode cellular phones. The release of Avaya one-X Mobile referenced in these Application Notes supports the Nokia E60, E61 and E71 S60 3rd Edition Dual Mode smart phones. The testing focused on the use of the Avaya one-X Mobile as a WiFi SIP endpoint on a customer enterprise. No cellular functionality or hand-off testing was performed.

1. Introduction

These Application Notes describes the procedures for configuring Avaya one-X Mobile, Avaya AP-8 with Avaya SIP Enablement Services (SES) and Avaya Communication Manager.

Avaya one-X Mobile provides Avaya Communication Manager SIP feature functionality to a supported set of dual-mode cellular phones. The release of Avaya one-X Mobile referenced in these Application Notes supports the Nokia E60, E61 and E71 S60 3rd Edition Dual Mode smart phones. The testing focused on the use of the Avaya one-X Mobile as a SIP endpoint on a customer enterprise. No cellular functionality or hand-off testing was performed.

These Application Notes complement the product documentation by providing a concrete example of the configuration procedures of the Avaya one-X Mobile as a WiFi SIP endpoint in the network configuration shown in **Figure 1**.

1.1. Configuration

Figure 1 illustrates the test configuration. The test configuration shows an enterprise site with an Avaya SES and an Avaya G700 Media Gateway with an Avaya S8300 Server running Avaya Communication Manager. Both devices are connected to the corporate LAN. Also connected to the LAN is an Avaya AP-8 wireless access point through which the Avaya one-X Mobile running on the Nokia E61 Dual-Mode phone accesses the corporate network. For simplicity, the wireless LAN was configured as an open network without encryption or authentication.

Other endpoints on the enterprise include two Avaya 4600 Series IP Telephones (with SIP firmware), Avaya 4600 Series IP Telephones (with H323 firmware), an Avaya one-X Desktop Edition, an Avaya 6408D Digital Telephone, and an Avaya 6210 Analog Telephone. An ISDN-PRI trunk connects the media gateway to the PSTN. Two PSTN numbers assigned to the ISDN-PRI trunk at the site is mapped to a local telephone extensions.

The TFTP server shown in **Figure 1** provides the settings file for the Avaya SIP Telephones.

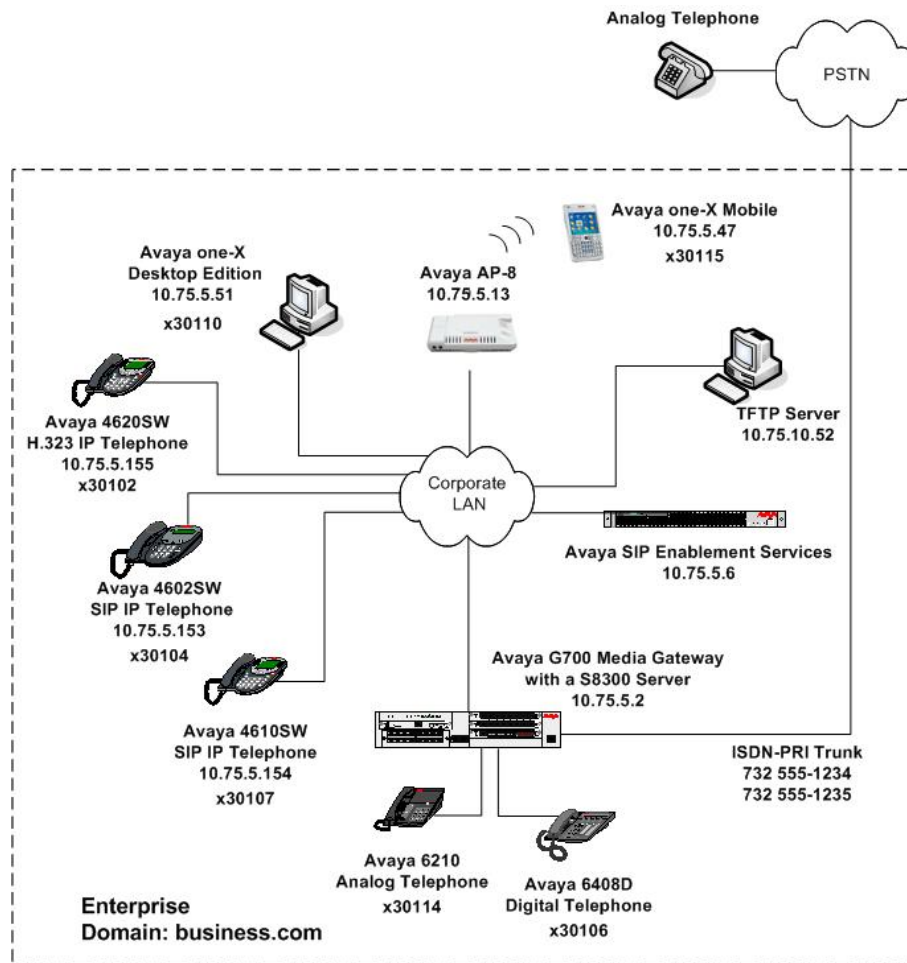


Figure 1: Avaya one-X Mobile Test Configuration

2. Equipment and Software Validated

The following equipment and software/firmware were used for the sample configuration provided.

