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Notice

This document describes how to connect the Microsoft Lync 2010 with Rogers Business Solutions' SIP Trunk using the AudioCodes Mediant E-SBC series, which includes the Mediant 800 MSBG, Mediant 800 Gateway and E-SBC, Mediant 1000 MSBG, Mediant 1000B Gateway and E-SBC, and Mediant 3000 Gateway and E-SBC.

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Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used.

Note: Throughout this manual, unless otherwise specified, the term *E-SBC device* refers to the Mediant 800 Gateway and E-SBC, Mediant 800 MSBG, Mediant 1000B Gateway and E-SBC, Mediant 1000 MSBG and the Mediant 3000 Gateway and E-SBC.

Table 1-1: Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transferee</td>
<td>The party being transferred to the transfer target</td>
</tr>
<tr>
<td>Transferor</td>
<td>The party initiating the transfer</td>
</tr>
<tr>
<td>Transfer target</td>
<td>The new party being introduced into a call with the transferee</td>
</tr>
<tr>
<td>Blind or semi-attended transfer</td>
<td>The transferor having a session in hold state with the transferee and initiating the transfer by a consultation call to the target performs the transfer while the target is in ringing state</td>
</tr>
<tr>
<td>Attended transfer or transfer on conversation</td>
<td>The transferor waits to be in conversation state with the target before completing the transfer</td>
</tr>
<tr>
<td>CLIP</td>
<td>Calling Line Identification Presentation</td>
</tr>
<tr>
<td>CNIP</td>
<td>Calling Name Identification Presentation</td>
</tr>
<tr>
<td>CLIR</td>
<td>Calling Line Identification Restriction</td>
</tr>
<tr>
<td>CNIR</td>
<td>Calling Name Identification Restriction</td>
</tr>
<tr>
<td>COLP</td>
<td>Connected Line Identification Presentation</td>
</tr>
<tr>
<td>CONP</td>
<td>Connected Name Identification Presentation</td>
</tr>
<tr>
<td>COLR</td>
<td>Connected Line Identification Restriction</td>
</tr>
<tr>
<td>CONR</td>
<td>Connected Name Identification Restriction</td>
</tr>
<tr>
<td>CRC</td>
<td>Customer Relationship Centre</td>
</tr>
<tr>
<td>PG</td>
<td>SIP GW XXX Peripheral Gateway</td>
</tr>
<tr>
<td>ICM</td>
<td>SIP GW XXX Intelligent Call Manager</td>
</tr>
<tr>
<td>CCM</td>
<td>SIP GW XXX Call Manager</td>
</tr>
<tr>
<td>CVP</td>
<td>Customer voice Portal</td>
</tr>
<tr>
<td>BC</td>
<td>ALU Business Contact</td>
</tr>
<tr>
<td>CTI</td>
<td>Computer Telephony Integration</td>
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</tbody>
</table>
1 Introduction

This document describes how to setup the device to work with the Rogers Business Solutions SIP Trunking and Microsoft Lync Communication platform.

This configuration note is intended for Installation Engineers or AudioCodes and Rogers Business Solutions Partners who are installing and configuring the Rogers Business Solutions SIP Trunking and Microsoft Lync Communication platform to place VoIP calls using the AudioCodes E-SBC.

The Mediant 800 MSBG is a networking device that combines multiple service functions such as a media gateway, Session Border Controller (SBC), Data Router and Firewall, LAN switch, WAN access, Stand Alone Survivability (SAS) and an integrated general-purpose server.

The Mediant 800 Gateway and E-SBC, enables connectivity and security between small and medium businesses (SMB) and service providers’ VoIP networks. The Mediant 800 SBC functionality provides perimeter defense for protecting the enterprise from malicious VoIP attacks; mediation for allowing the connection of any PBX and/or IP-PBX to any service provider; and service assurance for service quality and manageability.

The Mediant 1000 MSBG is all-in-one multi-service access solution products for Service Providers (SME’s) offering managed services and distributed Enterprises seeking integrated services. This multi-service business gateway is designed to provide converged Voice & Data services for business customers at wire speed, while maintaining SLA parameters for superior voice quality.

The Mediant 1000B Gateway and E-SBC enables connectivity and security between small and medium businesses (SMB) and service providers’ VoIP networks. The Mediant 1000B SBC functionality provides perimeter defense for protecting the enterprise from malicious VoIP attacks; mediation for allowing the connection of any PBX and/or IP-PBX to any service provider; and service assurance for service quality and manageability. The Mediant 1000B media gateway functionality is based on field-proven VoIP services.

The Mediant 3000 E-SBC Mediant Gateway is a High Availability VoIP Gateway and Enterprise Class SBC for medium and large enterprises.

Note: The scope of this document does not cover security aspects for connecting the SIP Trunk to the Microsoft Lync environment. Security measures should be implemented in accordance with your organization’s security policies. For basic security guidelines, see the ‘AudioCodes Security Guidelines’.
2. Components Information

2.1 AudioCodes Gateway Version

Table 2-1: AudioCodes Gateway Version

<table>
<thead>
<tr>
<th>Gateway Vendor</th>
<th>AudioCodes</th>
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<tr>
<td>Model</td>
<td>Mediant 800 Media Gateway and E-SBC, Mediant 800 MSBG, Mediant 1000 MSBG, Mediant 1000B Media Gateway and E-SBC, Mediant 3000 Media Gateway and E-SBC</td>
</tr>
<tr>
<td>Software Version</td>
<td>SIP_6.40A.027.004</td>
</tr>
<tr>
<td>Interface Type</td>
<td>SIP/IP</td>
</tr>
<tr>
<td>VoIP Protocol</td>
<td>SIP/UDP – to the Rogers Business Solutions SIP Trunk, SIP/TCP or TLS – to the Lync FE Server</td>
</tr>
<tr>
<td>Additional Notes</td>
<td>None</td>
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</table>

2.2 Rogers Business Solutions SIP Trunking Version

Table 2-2: Rogers Business Solutions Version

<table>
<thead>
<tr>
<th>Service Vendor</th>
<th>Rogers Business Solutions</th>
</tr>
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<tr>
<td>Models</td>
<td>Rogers Sip Core</td>
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<tr>
<td>Software Version</td>
<td>v2.5.2</td>
</tr>
<tr>
<td>VoIP Protocol</td>
<td>SIP</td>
</tr>
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<td>Additional Notes</td>
<td>None</td>
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</tbody>
</table>

2.3 Microsoft Lync Version

Table 2-3: Microsoft Lync Version

<table>
<thead>
<tr>
<th>PBX Vendor</th>
<th>Microsoft</th>
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</thead>
<tbody>
<tr>
<td>Models</td>
<td>Microsoft Lync</td>
</tr>
<tr>
<td>Software Version</td>
<td>RTM: Release 2010 4.0.7577.0</td>
</tr>
<tr>
<td>VoIP Protocol</td>
<td>SIP</td>
</tr>
<tr>
<td>Additional Notes</td>
<td>None</td>
</tr>
</tbody>
</table>
2.4 **Topology**

The procedures described in this document describe the following example scenario:

- An enterprise has deployed Microsoft® Lync 2010 in its private network for enhanced communication within the company.

