



## **Configuring ISDN-PRI connectivity between Avaya Communication Manager and the Avaya Meeting Exchange S6100 Conferencing Server - Issue 1.0**

### **Abstract**

These Application Notes present the procedures for configuring ISDN-PRI connectivity between Avaya Communication Manager and the Avaya Meeting Exchange S6100 Conferencing Server. ISDN-PRI connectivity is enabled via utilization of an AudioCodes TP-260/SIP Media Gateway. This configuration leverages the flexibility offered by Avaya Communication Manager to support a rich set of conferencing options provided by Avaya Meeting Exchange.

# 1. Introduction

These Application Notes present the procedures for configuring ISDN-PRI connectivity between Avaya Communication Manager and the Avaya Meeting Exchange S6100 Conferencing Server. ISDN-PRI connectivity is enabled via utilization of an AudioCodes TP-260/SIP Media Gateway. In this configuration, the AudioCodes Media Gateway is connected to Avaya Communication Manager via ISDN-PRI and Avaya Meeting Exchange via SIP.

This configuration leverages the inherent flexibility of protocols supported on Avaya Communication Manager by enabling any station or trunk type associated with Avaya Communication Manager to interoperate with Avaya Meeting Exchange. Thus, this configuration will allow access to a rich selection of conferencing features supported on Avaya Meeting Exchange.

The following call flows for accessing a conference on Avaya Meeting Exchange have been verified:

- DirectCallFlow; where conference participants Dial-In and enter a conference as moderator, without entering a passcode.
- BasicCallFlow; where conference participants Dial-In and enter a conference via passcode.

The following features have been verified for adding participants to an active conference:

- Blast Dial; where a moderator on a conference call can enter a feature access code (e.g., \*9, see Section 6 Step 6.2) to Dial-Out to a pre-provisioned list of one or more participants. The participants have the option of joining the conference call.
- Originator Dial-Out; where a moderator on a conference call can Dial-Out and add a participant to the conference call.

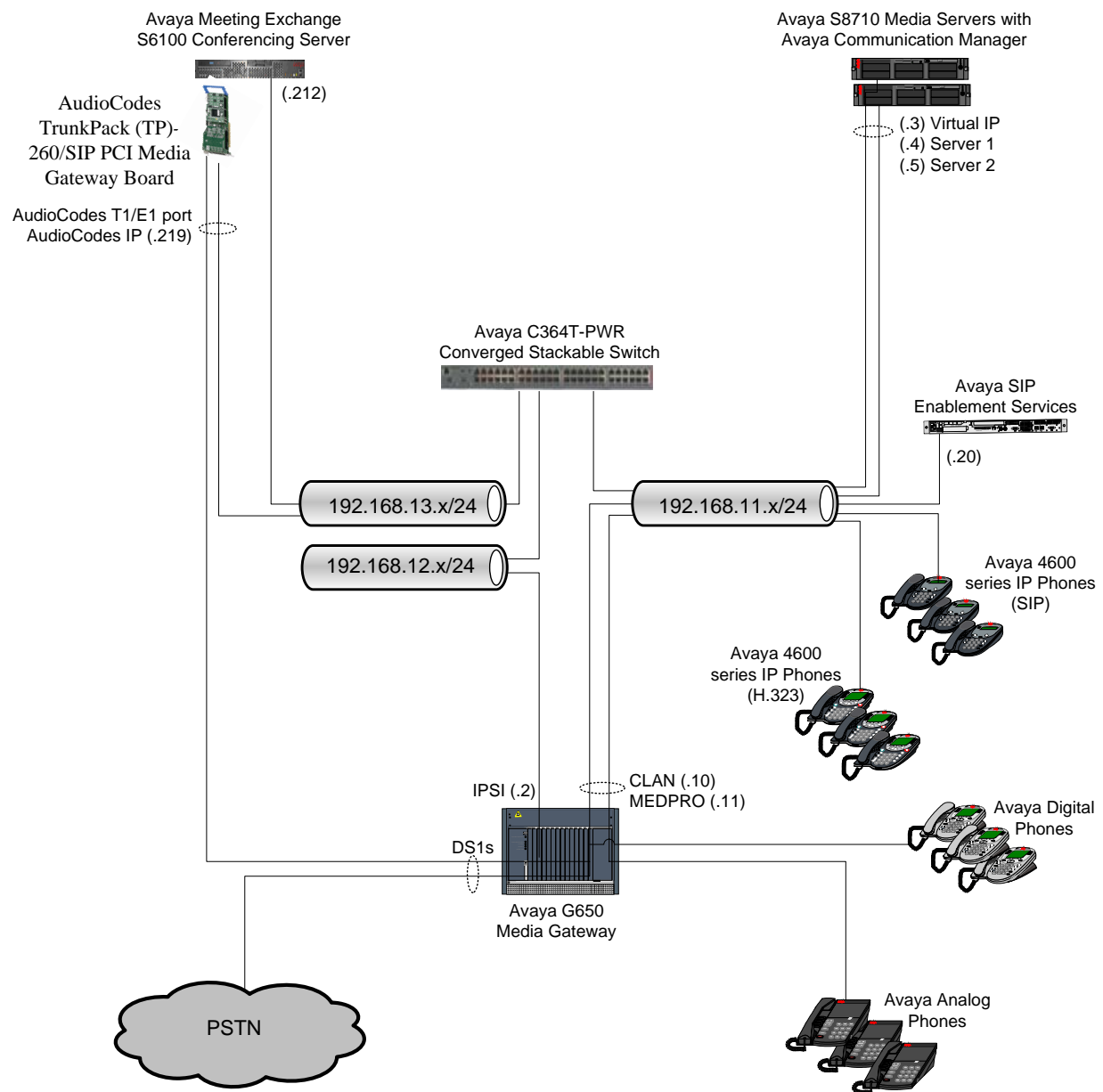
Note the convention for Dial-In/Dial-Out assigns Avaya Meeting Exchange as the point of reference; e.g., *Dial-In to Avaya Meeting Exchange*, *Dial-Out from Avaya Meeting Exchange*.

These Application Notes will provide the administrative steps for configuring the following equipment in support of the configuration depicted in **Figure 1**:

- Avaya Communication Manager
- Avaya Meeting Exchange
- AudioCodes Media Gateway, which is plugged into the PCI slot on the Avaya Meeting Exchange server (for power only) and functions as a SIP/ISDN-PRI media gateway.

The connectivity from Avaya Communication Manager to Avaya Meeting Exchange is provided by AudioCodes Media Gateway. Avaya Communication Manager is directly connected to the AudioCodes Media Gateway via an ISDN-PRI trunk, and Avaya Meeting Exchange is directly connected to the AudioCodes Media Gateway via a SIP trunk.

**Note:** In this configuration, Avaya SIP Enablement Services is strictly utilized for registering SIP endpoints.



**Figure 1: Network Configuration**

## 2. Equipment and Software Validated

The following equipment and software versions were used for the configuration:

Equipment	Software
Avaya S8710 Media Servers	Avaya Communication Manager 3.1 (R013x.01.0.628.6)
Avaya G650 Media Gateway <ul style="list-style-type: none"><li>• Avaya TN2312BP (IPSI)</li><li>• Avaya TN799DP (C-LAN)</li><li>• Avaya TN2302AP (MEDPRO)</li><li>• Avaya TN464F (DS1)</li></ul>	HW12 FW031 HW01 FW017 HW20 FW112 000010
Avaya Meeting Exchange S6100 Conferencing Server <ul style="list-style-type: none"><li>• AudioCodes TrunkPack (TP)-260/SIP PCI Media Gateway Board</li></ul>	2.0.22.2 V4.40.240.454
Avaya SIP Enablement Services	3.1 (03.1-03.1.018.0)
Avaya C364T-PWR Converged Stackable Switch	V4.5.14
Avaya 4620 IP Telephones	2.3 (H.323)
Avaya 4602 IP Telephones	2.2 (SIP)
Avaya Analog Telephones	--
Avaya Digital Telephones	--

**Table 1: Hardware and Software Versions**

### 3. Avaya Communication Manager Configuration

This section describes the steps for configuring Avaya Communication Manager to interoperate with the AudioCodes Media Gateway via ISDN-PRI connectivity (see **Figure 1**).

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

Step	Description
3.1	<p>Verify licensing for <b>OPTIONAL FEATURES</b></p> <p>Issue the command “<b>display system-parameters customer-options</b>”, and proceed to Page 3 and verify that the system is licensed to utilize Automatic Alternate Routing (<b>AAR</b>) without Feature Access Code (<b>FAC</b>).</p> <p><b>Note:</b> <b>AAR</b> without <b>FAC</b> allows a direct access to the <b>AAR ANALYSIS TABLE</b> (see <b>Step 3.10</b>) upon matching a <b>Dialed String</b> in the <b>DIAL PLAN ANALYSIS TABLE</b> (see <b>Step 3.9</b>).</p> <pre> Page 3 of 10                                  OPTIONAL FEATURES  Abbreviated Dialing Enhanced List? n          Audible Message Waiting? n Access Security Gateway (ASG)? n              Authorization Codes? n Analog Trunk Incoming Call ID? n Backup Cluster Automatic Takeover? n A/D Grp/Sys List Dialing Start at 01? n      CAS Branch? n Answer Supervision by Call Classifier? n      CAS Main? n ARS? y   Change COR by FAC? n ARS/AAR Partitioning? y Computer Telephony Adjunct Links? n <b>ARS/AAR Dialing without FAC? y</b> Cvg Of Calls Redirected Off-net? n ASAI Link Core Capabilities? n                DCS (Basic)? n ASAI Link Plus Capabilities? n                DCS Call Coverage? n Async. Transfer Mode (ATM) PNC? n             DCS with Rerouting? n Async. Transfer Mode (ATM) Trunking? n ATM WAN Spare Processor? n                    Digital Loss Plan Modification? n ATMS? n                                       DS1 MSP? n Attendant Vectoring? n                      DS1 Echo Cancellation? n  (NOTE: You must logoff &amp; login to effect the permission changes.) </pre>