Equipment	Software/Firmware
Avaya S8300 Server with Avaya G700 Media Gateway	Avaya Communication Manager 4.0 Service Pack (R014x.00.0.730.5-13566) with Avaya IA 770 Intuity Audix
Avaya SIP Enablement Services (SES)	3.1.2
Avaya AP-8	v2.5.2
Avaya one-X Mobile Nokia E61	4.2 FW 3.0633.09.04
Avaya 4602SW IP Telephone Avaya 4610SW IP Telephones Avaya 4620SW IP Telephones	SIP version 2.2.2
Avaya one-X Desktop Edition	2.1 SP1 (Build 70) (Windows XP Professional)
Avaya 6408D Digital Telephone	-
Avaya 6210 Analog Telephone	-
Analog Telephone	-
Windows PC (TFTP Server)	Windows XP Professional

Table 1: Equipment Used

3. Configure Avaya Communication Manager

This section describes the Avaya Communication Manager configuration. It assumes the procedures necessary to support SIP have been performed as described in [3]. This includes the configuration of a SIP trunk to Avaya SES. It also assumes that an off-PBX station (OPS) has been configured on Avaya Communication Manager for each SIP endpoint in the configuration (other than the Avaya one-X Mobile endpoint) as described in [3] and [4]. This section will describe the configuration of the off-PBX station on Avaya Communication Manager associated with the Avaya one-X Mobile.

The configuration of Avaya Communication Manager was performed using the System Access Terminal (SAT). After the completion of the configuration in this section, perform a **save translation** command to make the changes permanent.

The testing used a single IP region which contained the Avaya S8300 Server, Avaya SES and all the IP endpoints. Direct IP-IP audio (also known as media shuffling) was enabled for both inter-region and intra region calls. The authoritative domain was set to business.com. The codec set chosen for this region contained G.711MU and G.729AB.

Step	Description
1.	<p>Create a station on Avaya Communication Manager to be used by Avaya one-X Mobile. To do this, use the add station n command, where n is an unused extension to be added. Set the Type field to 4620. Enter an X in the Port field. This indicates a station is being added without identifying a physical port for the station to use. Enter a descriptive name in the Name field. The default values may be retained for all other fields.</p> <pre data-bbox="316 436 1382 1003"> add station 30115 Page 1 of 5 STATION Extension: 30115 Lock Messages? n BCC: 0 Type: 4620 Security Code: TN: 1 Port: X Coverage Path 1: 1 COR: 1 Name: Otto Coverage Path 2: COS: 1 Hunt-to Station: STATION OPTIONS Loss Group: 19 Time of Day Lock Table: Speakerphone: 2-way Personalized Ringing Pattern: 1 Display Language: english Message Lamp Ext: 30115 Survivable GK Node Name: Mute Button Enabled? y Survivable COR: internal Expansion Module? n Survivable Trunk Dest? y Media Complex Ext: IP SoftPhone? n Customizable Labels? y </pre>
2.	<p>On Page 2, set the Restrict Last Appearance field to n. This will allow the last call appearance to be available for both incoming and outgoing calls.</p> <pre data-bbox="316 1157 1382 1696"> add station 30115 Page 2 of 5 STATION FEATURE OPTIONS LWC Reception: spe Auto Select Any Idle Appearance? n LWC Activation? y Coverage Msg Retrieval? y LWC Log External Calls? n Auto Answer: none CDR Privacy? n Data Restriction? n Redirect Notification? y Idle Appearance Preference? n Per Button Ring Control? n Bridged Idle Line Preference? n Bridged Call Alerting? y Restrict Last Appearance? n Active Station Ringing: single EMU Login Allowed? n H.320 Conversion? n Per Station CPN - Send Calling Number? Service Link Mode: as-needed Multimedia Mode: enhanced MWI Served User Type: qsig-mwi Display Client Redirection? n Select Last Used Appearance? n Coverage After Forwarding? s Direct IP-IP Audio Connections? y Emergency Location Ext: 30115 Always Use? n IP Audio Hairpinning? n </pre>