- The enterprise decides to offer its employees enterprise voice capabilities and to connect the company to the PSTN network using the Rogers Business Solutions SIP Trunking service.

- AudioCodes Enterprise Session Border Controller (E-SBC) is used to manage the connection between the Enterprise LAN and the ITSP SIP trunk.

The “session” refers to the real-time voice session using IP SIP signaling protocol. The “border” refers to the IP to IP network border between the Microsoft Lync network in the Enterprise LAN and the Rogers Business Solutions SIP trunk in the public network. **Figure 2-1** below illustrates a typical topology of using the E-SBC device to connect the Microsoft® Lync Server 2010 LAN to the Rogers Business Solutions SIP Trunking site.
The setup requirements are characterized as follows:

- While the Microsoft® Lync Server 2010 environment is located on the Enterprise's Local Area Network (LAN), the Rogers Business Solutions SIP Trunks are located on the WAN.
- Since Mediant 1000 MSBG is used, the internal data routing capabilities of the device are used. Consequently, a separate WAN interface is configured in the LAN.
- Microsoft Lync Server 2010 works with the TLS transport type, while the Rogers Business Solutions SIP trunk works on the SIP over UDP transport type.
- Transcoding support: Microsoft Lync Server 2010 supports G.711A-law and G.711U-law coders, while the Rogers Business Solutions SIP Trunk also supports G.729 coder type.
- Support for early media handling.

Figure 2-1: Topology
3 Configuring Lync Server 2010

This section describes how to configure the Lync Server 2010 to operate with the E-SBC device. This section describes the following procedures:


2. Associating the ‘IP/PSTN Gateway’ with the Mediation Server. See Section 3.2 on page 20.

3. Configuring a ‘Route’ to utilize the SIP trunk connected to the E-SBC device. See Section 3.3 on page 26.

Note: Dial Plans, Voice Policies, and PSTN usages are also necessary for enterprise voice deployment; however, they are beyond the scope of this document.
3.1 Configuring the E-SBC device as a ‘IP/PSTN Gateway’

This section describes how to configure the E-SBC device as an IP/PSTN Gateway.

➢ To configure the E-SBC device as a IP/PSTN Gateway and associating it with the Mediation Server:

1. On the server where the Topology Builder is located, start the Lync Server 2010 Topology Builder: Click Start, select All Programs, then select Lync Server Topology Builder.

Figure 3-1: Opening the Lync Server Topology Builder
The following screen is displayed:

**Figure 3-2: Topology Builder Options**

2. Choose ‘Download Topology from the existing deployment’ and click **OK**.
   You are prompted to save the Topology which you have downloaded.

**Figure 3-3: Save Topology**

3. Enter new **File Name** and **Save** – this action enables you to rollback from any changes you make during the installation.
The Topology Builder screen with the topology downloaded is displayed.

**Figure 3-4: Downloaded Topology**

4. Expand the Site; right-click on the IP/PSTN Gateway and choose ‘New IP/PSTN Gateway’.

**Figure 3-5: New IP/PSTN Gateway**
5. Enter the FQDN of the E-SBC (i.e. 'ITSP-GW.lync.local') and click **OK**. Note that the listening port for the Gateway is **5067** and the transport type is **TLS**.

Figure 3-6: Define New IP/PSTN Gateway

The E-SBC device is now added as a 'IP/PSTN Gateway'.

Figure 3-7: IP/PSTN Gateway
3.2 Associating the ‘IP/PSTN Gateway’ with the Mediation Server

This section describes how to associate the ‘IP/PSTN Gateway’ with the Mediation Server.

➢ To associate the IP/PSTN Gateway with the Mediation Server:

1. Right-click on the Mediation server that uses the E-SBC device (i.e. FE-Lync.Lync.local) and chooses Edit Properties.

Figure 3-8: Associating Mediation Server with IP/PSTN Gateway
2. In the top-left corner, choose **PSTN gateway** and in the Mediation Server PSTN gateway pane, mark the E-SBC gateway (i.e. ‘ITSP-GW.lync.local’) and click **Add** to associate it with this Mediation Server.

   Note that there are two sub-panes, one including a list of gateways not associated with the Mediation server and one including a list of gateways associated with the Mediation server.
3. Click OK.

Figure 3-11: Media Server PSTN Gateway Association Properties
4. In the Lync Server main menu, choose **Action > Publish Topology**.

**Figure 3-12: Publishing Topology**
The Publish Topology screen is displayed.

**Figure 3-13: Publish Topology Confirmation**

Publish the topology

In order for Lync Server 2010 to correctly route messages in your deployment, you must publish your topology. Before you publish the topology, ensure that the following tasks have been completed:

- A validation check on the root node did not return any errors.
- A file share has been created for all file stores that you have configured in this topology.
- All simple URLs have been defined.
- For Enterprise Edition Front End pools and for Monitoring Servers and Archiving Servers, all SQL stores are installed and accessible remotely; firewall exceptions for remote access to SQL Server are configured.
- For a single Standard Edition server, the task "Prepare First Standard Edition Server" was run.
- You are currently logged on as a SQL administrator, for example, as a member of the SQL sysadmin role.
- If you are removing a Front End pool, all users, common area phones, analog devices, application context objects, and conference directories have been removed from the pool.

When you are ready to proceed, click Next.

5. Click **Next**.

The Topology Builder attempts to publish your topology.
6. Click Finish.
3.3 Configuring the ‘Route’ on the Lync Server 2010

This section describes how to configure a ‘Route’ on the Lync server and associate it with the E-SBC PSTN gateway.

To configure the ‘route’ on the Lync server:

1. Open the Communication Server Control Panel (CSCP), click Start, select All Programs, and select Lync Server Control Panel.

   ![Opening the Lync Server Control Panel](image)

2. You are prompted for credentials; enter your domain username and password.

   ![Lync Server Credentials](image)
The CSCP Home page is displayed.

**Figure 3-18: CSCP Home page**

3. In the Navigation pane, select the ‘Voice Routing’ option.

**Figure 3-19: Voice Routing Option**
4. In the Voice Routing menu at the top of the page, select the Route option.

![Route Option](image)

*Figure 3-20: Route Option*

5. In the content area toolbar, click ![New](image).

6. In the New Voice Route, fill in a Name for this route (i.e. SIP Trunk Route).

7. In the Build a Pattern to Match add the starting digits you wish this route to handle. In this example, the pattern to match is "+", which means “to match all numbers”.

8. Click Add.
9. Associate the route with the E-SBC IP/PSTN gateway you created above; scroll down to the Associated Gateways pane and click Add.