Step	Description																																	
3.2	Proceed to Page 4 on the <b>OPTIONAL FEATURES</b> form and verify: <ul style="list-style-type: none"><li>The system is licensed for <b>ISDN-PRI</b>.</li></ul>																																	
	<div>Page 4 of 10</div> <div>OPTIONAL FEATURES</div> <table><tr><td>Emergency Access to Attendant? y</td><td>IP Stations? y</td></tr><tr><td>Enable 'dadmin' Login? y</td><td>Internet Protocol (IP) PNC? n</td></tr><tr><td>Enhanced Conferencing? y</td><td>ISDN Feature Plus? n</td></tr><tr><td>Enhanced EC500? y</td><td>ISDN Network Call Redirection? n</td></tr><tr><td>Enterprise Survivable Server? n</td><td>ISDN-BRI Trunks? n</td></tr><tr><td>Enterprise Wide Licensing? n</td><td><b>ISDN-PRI? y</b></td></tr><tr><td>ESS Administration? n</td><td>Local Survivable Processor? n</td></tr><tr><td>Extended Cvg/Fwd Admin? n</td><td>Malicious Call Trace? n</td></tr><tr><td>External Device Alarm Admin? n</td><td>Media Encryption Over IP? n</td></tr><tr><td>Five Port Networks Max Per MCC? n</td><td>Mode Code for Centralized Voice Mail? n</td></tr><tr><td>Flexible Billing? n</td><td></td></tr><tr><td>Forced Entry of Account Codes? n</td><td>Multifrequency Signaling? y</td></tr><tr><td>Global Call Classification? n</td><td>Multimedia Appl. Server Interface (MASI)? n</td></tr><tr><td>Hospitality (Basic)? y</td><td>Multimedia Call Handling (Basic)? y</td></tr><tr><td>Hospitality (G3V3 Enhancements)? n</td><td>Multimedia Call Handling (Enhanced)? y</td></tr><tr><td>IP Trunks? y</td><td></td></tr><tr><td>IP Attendant Consoles? n</td><td></td></tr></table> <div>(NOTE: You must logoff &amp; login to effect the permission changes.)</div>	Emergency Access to Attendant? y	IP Stations? y	Enable 'dadmin' Login? y	Internet Protocol (IP) PNC? n	Enhanced Conferencing? y	ISDN Feature Plus? n	Enhanced EC500? y	ISDN Network Call Redirection? n	Enterprise Survivable Server? n	ISDN-BRI Trunks? n	Enterprise Wide Licensing? n	<b>ISDN-PRI? y</b>	ESS Administration? n	Local Survivable Processor? n	Extended Cvg/Fwd Admin? n	Malicious Call Trace? n	External Device Alarm Admin? n	Media Encryption Over IP? n	Five Port Networks Max Per MCC? n	Mode Code for Centralized Voice Mail? n	Flexible Billing? n		Forced Entry of Account Codes? n	Multifrequency Signaling? y	Global Call Classification? n	Multimedia Appl. Server Interface (MASI)? n	Hospitality (Basic)? y	Multimedia Call Handling (Basic)? y	Hospitality (G3V3 Enhancements)? n	Multimedia Call Handling (Enhanced)? y	IP Trunks? y		IP Attendant Consoles? n
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3.3	Proceed to Page 8 on the <b>OPTIONAL FEATURES</b> form and verify: <ul style="list-style-type: none"><li>The system is licensed for <b>QSIG</b>.</li></ul>																																	
	<div>Page 8 of 10</div> <div>QSIG OPTIONAL FEATURES</div> <table><tr><td><b>Basic Call Setup? y</b></td></tr><tr><td><b>Basic Supplementary Services? y</b></td></tr><tr><td>Centralized Attendant? n</td></tr><tr><td>Interworking with DCS? n</td></tr><tr><td>Supplementary Services with Rerouting? n</td></tr><tr><td>Transfer into QSIG Voice Mail? n</td></tr><tr><td>Value-Added (VALU)? n</td></tr></table>	<b>Basic Call Setup? y</b>	<b>Basic Supplementary Services? y</b>	Centralized Attendant? n	Interworking with DCS? n	Supplementary Services with Rerouting? n	Transfer into QSIG Voice Mail? n	Value-Added (VALU)? n																										
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Step	Description
3.4	<p>Configure a <b>DS1 CIRCUIT PACK</b>.</p> <p>Place a DS1 Board in cabinet <b>Location: 1A08</b>. Issue the command “<b>add ds1 1a08</b>”; and administer settings as per below.</p> <p><b>Note:</b> The <b>Peer Protocol</b> is configured as <b>Q-SIG</b>. The QSIG protocol is based on the ISDN Q.931 standard and provides transparent support for supplementary PBX services between Avaya Communication Manager and AudioCodes Media Gateway.</p> <hr/> <div> <div>Page 1 of 2</div> <div> DS1 CIRCUIT PACK <div> <div>Location: 01A08</div> <div>Bit Rate: 1.544</div> <div>Line Compensation: 1</div> <div>Signaling Mode: isdn-pri</div> <div>Connect: pbx</div> <div>TN-C7 Long Timers? n</div> <div>Interworking Message: PROgress</div> <div>Interface Companding: mulaw</div> <div>Idle Code: 11111111</div> </div> <div> <div>Name: DS1 to S6100</div> <div>Line Coding: b8zs</div> <div>Framing Mode: esf</div> <div>Interface: peer-master</div> <div>Peer Protocol: Q-SIG</div> <div>Side: a</div> <div>CRC? n</div> <div>DCP/Analog Bearer Capability: 3.1kHz</div> <div>T303 Timer(sec): 4</div> </div> </div> <div> <div>Slip Detection? n</div> <div>Near-end CSU Type: other</div> </div> </div>

Step	Description
3.5	<p data-bbox="293 268 927 300">Configure an ISDN-PRI <b>SIGNALING GROUP</b>.</p> <p data-bbox="293 342 1474 411">Issue the command “<b>add signaling-group &lt;n&gt;</b>”, where <b>n</b> is an unallocated Signaling Group number; and administer settings as per below.</p> <ul data-bbox="342 415 1451 527" style="list-style-type: none"> <li>• The <b>Group Type</b> is configured as <b>isdn-pri</b>, and will utilize the DSI Circuit Pack configured in <b>Step 3.4</b>.</li> <li>• The <b>Primary D-Channel</b> is set to <b>01A0824</b>, which is channel <b>24</b> on Board <b>01A08</b>.</li> </ul> <div data-bbox="293 562 1474 814"> <p data-bbox="293 562 456 594">Page 1 of 1</p> <p data-bbox="753 594 967 615">SIGNALING GROUP</p> <p data-bbox="293 646 1398 814"> Group Number: 13                      <b>Group Type: isdn-pri</b>  Associated Signaling? y                      Max number of NCA TSC: 0  <b>Primary D-Channel: 01A0824</b>                      Max number of CA TSC: 0  Trunk Group for Channel Selection:                      Trunk Group for NCA TSC:  <b>Supplementary Service Protocol: b</b> </p> </div>



Step	Description
3.6	<p>Configure an ISDN <b>TRUNK GROUP</b>.</p> <p>Issue the command “<b>add trunk-group &lt;n&gt;</b>”, where <b>n</b> is an unallocated Trunk Group number; and administer settings as per below.</p> <ul style="list-style-type: none"><li>• The settings for the <b>Group Type</b> and <b>Carrier Medium</b> are consistent with the Signaling Group provisioned in <b>Step 3.5</b>.</li><li>• The setting for the Trunk Access Code (<b>TAC</b>) is a number that is consistent with the existing dial plan (see <b>Step 3.9</b>).</li></ul>
	<div><div>Page 1 of 21</div><div><div>TRUNK GROUP</div><div><div><div><div>Group Number: 13</div><div>Group Name: S6100 ISDN PRI</div><div>Direction: two-way</div><div>Dial Access? n</div><div>Queue Length: 0</div><div>Service Type: tie</div><div>TestCall BCC: 4</div></div><div><div>Group Type: isdn</div><div>COR: 1</div><div>Outgoing Display? n</div><div>Busy Threshold: 255</div><div>Auth Code? n</div><div>Far End Test Line No:</div></div><div><div>CDR Reports: y</div><div>TN: 1</div><div>Carrier Medium: PRI/BRI</div><div>Night Service:</div><div>TestCall ITC: rest</div></div></div></div></div></div>

Step	Description
3.7	<p>Proceed to Page 2 of the <b>TRUNK GROUP</b> form and administer hunting as per below.</p> <p>When ISDN-PRI interfaces are used, it is acceptable for both ends to have the <b>Trunk Hunt</b> fields administered as <b>cyclical</b>, but if one end is administered as <b>ascend</b>, the other end must be administered as <b>descend</b>. This helps avoid the possibility of glare conditions, where glare is defined as follows:</p> <p>Glare occurs when both sides of an ISDN interface select the same B-channel for call initiation. For example, a user side of an interface selects the B-channel for an outgoing call and, before Avaya Communication Manager receives and processes the SETUP message, the server also selects the same B-channel for call origination.</p> <p>To reduce glare probability, the network needs to be administered so both sides of the interface select channels from opposite ends of facilities. This is called linear hunting, ascending or descending. For example, on a 23B+D trunk group, the user side could be administered to select B-channels starting at channel 23 while the network side would be administered to start selecting at channel 1. Using the same example, if channel 22 is active but channel 23 is idle, the user side should select channel 23 for re-use.</p> <p>For these Application Notes, Avaya Communication Manager is administered as <b>ascend</b>; while the other end (the AudioCodes Media Gateway, see <b>Section 5, Step 5.7</b>) is configured to hunt as <b>Descending</b>.</p>
	<div>Page 2 of 21</div> <div>Group Type: isdn</div> <div>TRUNK PARAMETERS</div> <div><div>Codeset to Send Display: 6</div><div>Codeset to Send National IEs: 6</div><div>Max Message Size to Send: 260</div><div>Charge Advice: none</div><div>Supplementary Service Protocol: a</div><div>Digit Handling (in/out): enbloc/enbloc</div></div> <div><div>Trunk Hunt: ascend</div><div>Digital Loss Group: 13</div></div> <div><div>Incoming Calling Number - Delete:</div><div>Insert:</div><div>Format:</div></div> <div><div>Bit Rate: 1200</div><div>Synchronization: async</div><div>Duplex: full</div></div> <div><div>Disconnect Supervision - In? y Out? n</div></div> <div><div>Answer Supervision Timeout: 0</div></div>