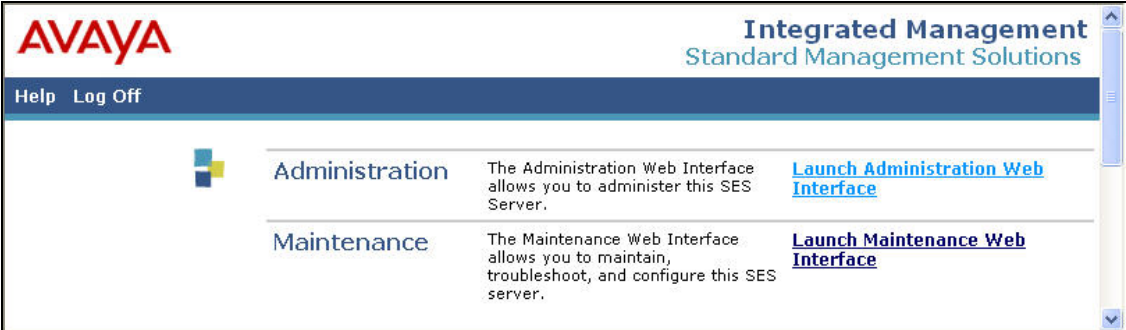
Step	Description
3.	<p data-bbox="313 184 1425 363">On Page 3, under BUTTON ASSIGNMENTS enter the number of <i>call-appr</i> buttons that match the number of call appearances supported by Avaya one-X Mobile. In addition, some features require the configuration of feature buttons for the feature to function. This includes the two examples shown below: No Hold Conference (<i>no-hld-cnf</i>) and Automatic Call Back (<i>auto-cback</i>).</p> <div data-bbox="313 401 1385 909" style="border: 1px solid black; padding: 10px;"> <pre data-bbox="332 415 1347 892"> add station 30115 Page 4 of 5 STATION SITE DATA Room: Headset? n Jack: Speaker? n Cable: Mounting: d Floor: Cord Length: 0 Building: Set Color: ABBREVIATED DIALING List1: List2: List3: BUTTON ASSIGNMENTS 1: call-appr 5: no-hld-cnf 2: call-appr 6: auto-cback 3: call-appr 7: 4: 8: </pre> </div>


Step	Description																												
4.	<p>Map the Avaya Communication Manager extension to the Avaya SES media server extension defined in Section 4, Step 5 with the add off-pbx-telephone station-mapping command. Enter the values as shown below:</p> <ul style="list-style-type: none"> ▪ Station Extension: Avaya Communication Manager extension ▪ Application: <i>PVFMC</i> ▪ Phone Number: Avaya SES media server extension ▪ Trunk Selection: The SIP trunk group number ▪ Configuration Set: Enter a valid configuration set. Configuration set 1 contains the default values. <p>A second mapping is required to map the Avaya Communication Manager extension to the Avaya one-X Mobile cell phone number. An example of this mapping is shown below even though cellular access was not checked as part of the testing.</p> <ul style="list-style-type: none"> ▪ Station Extension: Avaya Communication Manager extension ▪ Application: <i>PVFMC</i> ▪ Phone Number: Avaya SES media server extension ▪ Trunk Selection: The SIP trunk group number ▪ Configuration Set: Enter a valid configuration set. Configuration set 1 contains the default values. <div data-bbox="316 989 1385 1304" style="border: 1px solid black; padding: 5px;"> <pre>add off-pbx-telephone station-mapping 30115 Page 1 of 2 STATIONS WITH OFF-PBX TELEPHONE INTEGRATION</pre> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Station Extension</th> <th style="text-align: left;">Application</th> <th style="text-align: left;">Dial Prefix</th> <th style="text-align: left;">CC</th> <th style="text-align: left;">Phone Number</th> <th style="text-align: left;">Trunk Selection</th> <th style="text-align: left;">Config Set</th> </tr> </thead> <tbody> <tr> <td>30115</td> <td>PVFMC</td> <td>-</td> <td>-</td> <td>30115</td> <td>1</td> <td>1</td> </tr> <tr> <td>30115</td> <td>PBFMC</td> <td>-</td> <td>-</td> <td>17325552999</td> <td>ars</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>-</td> <td>-</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> </div>	Station Extension	Application	Dial Prefix	CC	Phone Number	Trunk Selection	Config Set	30115	PVFMC	-	-	30115	1	1	30115	PBFMC	-	-	17325552999	ars	1			-	-			
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5.	<p>On Page 2, set the Call Limit of the PVFMC mapping to the number of WiFi call appearances supported on the Avaya one-X Mobile (same as used in Step 3). Set the Call Limit of the PBFMC mapping to the number of cellular call appearances supported on the Avaya one-X Mobile. This may be different than the number supported for WiFi. Verify that the Mapping Mode is set to <i>both</i>.</p> <div data-bbox="316 1566 1385 1833" style="border: 1px solid black; padding: 5px;"> <pre>add off-pbx-telephone station-mapping 30115 Page 2 of 2 STATIONS WITH OFF-PBX TELEPHONE INTEGRATION</pre> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Station Extension</th> <th style="text-align: left;">Call Limit</th> <th style="text-align: left;">Mapping Mode</th> <th style="text-align: left;">Calls Allowed</th> <th style="text-align: left;">Bridged Calls</th> </tr> </thead> <tbody> <tr> <td>30115</td> <td>3</td> <td>both</td> <td>all</td> <td>both</td> </tr> <tr> <td>30115</td> <td>2</td> <td>both</td> <td>all</td> <td>both</td> </tr> </tbody> </table> </div>	Station Extension	Call Limit	Mapping Mode	Calls Allowed	Bridged Calls	30115	3	both	all	both	30115	2	both	all	both													
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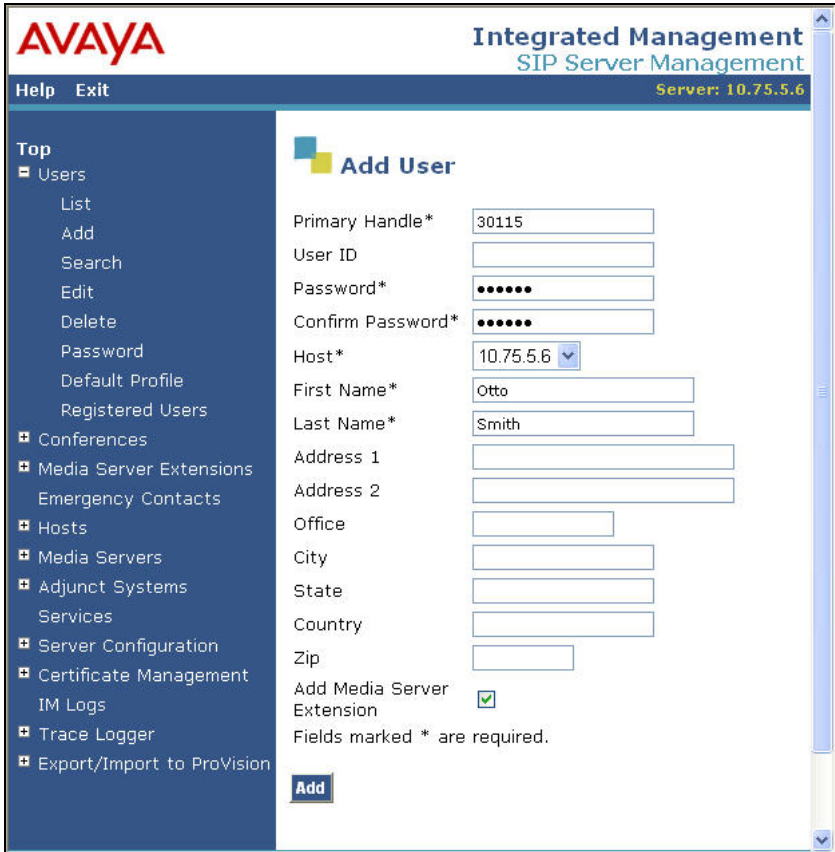
4. Configure Avaya SES