Figure 3-22: Adding New E-SBC Gateway
A list of all the deployed Gateways is displayed.

**Figure 3-23: List of Deployed Gateways**

10. Select the E-SBC Gateway you created above and click **OK**.

**Figure 3-24: Selected the E-SBC Gateway**
11. Associate a PSTN Usage to this route. In the Associated PSTN Usages toolbar, click **Select** and add the associated PSTN Usage.

![Figure 3-25: Associating PSTN Usage to E-SBC Gateway](image)

12. Click the **OK** button in the toolbar at the top of the New Voice Route pane. The New Voice Route (Uncommitted) is displayed.

![Figure 3-26: Confirmation of New Voice Route](image)

13. In the Content area Toolbar, click on the arrow adjacent to the **Commit** button; a drop-down menu is displayed; select the **Commit All** option.

![Figure 3-27: Committing Voice Routes](image)

14. In the Uncommitted Voice Configuration Settings window, click **Commit**.
15. A message is displayed, confirming a successful voice routing configuration; in the Microsoft Lync Server 2010 Control Panel prompt, click Close.
The new committed Route is now displayed in the Voice Routing screen.

**Figure 3-30: Voice Routing Screen Displaying Committed Routes**
Reader's Notes
4 Configuring E-SBC Device

This section describes the following steps for configuring the E-SBC device in the Rogers Business Solutions SIP Trunking environment. The following describes the steps required to configure the E-SBC device:

- **Step 1**: Configure IP Addresses. See Section 4.1 on page 37.
- **Step 2**: Configure Port Forwarding. See Section 4.2 on page 40.
- **Step 3**: Enable SIP IP2IP Application Mode. See Section 4.3 on page 42.
- **Step 4**: Configure Secure Real-Time Transport Protocol (SRTP). See Section 4.4 on page 43.
- **Step 5**: Configure IP Media. See Section 4.5 on page 44.
- **Step 6**: SIP General Parameters. See Section 4.6 on page 45.
- **Step 7**: DTMF & Dialing. See Section 4.7 on page 47.
- **Step 8**: Coders. See Section 4.8 on page 48.
- **Step 9**: Configure Proxy & Registration. See Section 4.9 on page 49.
- **Step 10**: Configure Proxy Sets table. See Section 4.10 on page 50.
- **Step 11**: Configure Coder Group. See Section 4.11 on page 52.
- **Step 12**: Configure IP Profile. See Section 4.12 on page 54.
- **Step 13**: Configure IP Group Tables. See Section 4.13 on page 56.
- **Step 14**: Routing. See Section. See Section 4.14 on page 58.
- **Step 15**: Manipulation. See Section 4.15 on page 60.
- **Step 16**: Define SIP TLS Connection. See Section 4.16 on page 63.
- **Step 17**: Resetting the Gateway. See Section 4.17 on page 70.
The procedures described in this section are performed using the E-SBC devices’ Web-based management tool (i.e., embedded Web server). Before you begin configuring the E-SBC device, ensure that the Web interface’s Navigation tree is in full menu display mode (i.e., the Full option on the Navigation bar is selected), as displayed below:

Figure 4-1: Web Interface Showing Basic/Full Navigation Tree Display
4.1 Step 1: Configuring IP Addresses

This step describes how to configure LAN IP addresses when the internal data-routing capabilities of the E-SBC device are used in order to connect to the Rogers Business Solutions SIP Trunk. In this case, you must configure a separate WAN interface as described in this step.

Notes:
- The VoIP and Management interface must be in the same subnet as the data-routing interface as shown in the figure below.
- When operating with both VoIP and data-routing functionalities, it is recommended to define the Default Gateway IP address for the VoIP network interface in the same subnet and with the same VLAN ID as the IP address for the data-routing LAN interface as shown below.

4.1.1 Configuring LAN IP Addresses

This step describes how to configure the LAN addresses.

4.1.1.1 Configuring VoIP IP Settings

This section describes how to configure VoIP IP Settings.

➢ To configure the VoIP IP settings:

1. Open the 'IP Settings' page (Configuration tab > VoIP menu > Network > IP Settings).

2. Select the 'Index' radio button corresponding to the Application Type "OAMP + Media + Control" (i.e., VoIP and management interface), and then click Edit.

   Set the following parameters:
   - **IP-Address**: <Gateway IP-Address> (e.g., 10.15.7.131).
   - **Prefix Length**: The Subnet Mask in bits (e.g., 16 for 255.255.0.0).
   - **Gateway**: <Gateway Default Gateway> (e.g., 10.15.7.130). In case of M800 or M1K this IP should be same as you setup in LAN data-routing IP address in case of M3K it should be the corporate router IP.
   - **Primary DNS Server IP Address**: <DNS IP-Address> (e.g., 10.15.9.10). VoIP LAN DNS server, is a necessary action when a FQDN is configured (as in this scenario configuration, see section 4.9).
3. Set the **WAN Interface Name**: 'WAN Ethernet'. This is the WAN interface on which your VoIP traffic interfaces with the public network.

### 4.1.1.2 Configuring LAN Data-Routing IP Settings

This section describes how to configure LAN data-routing IP settings.

Access the MSBG device’s Web interface with the IP address that you assigned to the VoIP and Management interface.

**Notes:** This step is only relevant for the Mediant 800 MSBG and the Mediant 1000 MSBG devices.

➢ **To define the MSBG device's LAN data-routing IP address:**

1. Open the 'Connections' page (**Configuration** tab > **Data** menu > **Data System** > **Connections**).

   **Figure 4-3: Connections Page**

2. Click the **Edit** icon corresponding to the 'LAN Switch VLAN 1' connection, and then click the **Settings** tab.

   **Figure 4-4: Defining LAN Data-Routing IP Address**

3. In the 'IP Address' and 'Subnet Mask' fields, enter the required IP address (e.g., 10.15.7.130) and subnet respectively, and then click **OK**.
4.1.2 Configuring WAN IP Addresses

This step describes how to configure the MSBG device IP address used to connect to the WAN.

**Notes:** This step is only relevant for the Mediant 800 MSBG and the Mediant 1000 MSBG devices.

➢ **To configure the WAN IP address:**

1. Cable the MSBG device to the WAN network (i.e., ADSL or Cable modem), using the WAN port.
2. Open the 'Settings' page (Configuration tab > Data menu > WAN Access > Settings).

![Figure 4-5: WAN Settings](image)

3. Set the following parameters:
   - **IP Address:** <WAN IP-Address> (e.g., 195.189.192.154).
   - **Subnet Mask:** <Subnet Mask> (e.g., 255.255.255.128).
   - **Default Gateway:** <WAN Default GW IP-Address> (e.g., 195.189.192.129).
   - **Primary DNS Server:** <First DATA DNS IP-Address> (e.g., 80.179.52.100).
   - **Secondary DNS Server:** <Second Data DNS IP-Address> (e.g., 80.179.55.100).
4.2 Step 2: Configuring Port Forwarding

This step describes how to configure the MSBG device Port Forwarding. The Port Forwarding item enables you to define the applications that require special handling by the device. This allows you to select the application's protocol or ports (SIP and RTP) and the local IP address of the device (e.g., Gateway's IP: 10.15.7.131) that will be using the service.