Step	Description																																																																																																																																																
3.8	<p>Proceed to Page 5 of the <b>TRUNK GROUP</b> form and administer the members for the <b>TRUNK GROUP</b> as per below.</p> <ul style="list-style-type: none"><li>The values for the <b>Port</b> field are resources allocated from <b>DS1 CIRCUIT PACK 01A08</b>, provisioned in <b>Step 3.4</b>.</li><li>Enter the number of the Signaling Group provisioned in <b>Step 3.5</b> in the <b>Sig Grp</b> field.</li></ul>																																																																																																																																																
	<div>Page 5 of 21</div> <div><div>TRUNK GROUP</div><div>Administered Members (min/max): 1/23</div><div>GROUP MEMBER ASSIGNMENTS</div><div>Total Administered Members: 23</div></div> <table><thead><tr><th>Port</th><th>Code</th><th>Sfx</th><th>Name</th><th>Night</th><th>Sig Grp</th></tr></thead><tbody><tr><td>1: 01A0801</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>2: 01A0802</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>3: 01A0803</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>4: 01A0804</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>5: 01A0805</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>6: 01A0806</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>7: 01A0807</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>8: 01A0808</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>9: 01A0809</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>10: 01A0810</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>11: 01A0811</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>12: 01A0812</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>13: 01A0813</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>14: 01A0814</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>15: 01A0815</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>16: 01A0816</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>17: 01A0817</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>18: 01A0819</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>19: 01A0818</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>20: 01A0820</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>21: 01A0821</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>22: 01A0822</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr><tr><td>23: 01A0823</td><td>TN464</td><td>F</td><td></td><td></td><td>13</td></tr></tbody></table>	Port	Code	Sfx	Name	Night	Sig Grp	1: 01A0801	TN464	F			13	2: 01A0802	TN464	F			13	3: 01A0803	TN464	F			13	4: 01A0804	TN464	F			13	5: 01A0805	TN464	F			13	6: 01A0806	TN464	F			13	7: 01A0807	TN464	F			13	8: 01A0808	TN464	F			13	9: 01A0809	TN464	F			13	10: 01A0810	TN464	F			13	11: 01A0811	TN464	F			13	12: 01A0812	TN464	F			13	13: 01A0813	TN464	F			13	14: 01A0814	TN464	F			13	15: 01A0815	TN464	F			13	16: 01A0816	TN464	F			13	17: 01A0817	TN464	F			13	18: 01A0819	TN464	F			13	19: 01A0818	TN464	F			13	20: 01A0820	TN464	F			13	21: 01A0821	TN464	F			13	22: 01A0822	TN464	F			13	23: 01A0823	TN464	F			13
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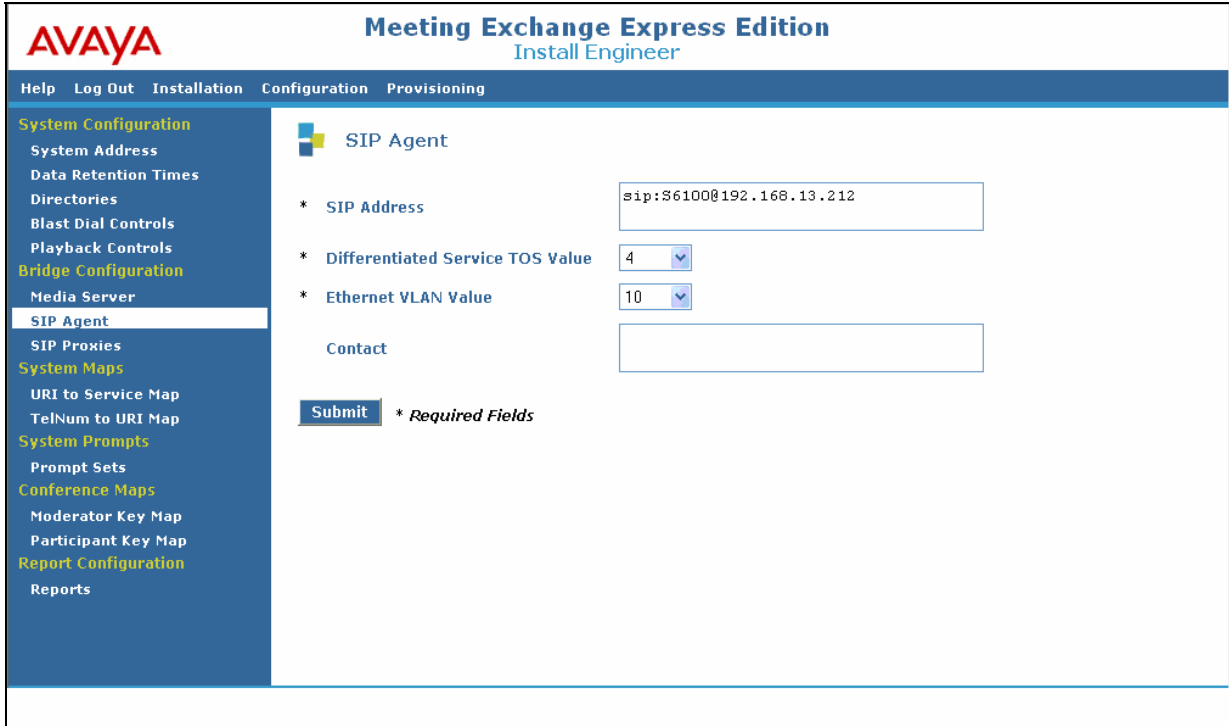
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3.9	Configure the <b>DIAL PLAN ANALYSIS TABLE</b>																																																																																																																													
	<p>Issue the command “<b>change dialplan analysis</b>”. Add an entry in the table to treat any digit string of <b>3</b> digits in <b>Total Length</b> with a leading <b>Dialed String</b> of <b>4</b> as a <b>Call Type</b> of <b>aar</b>.</p> <div><div>Page 1 of 12</div><div><div>DIAL PLAN ANALYSIS TABLE</div><div>Percent Full: 1</div><table><thead><tr><th>Dialed String</th><th>Total Length</th><th>Call Type</th><th>Dialed String</th><th>Total Length</th><th>Call Type</th><th>Dialed String</th><th>Total Length</th><th>Call Type</th></tr></thead><tbody><tr><td>0</td><td>1</td><td>attd</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>3</td><td>dac</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td>5</td><td>ext</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td>5</td><td>ext</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td>3</td><td>aar</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td>3</td><td>aar</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td>3</td><td>ext</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td>4</td><td>ext</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td>5</td><td>ext</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td>1</td><td>fac</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td>1</td><td>fac</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>*</td><td>3</td><td>fac</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>#</td><td>3</td><td>fac</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table></div></div>	Dialed String	Total Length	Call Type	Dialed String	Total Length	Call Type	Dialed String	Total Length	Call Type	0	1	attd							1	3	dac							2	5	ext							3	5	ext							4	3	aar							5	3	aar							6	3	ext							7	4	ext							7	5	ext							8	1	fac							9	1	fac							*	3	fac							#	3	fac					
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3.10	Configure the <b>AAR ANALYSIS TABLE</b>																																																																																																																													
	<p>Issue the command “<b>change aar analysis</b>”. Add entries in the table to send the following <b>Dialed Strings</b> to <b>Route Pattern 13</b>.</p> <ul style="list-style-type: none"><li>Dialed String <b>413</b> will be used by Avaya Meeting Exchange for <b>BasicCallFlow</b> (see <b>Section 4, Step 4.4</b>).</li><li>Dialed String <b>444</b> will be used by Avaya Meeting Exchange for <b>DirectCallFlow</b> (see <b>Section 4, Steps 4.5 and 4.11</b>).</li></ul> <div><div>Page 1 of 2</div><div><div>AAR DIGIT ANALYSIS TABLE</div><div>Percent Full: 1</div><table><thead><tr><th>Dialed String</th><th>Total Min</th><th>Total Max</th><th>Route Pattern</th><th>Call Type</th><th>Node Num</th><th>ANI Req'd</th></tr></thead><tbody><tr><td>401</td><td>3</td><td>3</td><td>1</td><td>aar</td><td></td><td>n</td></tr><tr><td>412</td><td>3</td><td>3</td><td>12</td><td>aar</td><td></td><td>n</td></tr><tr><td>413</td><td>3</td><td>3</td><td>13</td><td>aar</td><td></td><td>n</td></tr><tr><td>444</td><td>3</td><td>3</td><td>13</td><td>aar</td><td></td><td>n</td></tr></tbody></table></div></div>	Dialed String	Total Min	Total Max	Route Pattern	Call Type	Node Num	ANI Req'd	401	3	3	1	aar		n	412	3	3	12	aar		n	413	3	3	13	aar		n	444	3	3	13	aar		n																																																																																										
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3.11	<p>Configure a <b>ROUTE PATTERN</b></p> <p>Issue the command “<b>change route-pattern &lt;n&gt;</b>”, where <b>n</b> is the number of the route pattern administered in <b>Step 3.10</b>. Add an entry in the table to utilize the Trunk Group provisioned in <b>Step 3.6</b>.</p>																																																																																																																																																																																													
	<div>Page 1 of 3</div> <div><div>Pattern Number: 13</div><div>Pattern Name: S6100 PRI</div><div>SCCAN? nSecure SIP? n</div><table><thead><tr><th>Grp</th><th>FRL</th><th>NPA</th><th>Pfx</th><th>Hop</th><th>Toll</th><th>No.</th><th>Inserted</th><th>DCS/</th><th>IXC</th></tr><tr><th>No</th><th></th><th></th><th>Mrk</th><th>Lmt</th><th>List</th><th>Del</th><th>Digits</th><th>QSIG</th><th></th></tr><tr><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Dgts</th><th>Intw</th><th></th></tr></thead><tbody><tr><td>1:</td><td>13</td><td>0</td><td></td><td></td><td></td><td></td><td>0</td><td>n</td><td>user</td></tr><tr><td>2:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr><tr><td>3:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr><tr><td>4:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr><tr><td>5:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr><tr><td>6:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>n</td><td>user</td></tr></tbody></table><div><table><thead><tr><th>BCC</th><th>VALUE</th><th>TSC</th><th>CA-TSC</th><th>ITC</th><th>BCIE</th><th>Service/Feature</th><th>PARM</th><th>No.</th><th>Numbering</th><th>LAR</th></tr><tr><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>W</th><th>Request</th><th></th><th>Dgts</th><th>Format</th><th></th></tr><tr><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Subaddress</th><th></th><th></th></tr></thead><tbody><tr><td>1:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>2:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>3:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>4:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>5:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr><tr><td>6:</td><td>y</td><td>y</td><td>y</td><td>y</td><td>y</td><td>n</td><td>n</td><td>rest</td><td></td><td>none</td></tr></tbody></table></div></div>	Grp	FRL	NPA	Pfx	Hop	Toll	No.	Inserted	DCS/	IXC	No			Mrk	Lmt	List	Del	Digits	QSIG									Dgts	Intw		1:	13	0					0	n	user	2:								n	user	3:								n	user	4:								n	user	5:								n	user	6:								n	user	BCC	VALUE	TSC	CA-TSC	ITC	BCIE	Service/Feature	PARM	No.	Numbering	LAR	0	1	2	3	4	W	Request		Dgts	Format										Subaddress			1:	y	y	y	y	y	n	n	rest		none	2:	y	y	y	y	y	n	n	rest		none	3:	y	y	y	y	y	n	n	rest		none	4:	y	y	y	y	y	n	n	rest		none	5:	y	y	y	y	y	n	n	rest		none	6:	y	y	y	y	y	n	n	rest		none
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## 4. Avaya Meeting Exchange Configuration

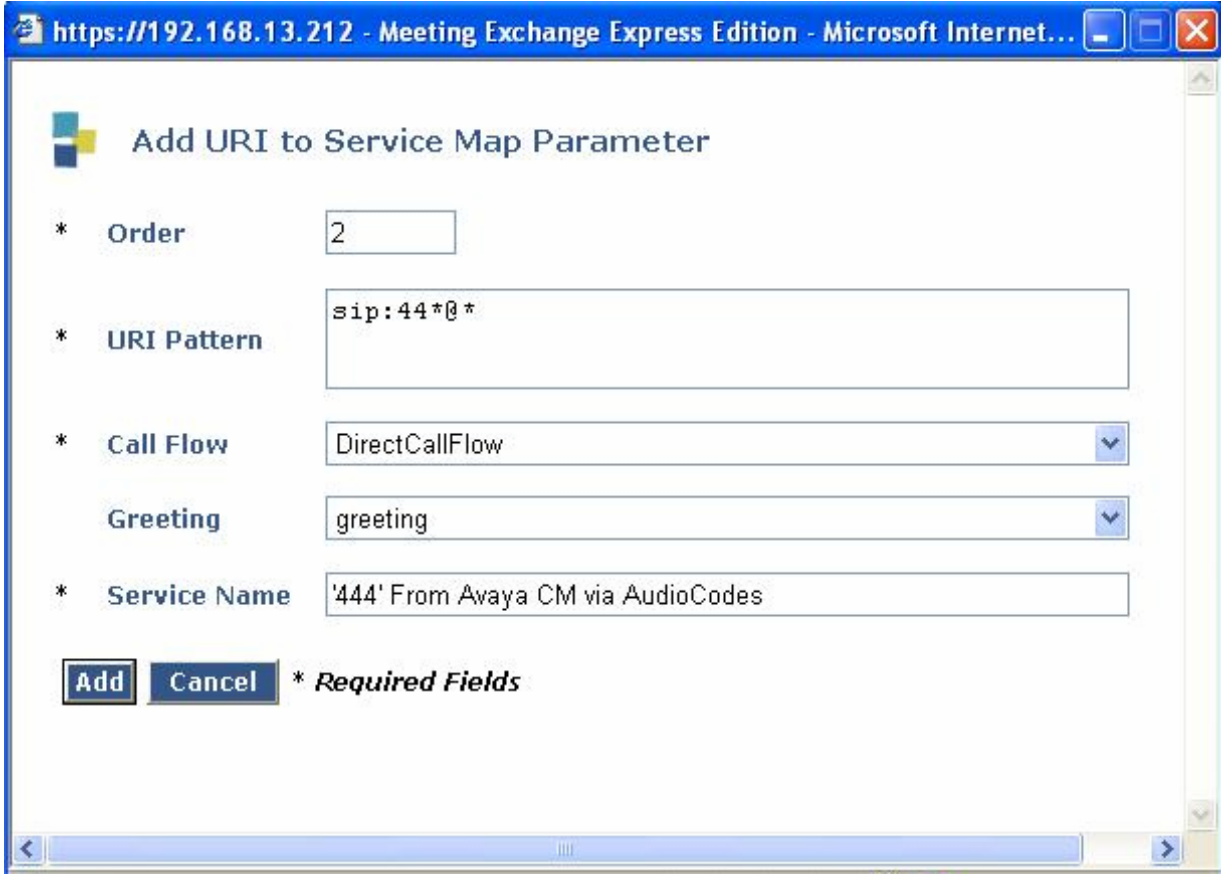
This section describes the steps for configuring Avaya Meeting Exchange to interoperate with the AudioCodes Media Gateway via SIP connectivity (see **Figure 1**).