This section covers the configuration of Avaya SES. Avaya SES is configured via an Internet browser using the administration web interface. It is assumed that the Avaya SES software and the license file have already been installed on the server. During the software installation, an installation script is run from the Linux shell of the server to specify the IP network properties of the server along with other parameters. In addition, it is assumed that the **Setup** screens of the administration web interface have been used to initially configure Avaya SES. For additional information on these installation tasks, refer to [5].

Avaya SES was configured as a combined home/edge server. Each SIP endpoint used in the testing required that a user and media server extension be created on Avaya SES. The procedure below shows the configuration necessary for the Avaya one-X Mobile. However, the procedure is the same for any SIP endpoint.

Step	Description
1.	<p>Access the Avaya SES administration web interface by entering <a href="http://<ip-addr>/admin">http://<ip-addr>/admin as the URL in an Internet browser, where <ip-addr> is the IP address of the Avaya SES server.</p> <p>Log in with the appropriate credentials and then select the Launch Administration Web Interface link from the main page as shown below.</p> 


Step	Description
2.	<p>The Avaya SES Top page will be displayed as shown below.</p> <p>If any changes are made within Avaya SES, an Update link appears in the bottom of the blue navigation bar on the left side of the Avaya SES administration pages. It is necessary to click this link to commit the pending changes to the database.</p> 
3.	<p>As part of the Avaya SES installation and initial configuration procedures, the following parameters were defined. Although these procedures are out of the scope of these Application Notes, the values used in the compliance test are shown below for reference. After each parameter is a brief description of how to view the value from the Avaya SES administration home page shown in the previous step.</p> <ul style="list-style-type: none"> • SIP Domain: <i>business.com</i> (To view, navigate to Server Configuration→System Parameters) • Host (SES IP address): <i>10.75.5.6</i> (To view, navigate to Host→List; Click Edit) • Media Server (Avaya Communication Manager) Interface Name: <i>CMeast</i> (To view, navigate to Media Server→List; Click Edit) • SIP Trunk IP Address (Avaya S8300 Server IP address): <i>10.75.5.2</i> (To view, navigate to Media Server→List; Click Edit)