Notes: This step is only relevant for the Mediant 800 MSBG and the Mediant 1000 MSBG devices.

To configure a port forwarding service:

1. Open the ‘Settings’ page (Configuration tab > Data menu > Firewall and ACL > Port Forwarding).

   Figure 4-6: Configure Port Forwarding

2. Click the ‘New Entry’ link; the following page appears:

   Figure 4-7: Adding Port Forwarding Rule

3. In the 'Local Host' field, enter the host name or IP address (e.g., 10.15.7.131).
4. From the "Protocol" drop-down list, select or specify the type of protocol. Add a new one using the 'User Defined' option, and then add a new Service, representing the protocol.

**Figure 4-8: Adding a Service Protocol**

![Adding a Service Protocol]

5. Write the new Service Name, (e.g., SIP, RTP)

6. Click the **New Server Ports** link.

**Figure 4-9: Defining Service Server Ports**

![Defining Service Server Ports]

7. Set the Protocol type (e.g., UDP).

8. Set the Destination Port Range (e.g., 5060 for SIP and 6000-8000 for RTP).

9. Click **OK** to save your changes.

The main Port Forwarding page displays a summary of the rules that you added:

**Figure 4-10: Display Port Forwarding Rules**

![Display Port Forwarding Rules]
4.3 Step 3: Enabling Application Mode

This step describes how to enable the IP2IP application mode.

➢ To enable the application mode:

1. Open the 'Applications Enabling' page (Configuration tab > VoIP menu > Applications Enabling > Applications Enabling).

   ![Figure 4-6: Applications Enabling]

2. Enable IP2IP Application.

Notes:

1. To enable the IP2IP capabilities on the AudioCodes gateway, your gateway must be loaded with the feature key that includes the IP2IP feature.
2. The E-SBC device must be running SIP version 6.2 or later.
3. Reset with BURN to FLASH is required.
4.4 Step 4: Configuring Secure Real-Time Transport Protocol (SRTP)

If you configure TLS for the SIP transport link between the E-SBC and the Mediation Server, you must configure Secure RTP (SRTP) encryption with one of the following options:

- **Required**: SRTP should be attempted; however do not use encryption if negotiation for SRTP is unsuccessful.
- **Optional**: Attempt to negotiate the use of SRTP to secure media packets. Use RTP if SRTP cannot be negotiated.
- **Not used**: Send media packets using RTP.

If you choose to configure the Mediation Server to use SRTP (Required or Optional), you need to configure the Media Gateway to operate in the same manner.

➢ To configure the media security:

1. Open the 'Media Security' page (Configuration tab > Media menu > Media Security).

   ![Figure 4-7: Media Security Page](image)

2. Set the Media Security to Enable.
3. Set the Media Security Behavior:
   - 'Mandatory' if Mediation Server is configured to SRTP Required.
   - 'Preferable-Single media' if Mediation Server is configured to SRTP Optional.
4. Set the 'Master Key Identifier (MKI) Size' to 1.
5. Click Submit.
6. Save (burn) the configuration and reset the gateway.

**Notes:** In order to set the ‘Media Security Behavior’ to the IP Profile of the Mediation Server, see the IP Profile Settings (see Section 4.9 on page 49).
4.5 Step 5: Configuring IP Media

This step describes how to configure the number of media channels for the IP media. In order to perform the coder transcoding, you need to define DSP channels. The number of media channels represents the number of digital signaling processors (DSP) channels that the device allocates to IP-to-IP calls (the remaining DSP channels can be used for PSTN calls). Two IP media channels are used per IP-to-IP call.

- The maximum number of media channels available on the Mediant 800 E-SBC device is 30 (i.e., up to 15 IP-to-IP calls).
- The maximum number of media channels available on the Mediant 1000 E-SBC device is 120 (i.e., up to 60 IP-to-IP calls).
- The maximum number of media channels available on the Mediant 3000 E-SBC device is 2016 (i.e., up to 1008 IP-to-IP calls).
- In this configuration, 120 channels are configured.

➢ To configure IP Media Settings:

1. Open the 'IP Media Settings' page (Configuration tab > VoIP menu > IP Media > IP Media Settings).

Figure 4-8: IP Media Settings

2. Set 'Number of Media Channels' to 120.
4.6  Step 6: Configuring SIP General Parameters

This step describes how to enable SIP General parameters.

➢ To configure SIP General Parameters:

1. Open the ‘Applications Enabling’ page (Configuration tab > VoIP menu > SIP Definitions > General Parameters).

2. Set 'NAT IP Address', with the Global (public) IP address of the E-SBC device.
3. Set 'Enable Early Media' to Enable.
4. Set 'SIP Transport Type' to TLS.
5. Set 'SIP TLS Local Port' to 5067 (Lync server port).
6. Set 'SIP Destination Port' to 5067 (Lync server port).
7. Set 'Play Ringback Tone' to Tel to Play Local Until Remote Media Arrives.
8. Set 'Forking Handling Mode' to **Sequential handling**.
9. Click **Submit**.
4.7 Step 7: Configuring DTMF and Dialing

This step describes how to configure the DTMF and Dialing settings.

➢ To configure DTMF and Dialing:

1. Open the 'DTMF & Dialing' page (Configuration tab > VolP menu > GW and IP to IP > DTMF and Supplementary > DTMF & Dialing).

Figure 4-10: DTMF & Dialing

<table>
<thead>
<tr>
<th>Max Digits In Phone Num</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inter Digit Timeout [sec]</td>
<td>4</td>
</tr>
<tr>
<td>Declare RFC 2833 in SDP</td>
<td>Yes</td>
</tr>
<tr>
<td>1st Tx DTMF Option</td>
<td>RFC 2833</td>
</tr>
<tr>
<td>2nd Tx DTMF Option</td>
<td></td>
</tr>
<tr>
<td>RFC 2833 Payload Type</td>
<td>101</td>
</tr>
<tr>
<td>Dial Plan Index</td>
<td>-1</td>
</tr>
<tr>
<td>Default Destination Number</td>
<td>1000</td>
</tr>
</tbody>
</table>

2. Set RFC 2833 Payload Type to 101.
4.8 Step 8: Configuring Coders

This step describes how to configure the SIP coders table. In this case scenario, we are also using coder group tables, see Section 4.11 on page 52.

The screen below show an example for the general coders’ table configuration:

➢ To configure coders:

1. Open the 'Coders' page (Configuration tab > VoIP menu > Coders and Profiles > Coders).

Figure 4-11: Coders

2. From the 'Coder Name' drop-down list, select the required coder.

3. Click Submit.
4.9 Step 9: Configuring Proxy and Registration

This step describes how to configure the SIP Proxy & Registration. This configuration includes setting a redundant route for the Microsoft Lync Proxy Set.