Step	Description
4.1	<p>Verify Licensing as follows:</p> <p>Avaya Meeting Exchange uses Avaya Web License Manager (WebLM) to support licensing. Open a web browser and enter the following URL:</p> <ul style="list-style-type: none"><li>• <b>http://&lt;IP Address of Avaya Meeting Exchange&gt;/WebLM.</b></li><li>• Log in to the WebLM server with the appropriate credentials, and verify Avaya Meeting Exchange is licensed for appropriate <b>Number of Meeting Exchange Groupware Edition Ports</b>.</li></ul> <p><b>Note:</b> Each conference participant on Avaya Meeting Exchange requires one port for the duration they are on a conference call. The license file installed on the system controls the maximum permitted. If there is insufficient capacity, contact an authorized Avaya sales representative to make the appropriate changes.</p> <div></div>

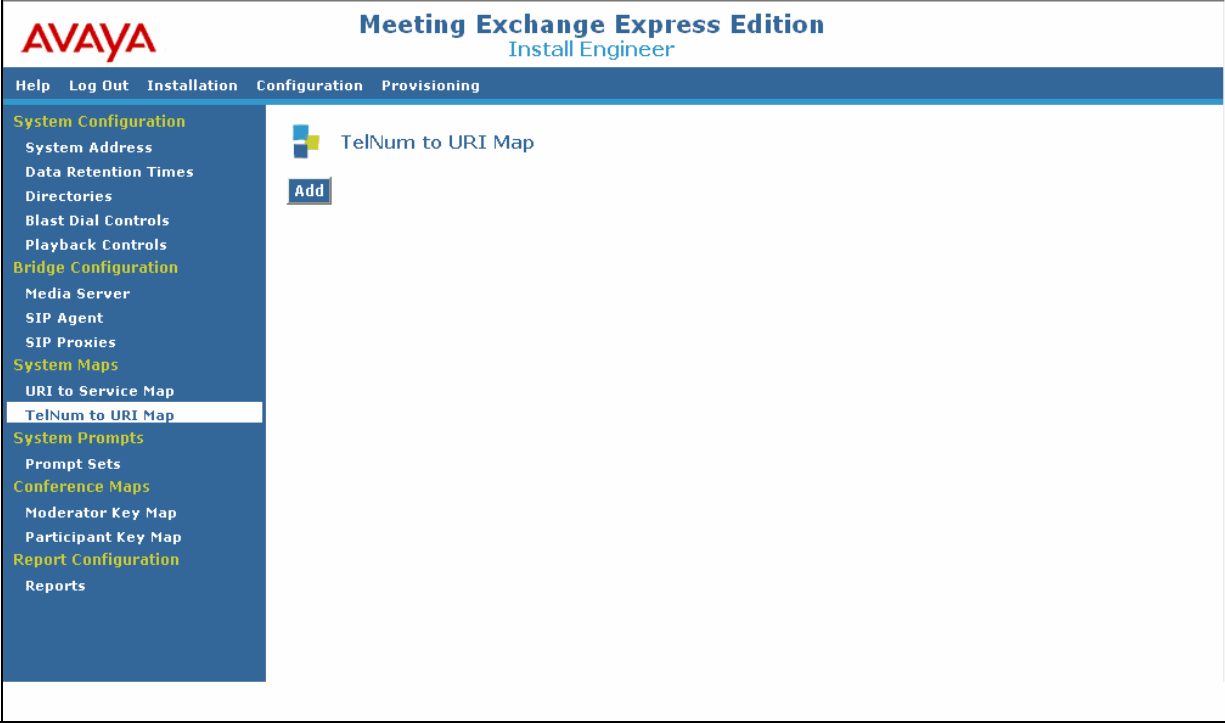
Step	Description
4.2	<p>Administer settings for Avaya Meeting Exchange as follows:</p> <ul style="list-style-type: none"> <li>Open a web browser and enter the following URL: <b>http://&lt;IP Address of Avaya Meeting Exchange&gt;</b></li> <li>Log in to Avaya Meeting Exchange with the appropriate credentials.</li> </ul>
4.3	<p>Configure settings that relate to the existence of Avaya Meeting Exchange within the SIP network by administering <b>SIP Agent</b> parameters as follows:</p> <ul style="list-style-type: none"> <li>Click <b>Configuration</b> from the S6100 web interface toolbar.</li> <li>Click <b>SIP Agent</b> from the <b>Configuration</b> menu.</li> <li>Add a <b>SIP Address</b> for Avaya Meeting Exchange.</li> <li>When finished, click the <b>Submit</b> button.</li> </ul> <div data-bbox="293 756 1515 1478">  </div>

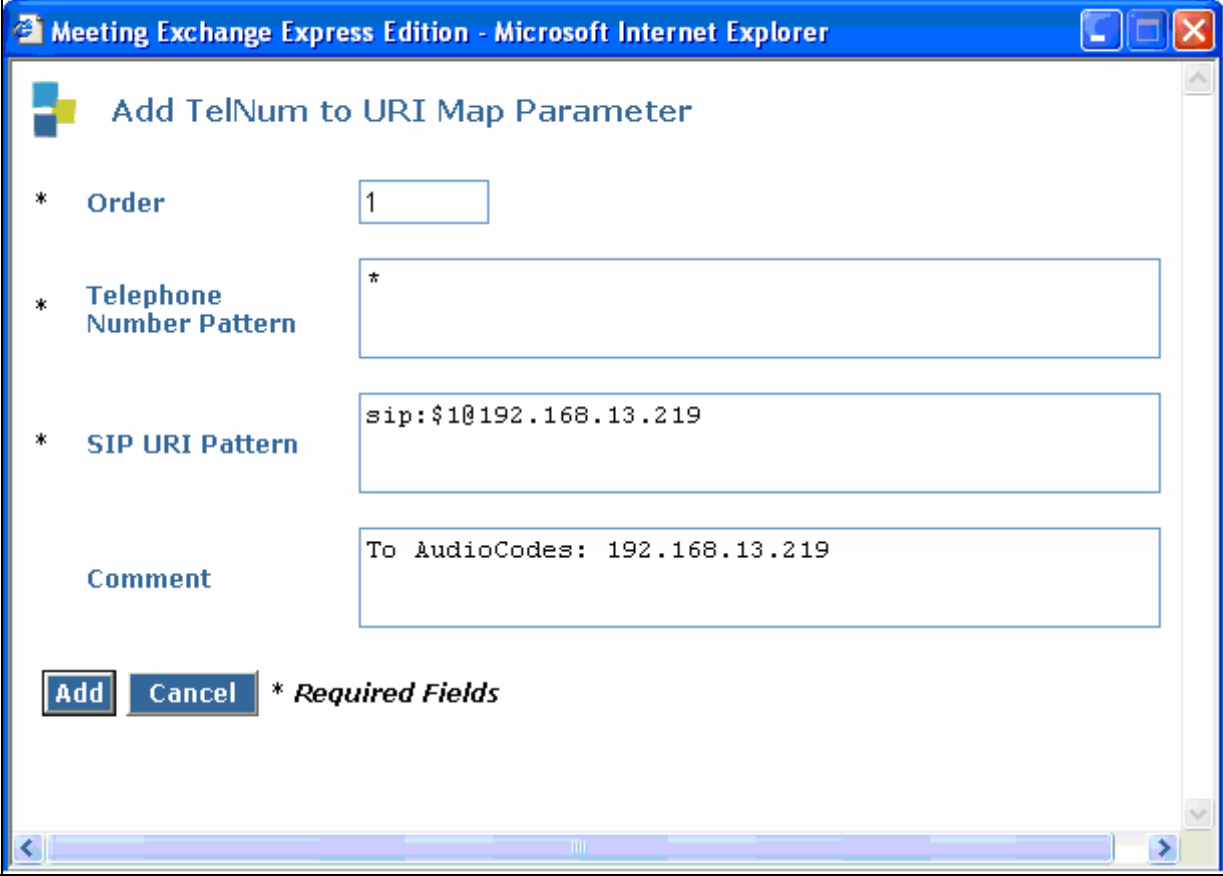
Step	Description
4.4	<p>To associate incoming calls to Avaya Meeting Exchange with a corresponding <i>Call Flow</i>, add a <b>URI to Service Map</b> entry as follows:</p> <ul style="list-style-type: none"> <li>Click <b>URI to Service Map</b> from the <b>Configuration</b> menu.</li> <li>Click the <b>Add</b> button.</li> </ul> <p><b>Note:</b> There is an entry for a <b>BasicCallFlow</b> already provisioned. <b>Step 4.5</b> describes how to provision a new call flow (e.g., <b>DirectCallFlow</b>).</p> 