Step	Description
4.	<p>A user must be added on Avaya SES for Avaya one-X Mobile. From the left pane, navigate to Users → Add. Enter the values as shown below.</p> <ul style="list-style-type: none"> ▪ Primary Handle: Enter the extension for this user. This should match the Phone Number shown used in the PVFMC mapping in Section 3, Step 4. ▪ Password: Enter a valid password for logging into the SIP endpoint. ▪ Confirm Password: Re-enter the password. ▪ Host: Select the Avaya SES server address from the pull-down menu. ▪ First Name: Any descriptive name. ▪ Last Name: Any descriptive name. <p>Check the Add Media Server Extension checkbox. Click the Add button to proceed. A confirmation window will appear. Click Continue on this new page to proceed.</p> 


Step	Description
5.	<p>The Add Media Server Extension page will appear. In the Extension field, enter the same extension used in the previous step. In the Media Server field, select from the pull-down menu the name of the media server mentioned in Step 3.</p> <p>Click the Add button to complete the operation.</p> 

5. Configure Avaya AP-8

This section covers the configuration of the Avaya AP-8 wireless access point. It assumes the Avaya AP-8 has been initially configured with an IP address using the ScanTool utility. After which, the Avaya AP-8 is configured via an Internet browser. For details on the use of the ScanTool utility, see [8].

Step	Description
1.	<p>Access the Avaya AP-8 web interface by entering http://ip-addr as the URL in an Internet browser, where <i>ip-addr</i> is the IP address of the Avaya AP-8.</p> <p>Log in with the appropriate credentials. The main page will appear as shown below.</p>  <p>The screenshot shows the Avaya AP-8 web interface. On the left is a navigation menu with buttons for Status, Configure, Monitor, Commands, Help, and Exit. The main content area is titled 'Status' and displays 'System Status' for 'Avaya AP-8 v2.5.2(894) SN-06UT07570198 v3.1.0'. It lists system information: IP Address (10.75.5.13), System Name (Avaya-AP-8-5e-75-6f), System Location (System Location), and Up Time (29:01:28:14). It also lists contact information: Contact Name, Contact Phone, Contact Email (name@Organization.com), and Object ID (1.3.6.1.4.1.11898.2.4.12). Below this is the 'System Alarms' section, which includes a warning that the table displays SNMP Traps and that they should be deleted after review. The table has columns for Description, Severity, and Time Stamp. It lists three informational alarms: 'AP Cold Started', 'Link Up.', and 'Link Up.', all with a time stamp of '0 days 0 hrs 0 m 12 s' or '20 s'. There are 'Select All', 'Deselect All', and 'Delete' buttons for the alarm table.</p>

Step	Description
2.	<p>The initial network settings can be viewed by clicking the Configure button in the left pane, followed by selecting the Network tab, followed by selected the IP Configuration tab.</p>  <p>The screenshot shows the Avaya web interface for network configuration. The left sidebar contains buttons for Status, Configure, Monitor, Commands, Help, and Exit. The main content area has a top navigation bar with tabs for Alarms, Bridge, QoS, RADIUS Profiles, and SSID/VLAN/Security. Below this is a secondary navigation bar with tabs for System, Network, Interfaces, Management, and Filtering. The 'Network' tab is active, and within it, the 'IP Configuration' sub-tab is selected. The IP Configuration page includes a descriptive paragraph, a note about rebooting, and several input fields: IP Address Assignment Type (Static), IP Address (10.75.5.13), Subnet Mask (255.255.255.0), Gateway IP Address (10.75.5.1), Enable DNS Client (checkbox), DNS Primary Server IP Address (0.0.0.0), DNS Secondary Server IP Address (0.0.0.0), DNS Client Default Domain Name, and Default TTL (Time To Live) (64). OK and Cancel buttons are at the bottom.</p>

Step	Description
3.	<p>The Avaya AP-8 can support two wireless networks: Wireless A (802.11a) or Wireless B (802.11bg). Avaya one-X Mobile will use the Wireless B network. A Network Name or SSID must be defined for this network. To do this, select the Configure button in the left pane. Navigate to the Interfaces→Wireless-B tab. Enter a text string in the Network Name (SSID) field. Default values can be used for all other fields.</p> 

6. Configure Avaya one-X Mobile

This section covers the configuration of Avaya one-X Mobile. Some of the following steps are order dependent. Care should be taken to perform these steps in the order shown. In addition, even if the phone is to be used only as a WiFi phone, a SIM card must be installed for proper configuration and operation. A SIM card is provided by the cellular service provider when cellular service is purchased.