➢ To configure Proxy & Registration:

1. Open the 'Proxy & Registration' page (Configuration tab > VoIP menu > SIP Definitions > Proxy & Registration).

Figure 4-12: Proxy & Registration

2. Set 'Gateway Name' to Gateway FQDN Name (e.g., 'ITSP-GW.lync.local') (note that you configure this name in Section 4.16.2 on page 64).
4.10 Step 10: Configuring Proxy Sets Tables

This step describes how to configure the proxy set tables. You need to configure two proxy sets, one for the Rogers Business Solutions SIP trunk and the other for the Microsoft Lync server.

➢ To configure Proxy Sets Table 1 for Microsoft Lync:

1. Open the 'Proxy Sets Table' page (Configuration tab > VoIP menu > Control Network> Proxy Sets Table).

2. Set Proxy Set ID to 1.

3. Configure Microsoft Lync Server SIP Trunking IP-Address or FQDN and Destination Port (e.g., FE-Lync.Lync.local).

4. Set ‘Transport Type’ to TLS.

5. Set ‘Enable Proxy Keep Alive’ to Using Options.


7. Set 'Is Proxy Hot Swap' to Yes.
To configure Proxy Sets Table 2 for Rogers Business Solutions SIP Trunk:

1. Open the 'Proxy Sets Table' page (Configuration tab > VoIP menu > Control Network > Proxy Sets Table).

   ![Figure 4-14: Proxy Sets Table 2]

2. Set 'Proxy Set ID' to 2.

3. Configure Rogers Business Solutions IP-Address or FQDN and Destination Port (e.g., 66.252.148.168:5060).

4. Set 'Transport Type' to UDP.
4.11 **Step 11: Configuring Coder Group**

This step describes how to configure the Coder Groups. Microsoft Lync supports G.711 coders, while the network connection to Rogers Business Solutions may restrict you to work with lower bandwidth coders, such as G.729.

The 'Coder Group Settings' allows you to define up to four different Coder Groups. These Coder Groups are then assigned to IP Profiles, where each IP profile is based on the respective supported coder (see Section 4.12 on page 54).

➢ To configure Coders Group for Microsoft Lync connection:

1. Open the 'Coder Group Settings' page (Configuration tab > VoIP menu > Coders And Profiles > Coders Group Settings).

   ![Figure 4-15: Coders Group Settings](image)

2. Select Coder Group ID 1.
4. Set ‘Silent Suppression’ to Enable
5. Click Submit.
To configure Coders Group for Rogers Business Solutions SIP Trunk connection:

1. Open the 'Coders Group Settings' page (Configuration tab > VoIP menu > Coders And Profiles > Coders Group Settings).

   Figure 4-16: Coders Group Settings

2. Select Coder Group ID 2.

3. Set 'Coder Name' to G.711U-law, G.711A-law, and GSM FR.

4. Click Submit.
4.12 \hspace{1em} \textbf{Step 12: Configuring IP Profile}

This step describes how to configure the IP Profile. In this configuration, the IP Profile is used to configure the SRTP/TLS mode and the Coder Group (see Section 4.11 on page 52).

You must configure Microsoft Lync to work in secure mode (SRTP/TLS); while, the Rogers Business Solutions SIP trunk is configured in non-secure mode RTP/UDP.

\textbf{To configure IP Profile for Microsoft Lync:}

1. Open the 'IP Profile Settings' page (Configuration tab > VoIP menu > Coders And Profiles > IP Profile Settings).

![Figure 4-17: IP Profile Settings](image)

2. Select Profile ID 1.
4. Set Coder Group to Coder Group 1.
5. Click Submit.
To configure IP Profile for Rogers Business Solutions SIP Trunk:

1. Open the 'IP Profile Settings' page (Configuration tab > VoIP menu > Coders And Profiles > IP Profile Settings).

2. Select Profile ID 2.
4. Set Coder Group to Coder Group 2.
5. Click Submit.

Figure 4-18: IP Profile Settings
4.13 **Step 13: Configuring IP Group Tables**

This step describes how to create IP groups. Each IP group represents a SIP entity in the gateway's network. You need to create IP groups for the following entities:

- Lync Server 2010 – Mediation Server
- Rogers Business Solutions SIP Trunk

These IP groups are later used by the IP2IP application for routing calls.

➢ To configure IP Group Table 1 (Lync Server 2010):

1. Open the 'IP Group Table' page (Configuration tab > VoIP menu > Control Network > IP Group Table).

2. Set Index to 1.

3. Set 'Type' to SERVER.

4. Set Proxy Set ID to 1.

---

To configure IP Group Table 1 (Lync Server 2010):

1. Open the 'IP Group Table' page (Configuration tab > VoIP menu > Control Network > IP Group Table).

2. Set Index to 1.

3. Set 'Type' to SERVER.

4. Set Proxy Set ID to 1.
To configure IP Group Table 2 (Rogers Business Solutions SIP Trunk):

1. Open the 'IP Group Table' page (Configuration tab > VoIP menu > Control Network > IP Group Table).

Figure 4-20: IP Group Table 2 (Rogers Business Solutions SIP Trunk)

2. Set Index to 2.
3. Set 'Type' to SERVER.
4. Set 'Proxy Set ID' to 2.
4.14 Step 14: Configuring Routing

This step describes how to configure the IP to IP routing table.

The device IP-to-IP routing rules are configured in the ‘IP to Trunk Group Routing’ and ‘Tel to IP Routing’ tables. Those tables provide enhanced IP-to-IP call routing capabilities for routing received SIP messages such as INVITE messages to a destination IP address. The routing rule must match one of the following input characteristics: Source IP Group, Source Phone Prefix, and/or Source Host Prefix.

It is crucial that you adhere to the following guidelines when configuring your IP-to-IP routing rules:

- Ensure that your routing rules are accurate and correctly defined.
- Ensure that your routing rules from source IP Group to destination IP Group are accurately defined to be eligible for the desired call routing outcome.
- Avoid (if possible) using the asterisk (*) symbol to indicate "any" for a specific parameter in your routing rules. This constitutes a weak routing rule. For strong routing rules, enter specific letter or numeric character values.

➢ To configure IP to Trunk Group Routing Table:

1. Open the 'IP to Trunk Group Routing Table' page (Configuration tab > VoIP menu > GW and IP to IP > Routing > IP to Trunk Group Routing Table).

![Figure 4-21: IP to Trunk Group Routing Table](image)

2. Calls arriving from the Microsoft Lync server are sent to the ‘Tel to IP Routing Table’ (-1) with ‘IP Profile ID’ = 1 and marked as ‘Source IPGroup ID’ = 1.