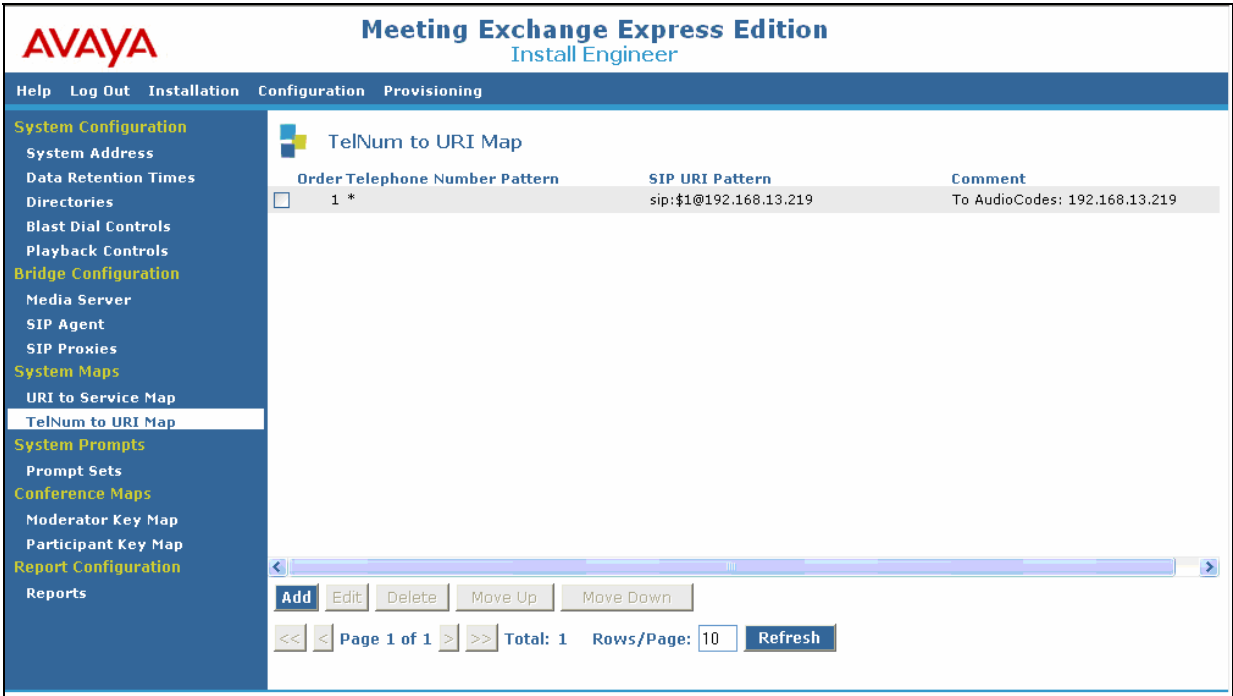


Step	Description
4.5	<p>Configure a <b>URI to Service Map Parameter</b> for a <b>DirectCallFlow</b> as follows:</p> <ul style="list-style-type: none"> <li>The <b>Order</b> field is left at the default setting. It is defaulted to <b>2</b> due to the existing <b>BasicCallFlow</b> entry in the table (see <b>Step 4.4</b>).  <b>Note:</b> Avaya Meeting Exchange parses <b>System Maps</b> searching for pattern matches in descending order; terminating the search once a pattern is matched. For these Application Notes, <b>Order</b> is irrelevant as the patterns for <b>DirectCallFlow</b> and <b>BasicCallFlow</b> (see <b>Step 4.4</b>) are mutually exclusive.</li> <li>Add a <b>URI Pattern</b> to allow Dial-In to Avaya Meeting Exchange from Avaya Communication Manager via the AudioCodes Media Gateway by matching the pattern of incoming SIP URIs in SIP INVITE messages from the AudioCodes Media Gateway. For example, the AudioCodes Media Gateway sends the following URI: <b>sip:444@192.168.13.211;user=phone</b>. The URI Pattern is configured to match <b>sip:44*@*</b>, which will match <b>sip:44</b> and any string until the @ is reached, then any string following the @.</li> <li>The <b>Service Name</b> field is a descriptive label.</li> <li>When finished, click the <b>Add</b> button.</li> </ul> 

Step	Description															
4.6	<p>The URI to Service Map entry is successfully added.</p> <div><div><div><div>AVAYA</div><div>Meeting Exchange Express Edition</div><div>Install Engineer</div></div><div><div>Help</div><div>Log Out</div><div>Installation</div><div>Configuration</div><div>Provisioning</div></div><div><div>System Configuration</div><div>System Address</div><div>Data Retention Times</div><div>Directories</div><div>Blast Dial Controls</div><div>Playback Controls</div><div>Bridge Configuration</div><div>Media Server</div><div>SIP Agent</div><div>SIP Proxies</div><div>System Maps</div><div>URI to Service Map</div><div>TelNum to URI Map</div><div>System Prompts</div><div>Prompt Sets</div><div>Conference Maps</div><div>Moderator Key Map</div><div>Participant Key Map</div><div>Report Configuration</div><div>Reports</div></div><div><div><div>URI to Service Map</div><table><thead><tr><th>Order</th><th>URI Pattern</th><th>Call Flow</th><th>Greeting</th><th>Service Name</th></tr></thead><tbody><tr><td><input type="checkbox"/></td><td>1 sip:41*@*</td><td>BasicCallFlow</td><td>greeting</td><td>'412' From Avaya CM via AudioCodes</td></tr><tr><td><input type="checkbox"/></td><td>2 sip:44*@*</td><td>DirectCallFlow</td><td>greeting</td><td>'444' From Avaya CM via AudioCodes</td></tr></tbody></table><div><div>Add</div><div>Edit</div><div>Delete</div><div>Move Up</div><div>Move Down</div></div><div><div>&lt;&lt;</div><div>&lt;</div><div>Page 1 of 1</div><div>&gt;</div><div>&gt;&gt;</div><div>Total: 2</div><div>Rows/Page: 10</div><div>Refresh</div></div></div></div></div></div>	Order	URI Pattern	Call Flow	Greeting	Service Name	<input type="checkbox"/>	1 sip:41*@*	BasicCallFlow	greeting	'412' From Avaya CM via AudioCodes	<input type="checkbox"/>	2 sip:44*@*	DirectCallFlow	greeting	'444' From Avaya CM via AudioCodes
Order	URI Pattern	Call Flow	Greeting	Service Name												
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<input type="checkbox"/>	2 sip:44*@*	DirectCallFlow	greeting	'444' From Avaya CM via AudioCodes												

Step	Description
4.7	<p>To configure routing of outbound call from Avaya Meeting Exchange, add a <b>TelNum to URI Map</b> entry as follows:</p> <ul style="list-style-type: none"> <li>Click <b>TelNum to URI Map</b> from the <b>Configuration</b> menu.</li> <li>When finished, click the <b>Add</b> button.</li> </ul> 

Step	Description
4.8	<p>Configure a <b>TelNum to URI Map Parameter</b> as follows:</p> <ul style="list-style-type: none"> <li>• Add a <b>Telephone Number Pattern</b> to allow for Dial-Out from Avaya Meeting Exchange.</li> </ul> <p><b>Note:</b> The configuration for these Application Notes sends all Dial-Out traffic (* = match all) to the AudioCodes Media Gateway (<b>192.168.13.219</b>).</p> <ul style="list-style-type: none"> <li>• The <b>Comment</b> field is a descriptive label.</li> <li>• When finished, click the <b>Add</b> button.</li> </ul> 

Step	Description
4.9	<p>The TelNum to URI Map entry is successfully added.</p> 
4.10	<p>Following all updates to Avaya Meeting Exchange via the web browser, reboot Avaya Meeting Exchange as follows:</p> <ul style="list-style-type: none"> <li>Log in to the Avaya Meeting Exchange Server console to access the command line interface with the appropriate credentials.</li> <li>At the command prompt, enter the command: <b>init 6</b>.</li> </ul> <pre>[S6100]&gt; init 6</pre>

Step	Description
4.11	<p>To utilize the <b>DirectCallFlow</b> provisioned in <b>Step 4.5</b>, administer an Account CSV file as follows:</p> <ul style="list-style-type: none"> <li>• If not already logged on, log in to the Avaya Meeting Exchange Server console to access the command line interface with the appropriate credentials.</li> <li>• Create an Account CSV file with the format of the <b>myAccount.csv</b> shown below. The <b>myAccount.csv</b> file is correlated to the <b>URI Pattern</b> provisioned in <b>Step 4.5</b> via the <b>def_modpass_code</b> entry.</li> </ul>
	<pre>[S6100]&gt; cat /usr/tmp/csvFiles/myAccount.csv account_note,def_confpass_code,def_modpass_code,mx_conf_size,mx_confdur_mins,import_ tag,disabled_ind,logon_password,contact_name,contact_phone,contact_email,import_tag, conf_profile_id,message_profile_id "DirectDial_444","1444","444","250","30","444_Tag","f","444","CSV Account 444","1234551444","csv@account444.com","CSV_Company_5","5",""</pre>
	<ul style="list-style-type: none"> <li>• Write the <b>myAccount.csv</b> file to the database by running the <b>bulk-loader.sh</b> utility as follows: <ul style="list-style-type: none"> <li>○ cd to <b>/usr/crystal/bulkloader</b></li> <li>○ At the command prompt, enter the command:  <b>sh bulk-loader.sh -A/usr/tmp/csvFiles/myAccount.csv</b></li> </ul> </li> </ul>
	<pre>[S6100]&gt; sh bulk-loader.sh -A/usr/tmp/csvFiles/myAccount.csv com.avaya.crystal.common.Logger.LogDir not set, setting log location to default ... com.avaya.crystal.common.Logger.LogDir set to: /usr/crystal/config/./logs Log configuration file [/usr/crystal/config/CrystalLog.xml] loadDING. Log configuration file [/usr/crystal/config/CrystalLog.xml] was loaded. Write Account File :All 1 row(s) were successfull</pre>

Step	Description
4.12	<p>To enable the Blast Dial feature, administer a Blast Dial CSV file as follows:  Create a Blast Dial CSV file with the format of the <b>myBlastDial.csv</b> shown below.</p> <ul style="list-style-type: none"> <li>The <b>myBlastDial.csv</b> file is correlated to the <b>myAccount.csv</b> file provisioned in <b>Step 4.11</b> via the <b>reservation_import_tag</b> entry.</li> <li>The <b>contact_phone</b> variable is the number dialed when the Blast Dial feature is invoked.</li> </ul>
	<pre>[S6100]&gt; cat /usr/tmp/csvFiles/myBlastDial.csv reservation_import_tag,contact_name,contact_phone,contact_email,person_import_tag "444_Tag","BlastDialContact4","31001","csv@blastdialcontact4.com","PersonImportTag4" "444_Tag","BlastDialContact5","32001","csv@blastdialcontact5.com","PersonImportTag5" "444_Tag","BlastDialContact6","32002","csv@blastdialcontact6.com","PersonImportTag6" "444_Tag","BlastDialContact7","33002","csv@blastdialcontact7.com","PersonImportTag7"</pre>
	<ul style="list-style-type: none"> <li>Write the <b>myBlastDial.csv</b> file to the database by running the <b>bulk-loader.sh</b> utility as follows: <ul style="list-style-type: none"> <li>cd to <b>/usr/crystal/bulkloader</b></li> <li>At the command prompt, enter the command:  <b>sh bulk-loader.sh -B/usr/tmp/csvFiles/myBlastDial.csv</b></li> </ul> </li> </ul>
	<pre>[S6100]&gt; sh bulk-loader.sh -B/usr/tmp/csvFiles/myBlastDial.csv com.avaya.crystal.common.Logger.LogDir not set, setting log location to default ... com.avaya.crystal.common.Logger.LogDir set to: /usr/crystal/config/../logs Log configuration file [/usr/crystal/config/CrystalLog.xml] loadDING. Log configuration file [/usr/crystal/config/CrystalLog.xml] was loaded. Write BlastDial File :All 4 row(s) were successfull</pre>