Step	Description
1.	<p>Configure a WLAN access point profile on the Nokia phone. To create and configure a new profile perform the following:</p> <ul style="list-style-type: none"> ▪ Press the Menu button. ▪ Navigate to Tools→Settings→Connection→Access Points. ▪ Select the Options soft button and navigate to New access point→Use default settings. <p>The example below shows the WLAN access point profile settings used for testing. Default values can be used for all other fields.</p> <ul style="list-style-type: none"> ▪ Connection Name: <i>TestRm15</i> This name will appear in the list of access points to identify the profile. ▪ Data bearer: <i>Wireless LAN</i> ▪ WLAN netw. name: <i>tim</i> This name must match the SSID configured in the Avaya AP-8 in Section 5, Step 3. ▪ Network status: <i>Public</i> ▪ WLAN netw. mode: <i>Infrastructure</i> ▪ WLAN security mode: <i>Open network</i> For simplicity, the wireless network was configured as an open network without encryption and authorization. More secure network options could also be used. ▪ Click the Options soft button. Navigate to Advanced Settings→IPv4 settings. DHCP or static IP addressing may be used. The settings below show the use of a static IP address. These settings were used for the testing. Default values can be used for all other parameters. <ul style="list-style-type: none"> ○ Phone IP address: <i>10.75.5.47</i> ○ Subnet mask: <i>255.255.255.0</i> ○ Default gateway: <i>10.75.5.1</i> ▪ Click the Back soft button twice to exit the sub-menus. <p>Click the Back soft button to exit the access point profile.</p>
2.	<p>Download the Avaya one-X Mobile software from http://support.avaya.com to a local PC containing the Nokia PC Suite software. The Nokia PC Suite software is available from http://www.nokia.co.uk. Install the Avaya one-X Mobile software on the Nokia phone using the Nokia PC Suite software. For more information on installing Avaya one-X Mobile refer to [7].</p>

Step	Description
3.	<p>Create and download an Avaya one-X Mobile configuration file with the name settings.1me. This file contains parameters relating to the dialing plan, SIP profile and feature name extensions (FNEs) that are mapped to Avaya one-X Mobile feature menus. The file is downloaded to the Nokia phone using the Nokia PC Suite software. For more details on file syntax, available parameters, and download procedures, see [7]. The complete configuration file used for testing is shown in Appendix A.</p> <p>All parameter values defined in the configuration file must match the corresponding values on Avaya Communication Manager and/or Avaya SES. The values shown below were used for testing.</p> <p>A value must be assigned to the following parameters in the configuration file.</p> <pre> DID_PREFIX = +1555789; INTERNATIONAL_DIRECT_DIAL_PREFIX = 011; NATIONAL_DIRECT_DIAL_PREFIX = 1; HOME_COUNTRY_DIAL_CODE = +1; ARS_CODE = 9; EXTENSION_LENGTH = 5; NATIONAL_NUMBER_LENGTH = 10; USERS_EMERGENCY_NUMBERS = 911; SETTINGS_PIN = 1234; </pre> <p>At a minimum, a value must also be assigned to the following FNEs for dual-mode operation.</p> <pre> ACTIVE_APPEARANCE_SELECT = 32001; HELD_APPEARANCE_SELECT = 32017; IDLE_APPEARANCE_SELECT = 32018; OFF_PBX_DISABLE = 32023; OFF_PBX_ENABLE = 32022; </pre> <p>Optionally, values used for defining the SIP profile for the Avaya one-X Mobile can be set in the configuration file or by using the procedures in Step 4. Even if the SIP profile is defined in the configuration file, the edit procedures in Step 4 must be used to edit the profile and set the Default access point to the WLAN access point profile created in Step 1 (TestRm15).</p> <pre> [SIP_PROFILE] SIP_PROFILE_NAME = TR15sip; SIP_DOMAIN = business.com; SIP_SERVER_IP_ADDR = 10.75.5.6; SIP_SERVER_PORT = 5060; SIP_USERNAME = 30115; SIP_PASSWORD = 123456; CM_PRINCIPLE = 30115; [/SIP_PROFILE] </pre>