3. Calls arriving from Rogers Business Solutions are sent to the ‘Tel to IP Routing Table’ (-1) with ‘IP Profile ID’ = 2 and marked as ‘Source IPGroup ID’=2.
To configure Tel to IP Routing Table:

1. Open the ‘Tel to IP Routing Table’ page (Configuration tab > VoIP menu > GW and IP to IP > Routing > Tel to IP Routing Table).

Figure 4-22: Tel to IP Routing Table

<table>
<thead>
<tr>
<th>Src. IPGroup ID</th>
<th>Src. Host Prefix</th>
<th>Dest. Host Prefix</th>
<th>Dest. IPGroup ID</th>
<th>Dest. Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>TRS</th>
<th>Dest. IP Address</th>
<th>Transprot Type</th>
<th>Src. IPGroup ID</th>
<th>Dest. IPGroup ID</th>
<th>Dest. SRID</th>
<th>Profile ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>Net Configured</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>Net Configured</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>Net Configured</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>Net Configured</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>Net Configured</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>Net Configured</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>Net Configured</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

2. Calls from Source IPGroup ID 1 (e.g., from Microsoft Lync) are sent to ‘Dest. IPGroup ID 2 (e.g., To Rogers Business Solutions).
3. Calls from Source IPGroup ID 2 (e.g., from Rogers Business Solutions) are sent to ‘Dest. IPGroup ID 1 (e.g., To Lync).

Note: The Routing configuration may change according to the local deployment topology.
4.15 Step 15: Configuring Manipulation

This step describes how to configure the manipulation tables. The Manipulation Tables sub-menu allows you to configure number manipulation and mapping of NPI/TON to SIP messages.

Note: Adapt the manipulation table according to your environment dial plan.

➢ To configure Manipulation Tables:

1. Open the 'Manipulation Table' page (Configuration tab > VoIP menu > GW and IP to IP > Manipulations).

Figure 4-23: Manipulation Tables
The following includes examples for number manipulation on destination and source numbers in the Tel-to-IP tables:

➤ To configure Destination Phone Number Manipulation Table for Tel -> IP Calls Table:

1. Open the Destination Phone Number Manipulation Table for Tel -> IP calls page (Configuration tab > VoIP menu > GW and IP to IP > Manipulations sub-menu > Dest Number Tel > IP).

![Figure 4-29: Destination Phone Number Manipulation Table for Tel -> IP Calls](image)

2. **Index #1** defines the destination number manipulation of calls from Lync Server.
   - All calls received from Source IP Group 1 (i.e., from Lync Server) and the destination number prefix that begins with ‘+’, remove the ‘+’ from the number.

3. **Index #2** defines the destination number manipulation of calls from Rogers Business Solutions SIP Trunk.
   - All calls received from Source IP Group 2 (i.e., from Rogers Business Solutions SIP Trunk) and the destination number prefix is ‘*’ (i.e., any), add the ‘+’ prefix to the number.
To configure Source Phone Number Manipulation Table for Tel -> IP Calls Table:

1. Open the Source Phone Number Manipulation Table for Tel -> IP calls page (Configuration tab > VoIP menu > GW and IP to IP > Manipulations sub-menu > Source Number Tel > IP).

Figure 4-30: Source Phone Number Manipulation Table for Tel -> IP Calls Page

2. **Index #2** defines source number manipulation of calls from the Lync Server.
   - For all calls received from Source IP Group 1 (i.e., from Lync Server) and the source number prefix begins with '+', remove the '+' from the number.

3. **Index #3** defines source number manipulation of calls from the Rogers Business Solutions SIP Trunk.
   - For all calls received from Source IP Group 2 (i.e., from Rogers Business Solutions SIP Trunk) and the source number prefix begins with 00, remove the ‘00’ from the number.
4.16  Step 16: Configuring SIP TLS Connection

This step describes how to configure AudioCodes gateways for implementing a TLS connection with the Microsoft Lync Mediation server. The steps described in this section are essential elements for the configuration of a secure SIP TLS connection.

4.16.1  Step 16-1: Configuring NTP Server

This step describes how to configure the NTP Server IP address. It is recommended to implement an NTP server (third-party) so that the E-SBC device receives the accurate current date and time. This is necessary for validating parties' certificates.

➢ To configure NTP Settings:

1. Open the ‘Application Settings’ page (Configuration tab > System menu > Application Settings).

Figure 4-24: NTP Settings

<table>
<thead>
<tr>
<th>NTP Settings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NTP Server IP Address</td>
<td>10.15.9.10</td>
</tr>
<tr>
<td>NTP UTC Offset</td>
<td>Hours: 2  Minutes: 0</td>
</tr>
<tr>
<td>NTP Updated Interval</td>
<td>Hours: 24  Minutes: 0</td>
</tr>
</tbody>
</table>

2. Set the **NTP Server IP Address** to <NTP Server IP-Address> (e.g., 10.15.9.10).
Step 16-2: Configuring a Certificate

This step describes how to exchange a certificate with the Microsoft Certificate Authority.

To configure a certificate:

1. Open the ‘Certificates’ page (Configuration tab > System menu > Certificates).

Figure 4-25: Certificates Page

2. In the 'Subject Name' field, enter the Media Gateway name (i.e., ITSP-GW.Lync.local)

3. Click on Create CSR; a Certificate request will be generated.

4. Copy the CSR (from the line “----BEGIN CERTIFICATE REQUEST-----” to “END CERTIFICATE REQUEST-----”) to a text file (such as Notepad), and then save it to a folder on your PC as certreq.txt.

![Figure 4-26: Microsoft Certificate Services Web Page](image)

6. Click the link Request a Certificate.

![Figure 4-27: Request a Certificate Page](image)
7. Click the link **Advanced Certificate Request**, and then click **Next**.

**Figure 4-28: Advanced Certificate Request Page**

8. Click the link **Submit a Certificate request by using base64 encoded....**, and then click **Next**.
Figure 4-29: Submit a Certificate Request or Renewal Request Page

9. Open the `certreq.txt` file that you created and saved (see Step 4), and then copy its contents to the ‘Base64 Encoded Certificate Request’ text box.

10. Select ‘Web Server’ from the **Certificate Template** drop-down box.

11. Click **Submit**.

12. Choose the ‘Base 64’ encoding option, and then click the link **Download CA certificate**.

13. Save the file as ‘gateway.cer’ in a folder on your PC.


15. Click the link **Download a CA Certificate, Certificate Chain or CRL**.
16. Under the Encoding method group, perform the following:

17. Select the ‘Base 64’ encoding method option.

18. Click the link Download CA certificate.

19. Save the file as ‘certroot.cer’ in a folder on your PC.

21. In the ‘Certificates’ page, in the ‘Device Certificate’ field, click **Choose File** and select the ‘Gateway.cer’ certificate file that you saved on your local disk (see Step 13), and then click **Send File** to upload the certificate.