## 5. Configure the AudioCodes Media Gateway

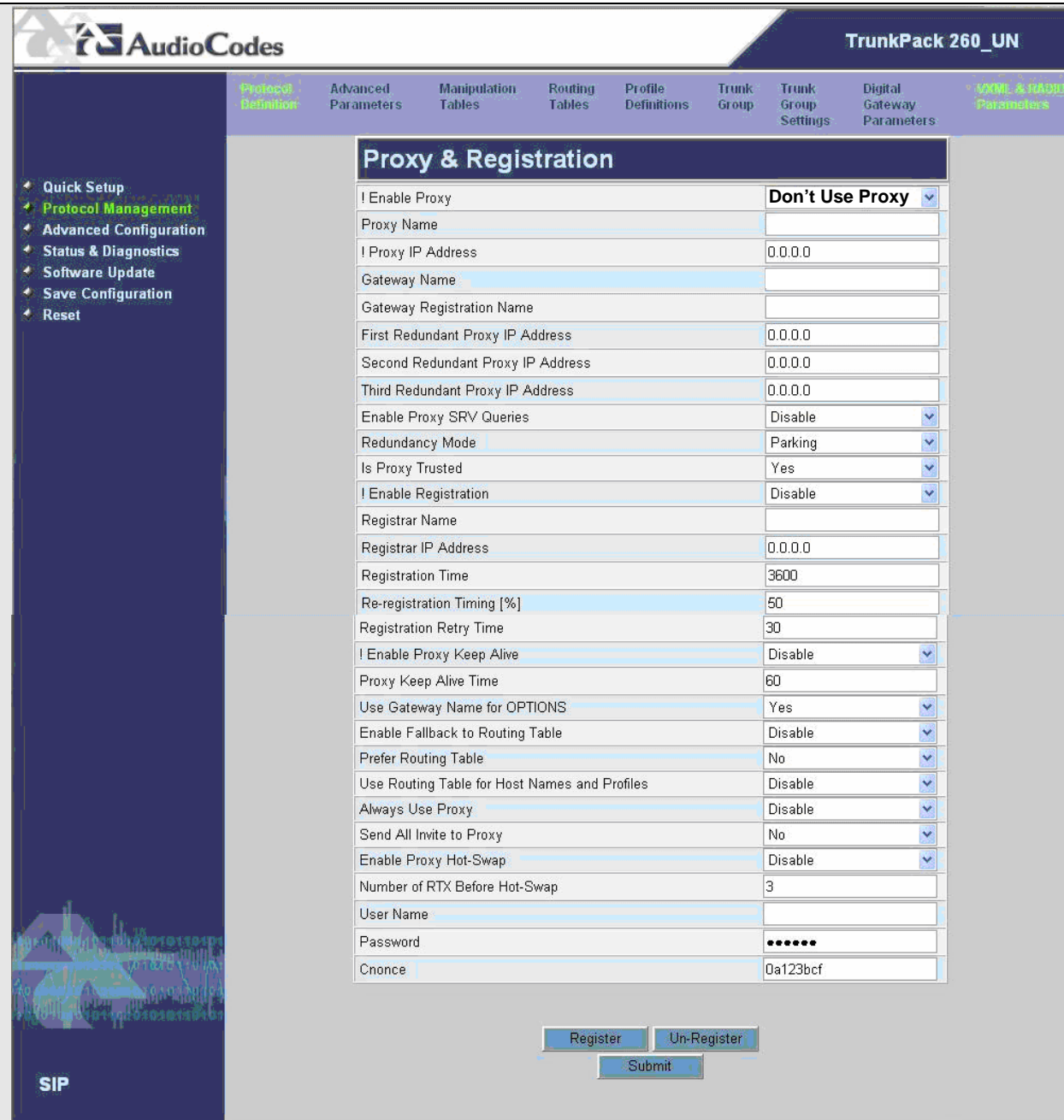
This section describes the steps for configuring the AudioCodes Media Gateway to interoperate with:

- Avaya Meeting Exchange via SIP connectivity (see **Figure 1**).
- Avaya Communication Manager via ISDN-PRI connectivity (see **Figure 1**).


Step	Description
5.1	<p>Administer settings for AudioCodes Media Gateway as follows:</p> <ul style="list-style-type: none"><li>• Open a web browser and enter the following URL: <b>http://&lt;default IP Address&gt;</b></li><li>• Log in to the AudioCodes Media Gateway with the appropriate credentials.</li></ul> <p><b>Note:</b> To obtain default IP Address, login and password information, refer to Section 8 reference [3].</p>



Step	Description
5.2	<p>Configure <b>Network Settings</b> as follows:</p> <ul style="list-style-type: none"> <li>Click <b>Advanced Configuration</b>.</li> <li>Click <b>Network Settings</b>.</li> <li>Administer settings as per below. The <b>IP Settings</b> configured for the AudioCodes Media Gateway must enable layer 3 connectivity with Avaya Meeting Exchange.</li> <li>When finished, click the <b>Submit</b> button on the bottom of the screen.</li> </ul>

Step	Description																																																														
5.3	<p>Configure <b>Proxy &amp; Registration</b> parameters as follows:</p> <ul style="list-style-type: none"> <li>Click <b>Protocol Management</b>.</li> <li>Click <b>Protocol Definition → Proxy &amp; Registration</b>.</li> <li>Administer settings as per below.</li> <li>When finished, click the <b>Submit</b> button on the bottom of the screen.</li> </ul>																																																														
 <p>The screenshot displays the AudioCodes TrunkPack 260_UN web interface. The top navigation bar includes links for Protocol Definition, Advanced Parameters, Manipulation Tables, Routing Tables, Profile Definitions, Trunk Group, Trunk Group Settings, Digital Gateway Parameters, and XML &amp; RADIUS Parameters. The left sidebar contains a menu with options: Quick Setup, Protocol Management (highlighted), Advanced Configuration, Status &amp; Diagnostics, Software Update, Save Configuration, and Reset. The main content area is titled 'Proxy &amp; Registration' and contains a form with various settings. At the bottom of the form are buttons for Register, Un-Register, and Submit.</p> <table border="1"> <thead> <tr> <th colspan="2">Proxy &amp; Registration</th> </tr> </thead> <tbody> <tr> <td>! Enable Proxy</td> <td>Don't Use Proxy</td> </tr> <tr> <td>Proxy Name</td> <td></td> </tr> <tr> <td>! Proxy IP Address</td> <td>0.0.0.0</td> </tr> <tr> <td>Gateway Name</td> <td></td> </tr> <tr> <td>Gateway Registration Name</td> <td></td> </tr> <tr> <td>First Redundant Proxy IP Address</td> <td>0.0.0.0</td> </tr> <tr> <td>Second Redundant Proxy IP Address</td> <td>0.0.0.0</td> </tr> <tr> <td>Third Redundant Proxy IP Address</td> <td>0.0.0.0</td> </tr> <tr> <td>Enable Proxy SRV Queries</td> <td>Disable</td> </tr> <tr> <td>Redundancy Mode</td> <td>Parking</td> </tr> <tr> <td>Is Proxy Trusted</td> <td>Yes</td> </tr> <tr> <td>! Enable Registration</td> <td>Disable</td> </tr> <tr> <td>Registrar Name</td> <td></td> </tr> <tr> <td>Registrar IP Address</td> <td>0.0.0.0</td> </tr> <tr> <td>Registration Time</td> <td>3600</td> </tr> <tr> <td>Re-registration Timing [%]</td> <td>50</td> </tr> <tr> <td>Registration Retry Time</td> <td>30</td> </tr> <tr> <td>! Enable Proxy Keep Alive</td> <td>Disable</td> </tr> <tr> <td>Proxy Keep Alive Time</td> <td>60</td> </tr> <tr> <td>Use Gateway Name for OPTIONS</td> <td>Yes</td> </tr> <tr> <td>Enable Fallback to Routing Table</td> <td>Disable</td> </tr> <tr> <td>Prefer Routing Table</td> <td>No</td> </tr> <tr> <td>Use Routing Table for Host Names and Profiles</td> <td>Disable</td> </tr> <tr> <td>Always Use Proxy</td> <td>Disable</td> </tr> <tr> <td>Send All Invite to Proxy</td> <td>No</td> </tr> <tr> <td>Enable Proxy Hot-Swap</td> <td>Disable</td> </tr> <tr> <td>Number of RTX Before Hot-Swap</td> <td>3</td> </tr> <tr> <td>User Name</td> <td></td> </tr> <tr> <td>Password</td> <td>*****</td> </tr> <tr> <td>Cnonce</td> <td>0a123bcf</td> </tr> </tbody> </table> <p>Buttons: Register, Un-Register, Submit</p>		Proxy & Registration		! Enable Proxy	Don't Use Proxy	Proxy Name		! Proxy IP Address	0.0.0.0	Gateway Name		Gateway Registration Name		First Redundant Proxy IP Address	0.0.0.0	Second Redundant Proxy IP Address	0.0.0.0	Third Redundant Proxy IP Address	0.0.0.0	Enable Proxy SRV Queries	Disable	Redundancy Mode	Parking	Is Proxy Trusted	Yes	! Enable Registration	Disable	Registrar Name		Registrar IP Address	0.0.0.0	Registration Time	3600	Re-registration Timing [%]	50	Registration Retry Time	30	! Enable Proxy Keep Alive	Disable	Proxy Keep Alive Time	60	Use Gateway Name for OPTIONS	Yes	Enable Fallback to Routing Table	Disable	Prefer Routing Table	No	Use Routing Table for Host Names and Profiles	Disable	Always Use Proxy	Disable	Send All Invite to Proxy	No	Enable Proxy Hot-Swap	Disable	Number of RTX Before Hot-Swap	3	User Name		Password	*****	Cnonce	0a123bcf
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Use Routing Table for Host Names and Profiles	Disable																																																														
Always Use Proxy	Disable																																																														
Send All Invite to Proxy	No																																																														
Enable Proxy Hot-Swap	Disable																																																														
Number of RTX Before Hot-Swap	3																																																														
User Name																																																															
Password	*****																																																														
Cnonce	0a123bcf																																																														

Step	Description
5.4	<p>Configure <b>Coders</b> as follows:</p> <ul style="list-style-type: none"><li>• Click <b>Protocol Management</b>.</li><li>• Click <b>Protocol Definition → Coders</b>.</li><li>• Administer settings as per below. Configure a <b>Coder</b> that is supported on Avaya Meeting Exchange; either <b>g711Ulaw64k</b>, or <b>g711Alaw64k</b>.</li><li>• When finished, click the <b>Submit</b> button on the bottom of the screen.</li></ul>

 **AudioCodes**

TrunkPack 260\_UN

◆ Quick Setup

◆ **Protocol Management**

◆ Advanced Configuration

◆ Status & Diagnostics

◆ Software Update

◆ Save Configuration

◆ Reset

Protocol Definition

Advanced Parameters

Manipulation Tables

Routing Tables

Profile Definitions

Trunk Group

Trunk Group Settings


Digital Gateway Parameters

VXML & RADIUS Parameters

Coders

1st Coder	<b>g711Ulaw64k</b>	▼	20	▼
2nd Coder		▼		▼
3rd Coder		▼		▼
4th Coder		▼		▼
5th Coder		▼		▼


Submit

 **SIP**

Step	Description
5.5	<p>Configure <b>Trunk Settings</b> to interoperate with the <b>DS1 CIRCUIT PACK</b> configuration on Avaya Communication Manager (see <b>Section 3, Step 3.4</b>) as follows:</p> <ul style="list-style-type: none"> <li>Click <b>Advanced Configuration</b>.</li> <li>Click <b>Trunk Settings</b>.</li> <li>Select <b>Trunk Number 5</b>.</li> <li>Administer settings as per below.</li> <li>When finished, click the <b>Apply Trunk Settings</b> button on the bottom of the screen.</li> </ul>

The screenshot displays the AudioCodes TrunkPack 260\_UN configuration interface. The top navigation bar includes links for Network Settings, Channel Settings, Trunk Settings (highlighted), TDM Bus Settings, Configuration File, Regional Settings, and Change Password. A sidebar on the left lists options: Quick Setup, Protocol Management, Advanced Configuration (highlighted), Status & Diagnostics, Software Update, Save Configuration, and Reset. The main content area shows the Trunk Settings for Trunk 5. The Trunk Configuration section includes fields for Trunk ID (5), Trunk Configuration State (Non Active), Protocol Type (T1 QSIG), Clock Master (Recovered), Line Code (B8ZS), Line Build Out Loss (0 dB), Trace Level (Full ISDN Trace), Line Build Out Overwrite (OFF), and Framing Method (Extended Super Frame). The ISDN Configuration section includes fields for ISDN Termination Side (User side), Q931 Layer Response Behavior (0x0), Outgoing Calls Behavior (0x400), Incoming Calls Behavior (0x8000), General Call Control Behavior (0x0), NFAS Group Number (0), IUA Interface ID (-1), NFAS Interface ID (255), D-channel Configuration (PRIMARY), and Enable Receiving of Overlap Dialing (Disable). An Apply Trunk Settings button is located at the bottom right.