Step	Description
4.	<p>If the SIP profile was not defined in the settings.1me file, then it can be defined using the following procedure. The SIP profile must be created from within Avaya one-X Mobile and not through the Nokia device settings. Avaya one-X Mobile is not aware of profiles created directly via the Nokia Tools→Settings menus.</p> <p>To create a SIP profile from the Avaya one-X Mobile menus:</p> <ul style="list-style-type: none"> ▪ Start Avaya one-X Mobile. ▪ Click the Menu soft button. ▪ Navigate to Settings→Options and enter the PIN number to access these functions. Click the OK soft button. ▪ Select the WiFi tab along the top of the display. ▪ Click the Menu soft button and select Create New Profile. ▪ Enter a unique name for this profile. Click the OK soft button. This profile will now appear in a list of profiles and will contain default values. ▪ The profile can be modified by highlighting the profile name, clicking the Options soft button and selecting Edit. <p>The example below shows the SIP profile settings used for testing. Default values can be used for all other fields.</p> <ul style="list-style-type: none"> ▪ Profile Name: <i>TR15sip</i> ▪ Service Profile: <i>IETF</i> (default) ▪ Default access point: <i>TestRm15</i> This is the WLAN access point created in Step 1. ▪ Public user name: <i>sip:30115@business.com</i> ▪ Use compression: <i>No</i> (default) ▪ Registration: <i>Always On</i> ▪ Use security: <i>No</i> (default) ▪ Proxy Server: <ul style="list-style-type: none"> ○ Proxy server address: <i>sip:10.75.5.6</i> The IP address of Avaya SES. ○ Realm: <i>business.com</i> The SIP domain of Avaya SES. ○ User name: <i>30115</i> Avaya SES user name. ○ Password: <i>123456</i> Avaya SES user password. ○ Allow loose routing: <i>Yes</i> (default) ○ Transport type: <i>TCP</i> ○ Port: <i>5060</i> ▪ Registrar Server: <ul style="list-style-type: none"> ○ Registrar serv. addr.: <i>sip:10.75.5.6</i> The IP address of Avaya SES. ○ Realm: <i>business.com</i> The SIP domain of Avaya SES. ○ User name: <i>30115</i> Avaya SES user name. ○ Password: <i>123456</i> Avaya SES user password. ○ Allow loose routing: <i>Yes</i> (default) ○ Transport type: <i>TCP</i> ○ Port: <i>5060</i>

Step	Description
5.	<p>Configure an Internet telephone settings profile on the Nokia phone. To create and configure a new profile perform the following:</p> <ul style="list-style-type: none"> ▪ Press the Menu button. ▪ Navigate to Tools→Settings→Connection→Internet tel. settings. ▪ Select the Options soft button and navigate to New profile. <p>The example below shows the Internet telephone settings used for testing.</p> <ul style="list-style-type: none"> ▪ Name: <i>Internet1</i> This name will appear in the list of Internet telephone settings profiles to identify the profile. ▪ SIP profiles: <i>TR15sip</i> This value must be the name of the SIP profile that was created in Step 3 or 4. <p>Click the Back soft button to exit the Internet telephone settings profile.</p>
6.	<p>Set the Default Call Type to Internet (SIP). To set this parameter perform the following:</p> <ul style="list-style-type: none"> ▪ Press the Menu button. ▪ Navigate to Tools→Settings→Call. <p>The example below shows call settings used for testing. Default values can be used for all other fields.</p> <ul style="list-style-type: none"> ▪ Internet call waiting: <i>Activated</i> ▪ Internal call alert: <i>on</i> ▪ Default call type: <i>Internet</i> <p>Click the Back soft button to exit the call settings.</p>
7.	<p>Set the Dual-Mode Network Mode. To set this parameter perform the following:</p> <ul style="list-style-type: none"> ▪ Start Avaya one-X Mobile. ▪ Press the Menu soft button. ▪ Navigate to Settings→Options and enter the PIN number to access these functions. Click the OK soft button. ▪ Select the General tab along the top of the display. ▪ Set the Mode parameter to <i>WiFi 1st</i>. <p>Click the Back soft button to exit Settings→Options menu.</p>

7. Verification Steps

The following steps may be used to verify the configuration.

Step	Description
1.	Verify that the Avaya one-X Mobile had acquired the wireless access point. This is indicated by an icon in the upper right corner of the display comprised of four connected squares. If the squares are filled in (solid), then the device has locked on to the access point. If the squares are not filled in (open), then the device is not locked on.
2.	Verify that the Avaya one-X Mobile has registered with Avaya SES. To verify the current registration state on the Avaya one-X Mobile: <ul style="list-style-type: none">▪ Press the Menu button on the Nokia phone.▪ Navigate to Tools→Settings→Connection→SIP settings.▪ A list of profiles is shown with the current registration state. Verify that the profile created in Step 3 or 4 is shown as Registered. To verify the registration on Avaya SES: <ul style="list-style-type: none">▪ Log in to the Avaya SES web administration interface as described in Section 4, Step 1.▪ Navigate to Users→Registered Users. Verify that the Avaya one-X user name (30115) is registered with the IP address assigned to the Nokia phone in Section 6, Step 1 (10.75.5.47).
3.	Verify that calls can be made to/from Avaya one-x Mobile to SIP and non-SIP endpoints on the enterprise.
4.	Verify that inbound/outbound calls can be made from Avaya one-X Mobile and the PSTN.
5.	Verify that the Avaya one-X Mobile telephony feature menus invoke the corresponding FNEs defined in the settings.lme file.
6.	Verify that calls to Avaya one-X Mobile can cover to voicemail and that messages may be retrieved. However, a message waiting indicator (MWI) is not supported.