22. In the ‘Certificates’ page, in the ‘Trusted Root Certificate Store’ field, click **Choose File** and select the ‘Certroot.cer’ certificate file that you saved on your local disk (see Step 19), and then click **Send File** to upload the certificate.

23. Save (burn) the Media Gateway configuration and reset the Media Gateway, using the Web interface’s ‘Maintenance Actions’ page (On the Navigation bar, click the **Maintenance** tab, and then in the Navigation tree, choose **Maintenance Actions**).
4.17 Step 17: Resetting the Gateway

After you have completed the gateway configuration as described in the steps above, burn the configuration to the gateway’s flash memory and reset the gateway.

- Click the **Reset** button to burn the configuration to flash and reset the gateway (ensure that the ‘Burn to FLASH’ field is set to **Yes**).

**Figure 4-32: Reset the Gateway**

![Reset Gateway](image)

**Note:** Reset with BURN to FLASH is required.
A AudioCodes INI File

This step shows the E-SBC device INI file. This file reflects the configuration described in Section 4 on page 35.

```
;**************
;** Ini File **
;**************

;Board: Mediant 1000 - MSBG
;Serial Number: 3589366
;Slot Number: 1
;Software Version: 6.40A.027.004
;DSP Software Version: 624AE3 => 640.03
;Board IP Address: 10.15.7.131
;Board Subnet Mask: 255.255.0.0
;Board Default Gateway: 10.15.7.130
;Ram size: 512M   Flash size: 64M
;Num of DSP Cores: 13  Num DSP Channels: 51
;Profile: NONE

;Key features:;Board Type: Mediant 1000 - MSBG ;PSTN Protocols: ISDN IUA=4 CAS ;Coders: G723 G729 GSM-FR G727 ILBC ;E1Trunks=4 ;T1Trunks=4 ;IP Media: Conf VXML VoicePromptAnnounc(H248.9) ;Channel Type: RTP PCI DspCh=240 IPMediaDspCh=240 ;DSP Voice features: EC128mSec AdditionTimeslotSummation FastSlowPlayback BargeIn PatternDetector IpmDetector ;DATA features: Routing FireWall&VPN WAN Advanced-Routing ;Security: IPSEC MediaEncryption StrongEncryption EncryptControlProtocol ;Control Protocols: MSFT MGCP MEGACO SIP SASurvivability SBC=120 ;Default features:;Coders: G711 G726;

;--------- Mediant-1000 HW components ---------
; Slot # : Module type : # of ports : # of DSPs
;----------------------------------------------
;      1 : FALC56      :          2 :         3
;      2 : FXS         :          4 :         1
;      3 : Empty
;      4 : Empty
;      5 : Empty
;      6 : Empty
;----------------------------------------------

[SYSTEM Params]
DNSPriServerIP = 10.15.9.10
SyslogServerIP = 10.15.45.200
EnableSyslog = 1
NTPServerIP = 10.15.9.10
NTPServerUTCOffset = 7200
TelnetServerEnable = 1
PM_VEDSPUtil = '1,64,72,15'

[BSF Params]
PCMLawSelect = 3
WanInterfaceName = 'GigabitEthernet 0/0'
```
[Analog Params]

[ControlProtocols Params]
AdminStateLockControl = 0

[MGCP Params]

[MEGACO Params]
EP_Num_0 = 0
EP_Num_1 = 1
EP_Num_2 = 1
EP_Num_3 = 0
EP_Num_4 = 0
DIGITMAPPING = ''

[PSTN Params]

[SS7 Params]

[Voice Engine Params]
RFC2833TxPayloadType = 101
EnableDSPIPMDetectors = 1
ENABLEMEDIASECURITY = 1
SRTPTxPacketMKISize = 1
CallProgressTonesFilename = 'usa_tones_13.dat'

[WEB Params]
LogoWidth = '145'
HTTPSCipherString = 'RC4:EXP'

[SIP Params]

MEDIACHANNELS = 120
SIPDESTINATIONPORT = 5067
PLAYRBTONE2TEL = 3
GWDEBUGLEVEL = 5
ENABLEEARLYMEDIA = 1
SIPGATEWAYNAME = 'ITSP-GW.Lync.local'
STATICNATIP = 195.189.192.154
SIPTRANSPORTTYPE = 2
TLSLOCALSIPPORT = 5067
MEDIASECURITYBEHAVIOUR = 3
FORKINGHANDLINGMODE = 1
ENABLEIP2IPAPPLICATION = 1

[SCTP Params]
[VXML Params]

[IPsec Params]

[Audio Staging Params]

[SNMP Params]

;  *** TABLE InterfaceTable ***
;
;
[ InterfaceTable ]

FORMAT InterfaceTable_Index = InterfaceTable_ApplicationTypes,
InterfaceTable_InterfaceMode, InterfaceTable_IPAddress,
InterfaceTable_PrefixLength, InterfaceTable_Gateway,
InterfaceTable_VlanID, InterfaceTable_InterfaceName,
InterfaceTable_PrimaryDNSServerIPAddress,
InterfaceTable_SecondaryDNSServerIPAddress,
InterfaceTable_UnderlyingInterface;
InterfaceTable 0 = 6, 10, 10.15.7.131, 16, 10.15.7.130, 1, Voice,
10.15.9.10, , ;
[ \InterfaceTable ]

;  *** TABLE DspTemplates ***
; This table contains hidden elements and will not be exposed.
; This table exists on board and will be saved during restarts
;

;  *** TABLE PREFIX ***
;
;
[ PREFIX ]
FORMAT PREFIX_Index = PREFIX_DestinationPrefix, PREFIX_DestAddress,
PREFIX_SourcePrefix, PREFIX_ProfileId, PREFIX_MeteringCode,
PREFIX_DestPort, PREFIX_SrcIPGroupID, PREFIX_DestHostPrefix,
PREFIX_DestIPGroupID, PREFIX_SrcHostPrefix, PREFIX_TransportType,
PREFIX_SrcTrunkGroupID, PREFIX_DestSRD;
PREFIX 0 = *, , *, 2, 255, 0, 1, , 2, , -1, -1, -1;
PREFIX 1 = *, , *, 1, 255, 0, 2, , 1, , -1, -1, -1;
[ \PREFIX ]

;  *** TABLE NumberMapIp2Tel ***
;
;
[ NumberMapIp2Tel ]
FORMAT NumberMapIp2Tel_Index = NumberMapIp2Tel_DestinationPrefix, NumberMapIp2Tel_SourcePrefix, NumberMapIp2Tel_SourceAddress, NumberMapIp2Tel_Type, NumberMapIp2Tel_NumberPlan, NumberMapIp2Tel_RemoveFromLeft, NumberMapIp2Tel_RemoveFromRight, NumberMapIp2Tel_LeaveFromLeft, NumberMapIp2Tel_LeaveFromRight, NumberMapIp2Tel_Prefix2Add, NumberMapIp2Tel_Suffix2Add, NumberMapIp2Tel_IsPresentationRestricted, NumberMapIp2Tel_SrcTrunkGroupId, NumberMapIp2Tel_SrcIPGroupId;
NumberMapTel2Ip 1 = +, *, *, 255, 255, 1, 0, 255, , , 255, -1, 1;
NumberMapTel2Ip 2 = *, *, *, 255, 255, 0, 0, 255, +, , 255, -1, 2;