Step	Description
5.6	<p>Configure <b>Trunk Group Table</b> as follows:</p> <ul style="list-style-type: none"><li>Click <b>Protocol Management</b>.</li><li>Click <b>Trunk Group</b>.</li><li>Administer settings as per below. <b>1-23</b> channels for <b>Trunk ID 5</b> are provisioned due to Channel 24 being utilized as a signaling channel for ISDN-PRI QSIG.</li><li>When finished, click the <b>Submit</b> button on the bottom of the screen.</li></ul>



TrunkPack 260\_UN

Quick Setup

Protocol Management


Advanced Configuration

Status & Diagnostics

Software Update

Save Configuration

Reset



SIP

Protocol Definition

Advanced Parameters

Manipulation Tables

Routing Tables

Profile Definitions

Trunk Group

Trunk Group Settings

Digital Gateway Parameters

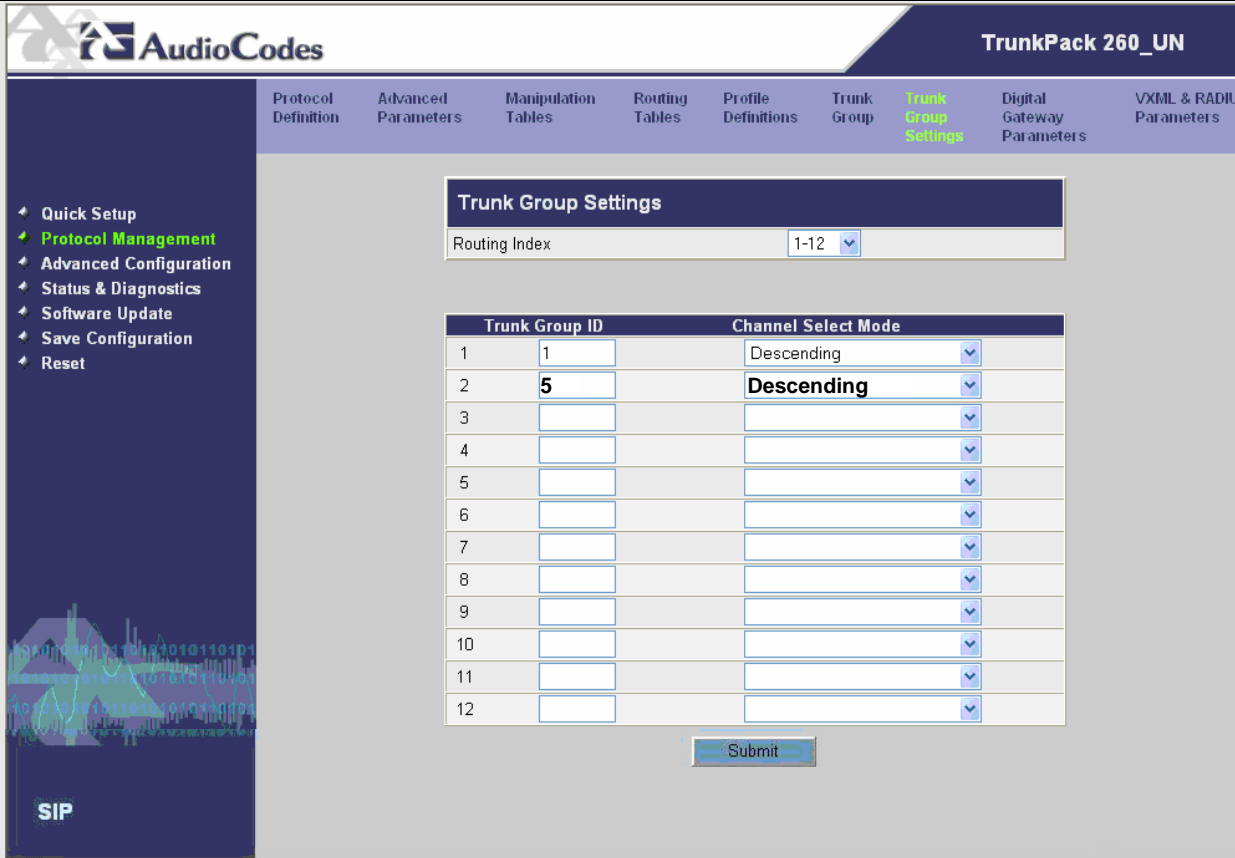
VXML & RADIUS Parameters

Trunk Group Table

Trunk Group Index1-12

Trunk ID	Channels	Phone Number	Trunk Group ID	Profile ID
1	1	*	1	0
2	2	*	1	0
3	3	*	1	0
4	4	*	1	0
5	1-23	*	5	0
6	6	*	1	0
7	7	*	1	0
8	8	*	1	0
9				
10				
11				
12				

Submit

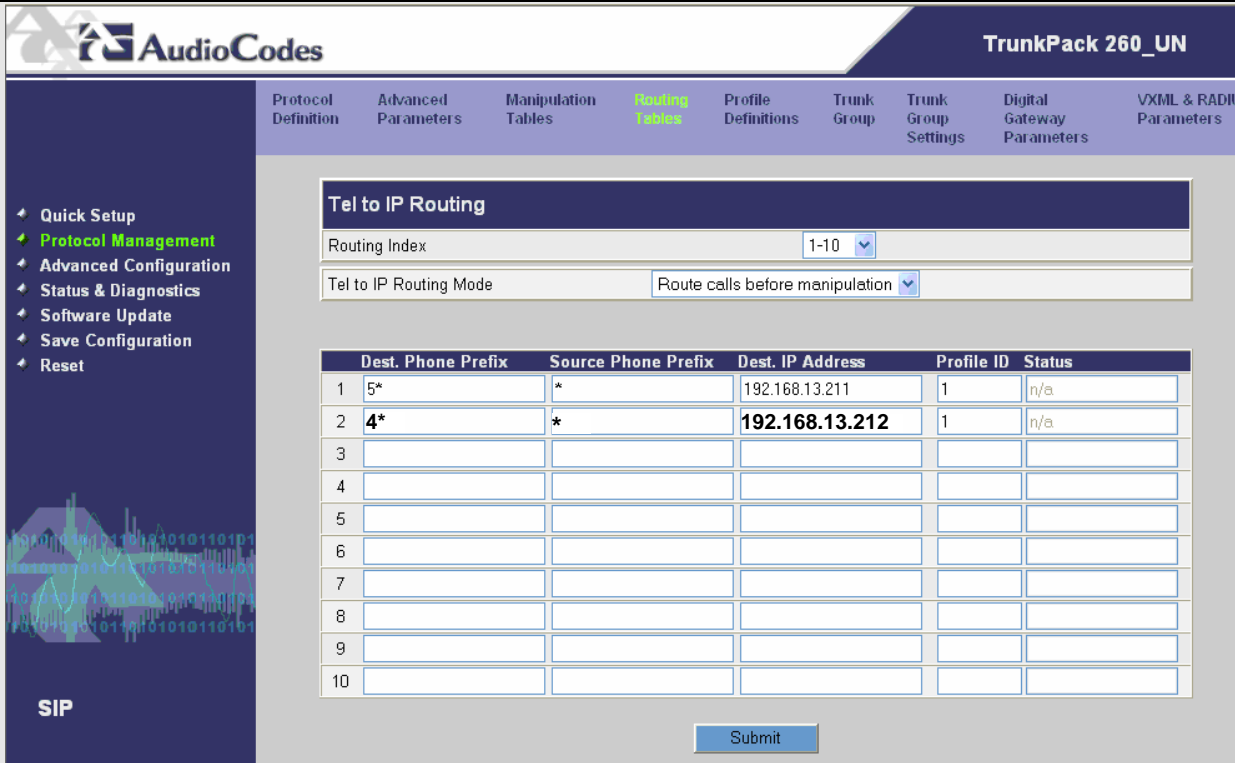
Step	Description																										
5.7	<p>Configure <b>Trunk Group Settings</b> as follows:</p> <ul style="list-style-type: none"> <li>Click <b>Protocol Management</b>.</li> <li>Click <b>Trunk Group Settings</b>.</li> <li>Administer settings as per below. The <b>Channel Select Mode</b> is provisioned to hunt in the opposite direction as Avaya Communication Manager (see <b>Section 3, Step 3.7</b>).</li> <li>When finished, click the <b>Submit</b> button on the bottom of the screen.</li> </ul>																										
	 <p>The screenshot displays the AudioCodes TrunkPack 260_UN configuration interface. The top navigation bar includes tabs for Protocol Definition, Advanced Parameters, Manipulation Tables, Routing Tables, Profile Definitions, Trunk Group, Trunk Group Settings (highlighted), Digital Gateway Parameters, and VXML &amp; RADIUS Parameters. The left sidebar contains a menu with options: Quick Setup, Protocol Management (highlighted), Advanced Configuration, Status &amp; Diagnostics, Software Update, Save Configuration, and Reset. The main content area is titled 'Trunk Group Settings' and features a 'Routing Index' dropdown set to '1-12'. Below this is a table with 12 rows, each representing a Trunk Group ID and its corresponding Channel Select Mode. The table is as follows:</p> <table border="1"> <thead> <tr> <th>Trunk Group ID</th><th>Channel Select Mode</th></tr> </thead> <tbody> <tr><td>1</td><td>Descending</td></tr> <tr><td>2</td><td>Descending</td></tr> <tr><td>3</td><td></td></tr> <tr><td>4</td><td></td></tr> <tr><td>5</td><td></td></tr> <tr><td>6</td><td></td></tr> <tr><td>7</td><td></td></tr> <tr><td>8</td><td></td></tr> <tr><td>9</td><td></td></tr> <tr><td>10</td><td></td></tr> <tr><td>11</td><td></td></tr> <tr><td>12</td><td></td></tr> </tbody> </table> <p>A 'Submit' button is located at the bottom right of the table.</p>	Trunk Group ID	Channel Select Mode	1	Descending	2	Descending	3		4		5		6		7		8		9		10		11		12	
Trunk Group ID	Channel Select Mode																										
1	Descending																										
2	Descending																										
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Step	Description
5.8	<p>To enable Dial-Out from Avaya Meeting Exchange, configure the <b>IP to Trunk Group Routing Table</b> as follows:</p> <ul style="list-style-type: none"> <li>Click <b>Protocol Management</b>.</li> <li>Click <b>Routing Tables, IP to Trunk Group Routing</b>.</li> <li>Administer settings as per below. All calls originating from <b>Source IP Address = 192.168.13.212</b> (Avaya Meeting Exchange) are routed to <b>Trunk ID = 5</b> (the trunk that connects to Avaya Communication Manager).</li> <li>When finished, click the <b>Submit</b> button on the bottom of the screen.</li> </ul>

The screenshot displays the AudioCodes TrunkPack 260\_UN configuration interface. The top navigation bar includes tabs for Protocol Definition, Advanced Parameters, Manipulation Tables, Routing Tables (highlighted), Profile Definitions, Trunk Group, Trunk Group Settings, Digital Gateway Parameters, and VXML & RADIUS Parameters. A left sidebar lists navigation options: Quick Setup, Protocol Management (highlighted), Advanced Configuration, Status & Diagnostics, Software Update, Save Configuration, and Reset. The main content area is titled 'IP to Trunk Group Routing Table'. It features a 'Routing Index' dropdown set to '1-12' and an 'IP To Tel Routing Mode' dropdown set to 'Route calls before manipulation'. Below these is a table with 12 rows and 5 columns: Dest. Phone Prefix, Source Phone Prefix, Source IP Address, Trunk Group ID, and Profile ID. Row 2 is highlighted, showing a source IP of 192.168.13.212 and a trunk group ID of 5. A 'Submit' button is located at the bottom right of the table area.