8. Troubleshooting

This section provides troubleshooting tips for common problems.

- If the Avaya one-X Mobile does not lock to the wireless access point, verify that the **Network Name/SSID** is configured the same on the Avaya one-X Mobile and the Avaya AP-8 wireless access point. If the problem persists, the Avaya one-X Mobile should be power cycled to ensure

that the device is using the correct settings from any recent changes. It has also been observed that it may take a couple of minutes before the Avaya one-X Mobile locks on to the access point.

- If the Avaya one-X Mobile does not register with the Avaya SES, verify the SIP settings on the Avaya one-X Mobile (**Section 6, Step 3 or 4**) with the corresponding settings on the Avaya SES. In particular, verify the **Proxy server address, Registrar serv. addr., Realm, User name and Password**. If the problem persists, use a LAN sniffer or Avaya SES traces to determine the reason for the registration failure.

9. Conclusion

These Application Notes describe the procedures required to configure Avaya one-X Mobile to operate as a WiFi SIP endpoint using the Avaya AP-8 wireless access point with Avaya SIP Enablement Services and Avaya Communication Manager.

10. Additional References

- [1] *Feature Description and Implementation For Avaya Communication Manager*, Doc # 555-245-205, Issue 5.0, February 2007.
- [2] *Administrator Guide for Avaya Communication Manager*, Doc # 03-300509, Issue 3.1, February 2007.
- [3] *SIP support in Avaya Communication Manager Running on the Avaya S8300, S8400, S8500 Series and S8700 Series Media Server*, Doc # 555-245-206, Issue 6.1, March 2007.
- [4] *Avaya Extension to Cellular and Off-PBX Station (OPS) Installation and Administration Guide Release 3.0*, version 6.0, Doc # 210-100-500, Issue 9, June 2005
- [5] *Installing and Administering SIP Enablement Services*, Doc # 03-600768, Issue 4, May 2007.
- [6] *Avaya IA 770 INTUITY AUDIX Messaging Application*, Doc # 11-300532, May 2005.
- [7] *Avaya one-X Mobile for S60 3rd Edition Dual Mode Installation and Administration Guide, Release 4.1*, Doc # 16-601939, Issue 1, April 2007.
- [8] *Avaya AP-8 User's Guide*, Release 2.5.2, October 2004.

Product documentation for Avaya products may be found at <http://support.avaya.com>.

Appendix A: Avaya one-X Mobile Configuration File

Included below is the Avaya one-X Mobile configuration file (settings.1me) used during testing.

```
DID_PREFIX = +1555789;
INTERNATIONAL_DIRECT_DIAL_PREFIX = 011;
NATIONAL_DIRECT_DIAL_PREFIX = 1;
HOME_COUNTRY_DIAL_CODE = +1;
ARS_CODE = 9;
EXTENSION_LENGTH = 5;
NATIONAL_NUMBER_LENGTH = 10;
USERS_EMERGENCY_NUMBERS = 911;
SETTINGS_PIN = 1234;
ENBLOC_DIALING = 0;

SPEECH_ACCESS_NUMBER = ;
ACTIVE_APPEARANCE_SELECT = 32001;
AUTO_CALL_BACK_TOGGLE = 32002;
CALL_FORWARDING_ALL_ACTIVATION = 32004;
CALL_FORWARDING_BUSY_NO_ANSWER_ACTIVATION = 32005;
CALL_FORWARDING_DISABLE = 32006;
CALLING_PARTY_NUMBER_BLOCK = ;
CALLING_PARTY_NUMBER_UNBLOCK = ;
CALL_PARK = 32007;
CALL_PICKUP_DIRECTED = 32013;
CALL_PICKUP_GROUP = 32009;
CALL_PICKUP_GROUP_EXTENDED = ;
CALL_UNPARK = 32008;
CONFERENCE_ON_ANSWER = 32010;
DROP_LAST_ADDED_PARTY = 32014;
EXCLUSION = ;
HELD_APPEARANCE_SELECT = 32017;
IDLE_APPEARANCE_SELECT = 32018;
OFF_PBX_DISABLE = 32023;
OFF_PBX_ENABLE = 32022;
SEND_ALL_CALLS_DISABLE = 32031;
SEND_ALL_CALLS_ENABLE = 32030;
TRANSFER_TO_COVERAGE = 32027;
TRANSFER_ON_HANGUP = 32026;

SUB_MENU_NAME = More Stuff;
<Voice Mail> = 39000;
<Conference Bridge> = +15553331234;

[SIP_PROFILE]
SIP_PROFILE_NAME = TR15sip;
SIP_DOMAIN = business.com;
SIP_SERVER_IP_ADDR = 10.75.5.6;
SIP_SERVER_PORT = 5060;
SIP_USERNAME = 30115;
SIP_PASSWORD = 123456;
CM_PRINCIPLE = 30115;
[/SIP_PROFILE]
```

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