; *** TABLE NumberMapTel2Ip ***

[ NumberMapTel2Ip ]
FORMAT NumberMapTel2Ip_Index = NumberMapTel2Ip_DestinationPrefix, NumberMapTel2Ip_SourcePrefix, NumberMapTel2Ip_SourceAddress, NumberMapTel2Ip_Type, NumberMapTel2Ip_NumberPlan, NumberMapTel2Ip_RemoveFromLeft, NumberMapTel2Ip_RemoveFromRight, NumberMapTel2Ip_LeaveFromLeft, NumberMapTel2Ip_LeaveFromRight, NumberMapTel2Ip_Prefix2Add, NumberMapTel2Ip_Suffix2Add, NumberMapTel2Ip_IsPresentationRestricted, NumberMapTel2Ip_SrcTrunkGroupId, NumberMapTel2Ip_SrcIPGroupId;
SourceNumberMapTel2Ip 2 = *, +, *, 255, 255, 1, 0, 255, , , 255, -1, 1;
SourceNumberMapTel2Ip 3 = *, 00, *, 255, 255, 2, 0, 255, , , 255, -1, 2;

[ \NumberMapTel2Ip ]

; *** TABLE PstnPrefix ***

[ PstnPrefix ]
FORMAT PstnPrefix_Index = PstnPrefix_DestPrefix, PstnPrefix_TrunkGroupId, PstnPrefix_SourcePrefix, PstnPrefix_SourceAddress, PstnPrefix_ProfileId, PstnPrefix_SrcIPGroupId, PstnPrefix_DestHostPrefix, PstnPrefix_SrcHostPrefix;
PstnPrefix 0 = *, -1, , 10.15.9.11, 1, 1, , , -1;
PstnPrefix 1 = *, -1, , 66.252.148.168, 2, 2, , , -1;

[ \PstnPrefix ]

; *** TABLE ProxyIp ***

[ ProxyIp ]
; ** NOTE: Changes were made to active configuration.
; ** The data below is different from current values.
FORMAT ProxyIp_Index = ProxyIp_IpAddress, ProxyIp_TransportType, ProxyIp_ProxySetId;
ProxyIp 0 = FE-Lync.Lync.local, 2, 1;
ProxyIp 0 = 66.252.148.168:5060, 0, 2;
### AudioCodes INI File

#### ProxyIp

| FORMAT ProxyIp_Index = ProxyIp_Type; ProxyIp 0 = 4; |

#### TxDtmfOption

| FORMAT TxDtmfOption_Index = TxDtmfOption_Type; TxDtmfOption 0 = 4; |

#### IpProfile


| IpProfile 1 = Lync, 1, 2, 10, 10, 46, 40, 0, 0, 0, 0, 0, 0, 1, -1, 1, 0, 3, -1, 1, 1, 0, 0, -1, 0, 0, 0, 0, -1, -1, 4, -1, 1, 0, 0, 0, 0, 0, 0, 0, -1, 0, 0, -1, 8, 300, 400, -1, -1; |

| IpProfile 2 = Rogers Business Solutions, 1, 1, 2, 10, 10, 46, 40, 0, 0, 0, 0, 0, 0, 0, 1, -1, 1, 0, 2, -1, 1, 1, 1, 0, 0, -1, 0, 0, 0, 0, -1, 0, 0, 0, -1, 0, 0, 0, -1, 8, 300, 400, -1, -1; |

#### ProxySet

| FORMAT ProxySet_Index = ProxySet_EnableProxyKeepAlive, ProxySet_ProxyKeepAliveTime, ProxySet_ProxyLoadBalancingMethod, ProxySet_IsProxyHotSwap, ProxySet_SR, ProxySet_ClassificationInput, ProxySet_ProxyRedundancyMode; ProxySet 0 = 0, 60, 0, 0, 0, 0, -1; ProxySet 1 = 1, 60, 1, 1, 0, 0, -1; |
ProxySet 2 = 0, 60, 0, 0, 0, 0, -1;

[ \ProxySet ]

;  *** TABLE IPGroup ***
;
;
[ IPGroup ]
FORMAT IPGroup_Index = IPGroup_Type, IPGroup_Description, IPGroup_ProxySetId, IPGroup_SIPGroupName, IPGroup_ContactUser, IPGroup_EnableSurvivability, IPGroup_ServingIPGroup, IPGroup_SipReRoutingMode, IPGroup_AlwaysUseRouteTable, IPGroup_RoutingMode, IPGroup_SRD, IPGroup_MediaRealm, IPGroup_ClassifyByProxySet, IPGroup_ProfileId, IPGroup_MaxNumOfRegUsers, IPGroup_InboundManSet, IPGroup_OutboundManSet, IPGroup(ContactName);
IPGroup 1 = 0, Lync, 1, , 0, -1, 0, 0, 0, -1, 0, , 1, 0, 0, -1, -1, -1, ;
IPGroup 2 = 0, Rogers Business Solutions, 2, , 0, -1, 0, 0, 0, -1, 0, , 1, 2, -1, -1, -1, -1, ;
[ \IPGroup ]

;  *** TABLE CodersGroup0 ***
;
;
[ CodersGroup0 ]
FORMAT CodersGroup0_Index = CodersGroup0_Name, CodersGroup0_pTime, CodersGroup0_rate, CodersGroup0_PayloadType, CodersGroup0_Sce;
CodersGroup0 0 = g711Alaw64k, 20, 0, -1, 0;

[ \CodersGroup0 ]

;  *** TABLE CodersGroup1 ***
;
;
[ CodersGroup1 ]
FORMAT CodersGroup1_Index = CodersGroup1_Name, CodersGroup1_pTime, CodersGroup1_rate, CodersGroup1_PayloadType, CodersGroup1_Sce;
CodersGroup1 0 = g711Ulaw64k, 20, 0, -1, 0;
CodersGroup1 1 = g711Alaw64k, 20, 0, -1, 0;

[ \CodersGroup1 ]

;  *** TABLE CodersGroup2 ***
;
;
[ CodersGroup2 ]
FORMAT CodersGroup2_Index = CodersGroup2_Name, CodersGroup2_pTime,
CodersGroup2_rate, CodersGroup2_PayloadType, CodersGroup2_Sce;
CodersGroup2 0 = g711Ulaw64k, 20, 0, -1, 0;
CodersGroup2 1 = g711Alaw64k, 20, 0, -1, 0;
CodersGroup2 2 = gsmFullRate, 20, 0, -1, 0;

[ \CodersGroup2 ]
Reader's Notes