	Dest. Phone Prefix	Source Phone Prefix	Source IP Address	Trunk Group ID	Profile ID
1	*	*	192.168.13.211	1	0
2	*	*	192.168.13.212	5	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Submit

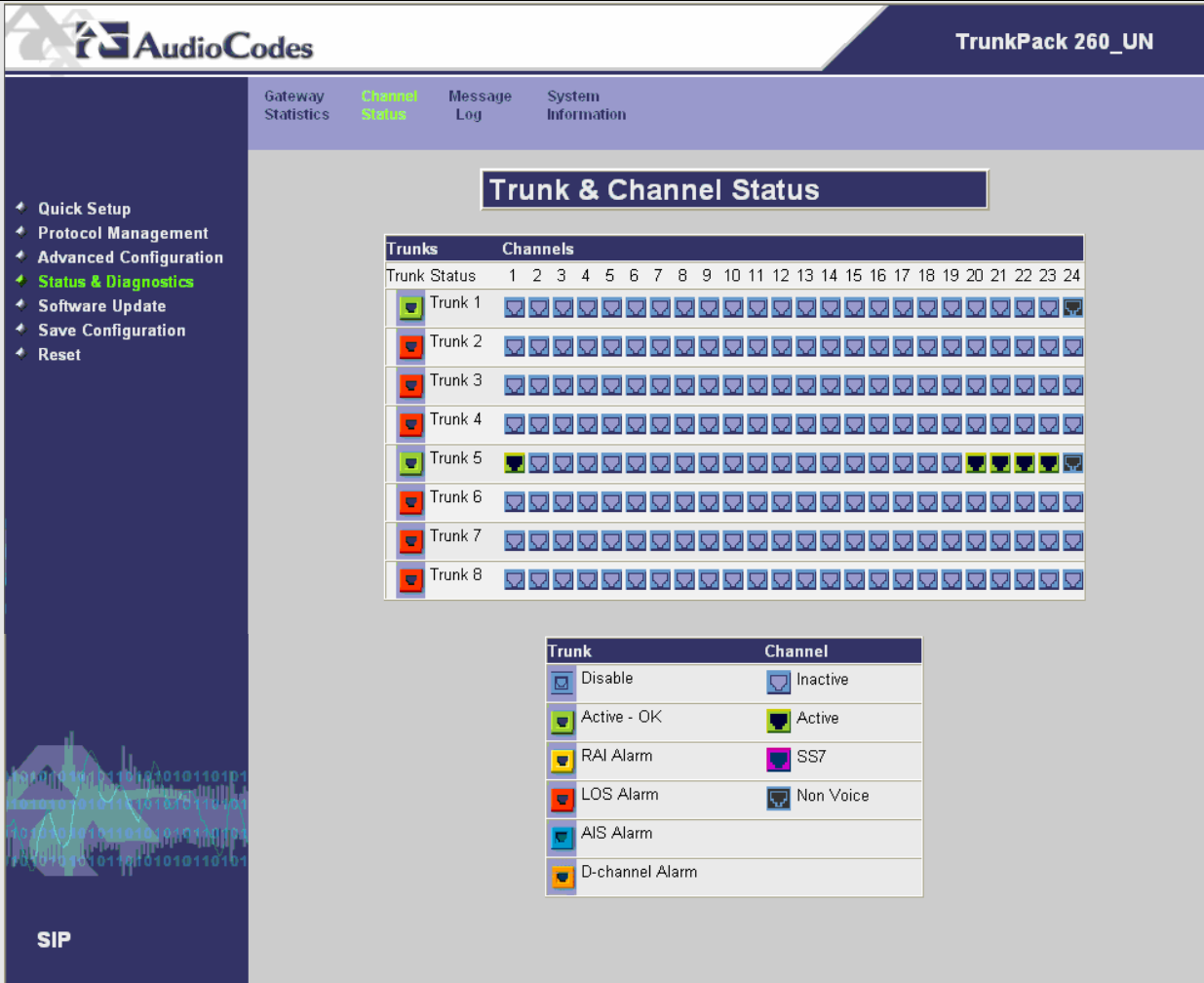
Step	Description
5.9	<p>To allow Dial-In to Avaya Meeting Exchange, configure <b>Tel to IP Routing</b> as follows:</p> <ul style="list-style-type: none"> <li>Click <b>Protocol Management</b>.</li> <li>Click <b>Routing Tables, Tel to IP Routing</b>.</li> <li>Administer settings as per below. All calls with <b>Dest. Phone Prefix = 4*</b> are 'routed' to <b>Dest. IP Address = 192.168.13.212</b> (Avaya Meeting Exchange).</li> <li>When finished, click the <b>Submit</b> button on the bottom of the screen.</li> </ul>
	 <p>The screenshot displays the AudioCodes TrunkPack 260_UN web interface. The top navigation bar includes links for Protocol Definition, Advanced Parameters, Manipulation Tables, Routing Tables (highlighted), Profile Definitions, Trunk Group, Trunk Group Settings, Digital Gateway Parameters, and VXML &amp; RADIUS Parameters. The left sidebar contains a menu with options: Quick Setup, Protocol Management (highlighted), Advanced Configuration, Status &amp; Diagnostics, Software Update, Save Configuration, and Reset. The main content area is titled 'Tel to IP Routing' and features a 'Routing Index' dropdown set to '1-10'. Below this is a 'Tel to IP Routing Mode' dropdown set to 'Route calls before manipulation'. A table with 5 columns (Dest. Phone Prefix, Source Phone Prefix, Dest. IP Address, Profile ID, Status) and 10 rows is shown. The first two rows are populated: Row 1 has '5*' for Dest. Phone Prefix, '*' for Source Phone Prefix, '192.168.13.211' for Dest. IP Address, '1' for Profile ID, and 'n/a' for Status. Row 2 has '4*' for Dest. Phone Prefix, '*' for Source Phone Prefix, '192.168.13.212' for Dest. IP Address, '1' for Profile ID, and 'n/a' for Status. The remaining rows are empty. A 'Submit' button is located at the bottom right of the table area.</p>



## 6. Verification Steps

The following steps can be used to verify the configuration described in these Application Notes.

Step	Description
6.1	<p>Verify all members for the ISDN trunk group provisioned in <b>Section 3, Step 3.8</b> are <b>in-service/idle</b>.</p> <p>From a SAT session:</p> <ul style="list-style-type: none"> <li>• Issue the command “<b>status trunk 13</b>”.</li> <li>• Verify that all members in Trunk Group 13 are <b>in-service/idle</b>.</li> </ul>
6.2	<p>Verify the ISDN trunk group is utilized when a call from a SIP station Dials-In to Avaya Meeting Exchange.</p> <p>From a SAT session:</p> <ul style="list-style-type: none"> <li>• Issue the command “<b>list trace tac 113</b>”, where <b>113</b> is the TAC defined for the trunk group provisioned in <b>Section 3, Step 3.6</b>.</li> <li>• From a SIP station, dial <b>444</b> to enter a conference as moderator via a <b>DirectCallFlow</b> scenario.</li> <li>• Enter <b>*9</b> to initiate a Blast Dial.</li> </ul> <p><b>Note:</b> This trace shows the SIP Station Dialing-In via a <b>DirectCallFlow</b>. Dial-Out, (e.g., Blast Dial) is not shown. Also, a SIP station was arbitrarily selected for these Verification Steps; as any station type (e.g., SIP, H.323, Digital or Analog) is capable of Dialing-In to Avaya Meeting Exchange from Avaya Communication Manager via the AudioCodes Media Gateway.</p> <pre>list trace tac 113</pre> <p style="text-align: right;">Page 1</p> <pre> LIST TRACE  time      data 16:18:10  dial 444 route:AAR 16:18:10  term trunk-group 13    cid 0x27a 16:18:10  dial 444 route:AAR 16:18:10  route-pattern 13 preference 1  cid 0x27a 16:18:10  seize trunk-group 13 member 1  cid 0x27a 16:18:10  Calling Number &amp; Name NO-CPNumber NO-CPName 16:18:10  Proceed trunk-group 13 member 1  cid 0x27a 16:18:10  active trunk-group 13 member 1  cid 0x27a </pre>

Step	Description
6.3	<p>Verify ISDN Trunk &amp; Channel Status on AudioCodes as follows:</p> <ul style="list-style-type: none"> <li>Click <b>Status &amp; Diagnostics</b>.</li> <li>Click <b>Channel Status</b>.</li> <li>This screen capture depicts the scenario initiated in <b>Step 6.2</b>. Also, note the following: <ul style="list-style-type: none"> <li>Status for <b>Trunk 5</b> is <b>Active - OK</b>.</li> <li>The Hunt pattern for 5 <b>Active</b> channels on <b>Trunk 1</b>. <b>Channel 1</b> is the SIP Station Dialing-In via a DirectCallFlow. <b>Channels 20-23</b> are the conferees that were added to the conference via Blast Dial.</li> </ul> </li> </ul>
	

Step	Description
6.4	<p>Verify that calls to and from Avaya Meeting Exchange are managed correctly, e.g., callers are added/removed from conferences.</p> <p>This is verified by the following procedures:</p> <ul style="list-style-type: none"> <li>• Log in to the Avaya Meeting Exchange Server console to access the command line interface with the appropriate credentials.</li> <li>• At the command prompt, enter the command: <b>watch -t -n 5 -d "ipinfo -l  egrep -ci active"</b>. This command will provide a real time, continuous update of port utilization on Avaya Meeting Exchange.</li> </ul>

## 7. Conclusion

These Application Notes provide administrators with the procedures to configure Avaya Communication Manager and the Avaya Meeting Exchange S6100 Conferencing Server, utilizing ISDN-PRI connectivity via AudioCodes Media Gateway. With appropriate configuration, Dial-In and Dial-Out conferencing is successfully established between Avaya Meeting Exchange and Avaya Communication Manager.

## 8. Additional References

Avaya references, available at <http://support.avaya.com>

1. *Administrator Guide for Avaya Communication Manager*, Doc ID: 03-300509
2. *Administration for Network Connectivity for Avaya Communication Manager*, Doc ID: 555-233-504

AudioCodes reference

3. *TP-260 UN SIP User's Manual Version 4.4*, Document #: LTRT-68002

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