MaxCS Release 7.5 Patch 1

AudioCodes Mediant Gateway
PRI TLS Configuration Guide

May 4, 2015

Contents

About This Guide

This guide describes how to configure an AudioCodes Mediant 1000 gateway for PRI TLS support with MaxCS Release 7.5 Patch 1.

Note: If you are configuring a Mediant gateway for TI Centrex, those instructions are covered in a separate document. See article 1185 in the AltiGen Knowledgebase for configuration steps: https://know.altigen.com/questions/1185/AudioCodes+Mediant+Gateway+T1+%7B47%7D+Centrex+Configuration+for+MAXCS+7.5

Please note the following considerations before you begin the procedures in this guide:

- • The examples in this guide illustrate the configuration for a Mediant 1000 gateway. For other models, adjust the port settings as needed.

- • AltiGen does not provide general configuration support for AudioCodes devices. Contact AudioCodes support for assistance with general setup.

Refer to your gateway's product documentation, which came with your device, for installation instructions and to retrieve the IP address of the AudioCodes web configuration tool.

Requirements

Your system and environment must meet the following requirements:

- You must be using an AudioCodes gateway model Mediant 1000 with a T1/PRI module.

- You must be running MaxCS Release 7.5 Patch 1.

- You must have a support agreement with AudioCodes.

- The gateway must already have a static IP address and must be able to be configured through the web configuration tool. Make sure that MaxCS can ping the gateway.

- The gateway must be running the correct version of firmware: Click the **Home** button and check that you have firmware version F6.60A.292.001. If the version is incorrect, talk to AudioCodes Support to obtain the correct firmware and update instructions.

- The gateway and MaxCS must be on the same LAN. If they are in different locations, a VPN must be set up between the two locations.

Configuring the AudioCodes Gateway

This section shows how to customize AudioCodes' software settings for interoperability with the MAX Communications Server.
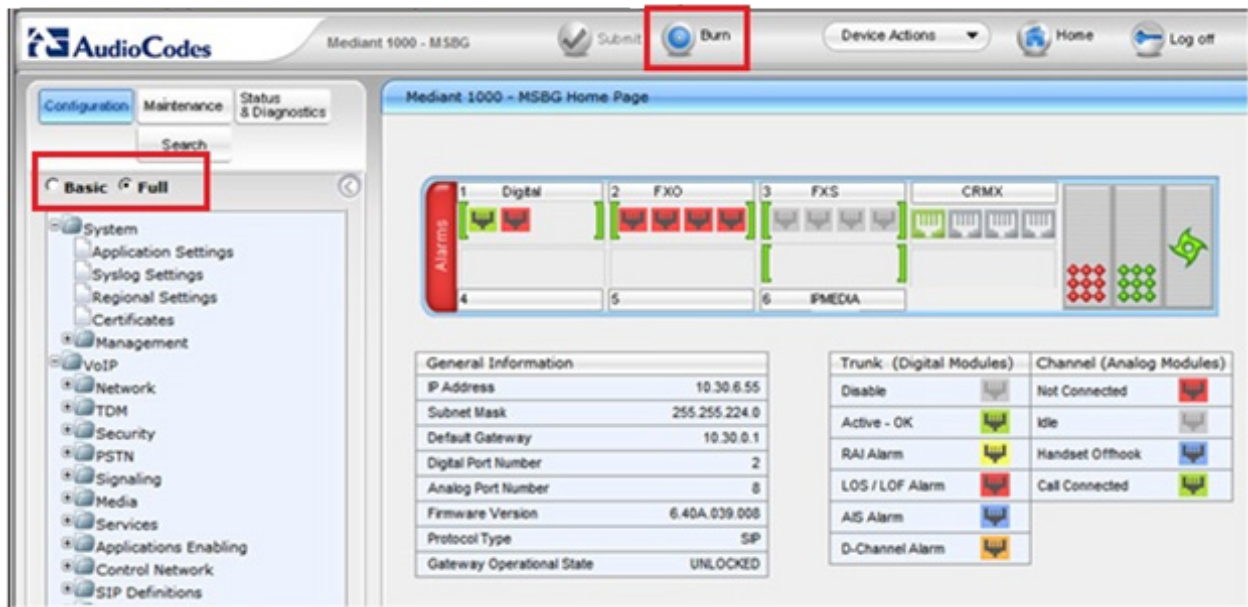
Network Topology

The following figure illustrates the gateway and server deployed in the network.

Using the AudioCodes Web Configuration Tool

During these procedures, you will use the AudioCodes Web configuration tool.

The Home page shows component status. Click any component in the graphic representation of the gateway to display operational information or additional configuration options.

You must stay in *Full* menu mode; *Basic* mode does not offer all of the menus and options that you will need.

If you take a break while configuring the gateway, upon return we recommend that you confirm that the menus are still set to *Full* before you continue. Be aware that, in some cases, switching to *Full* menu mode while on a page will not automatically refresh the page.

Use the **Burn** button to write configuration changes to flash memory.

Reset the Gateway to Default Settings

We recommend that you reset the gateway to its original factory settings before you begin your configuration.

Reminder: Make sure that the menus set to **Full**, as shown in the next figure.

1. We recommend that you save your current configuration as a precaution; click **Maintenance** above the menu, and then select **Software Update** > **Configuration File**. Click **Save INI File** and choose a name and folder.
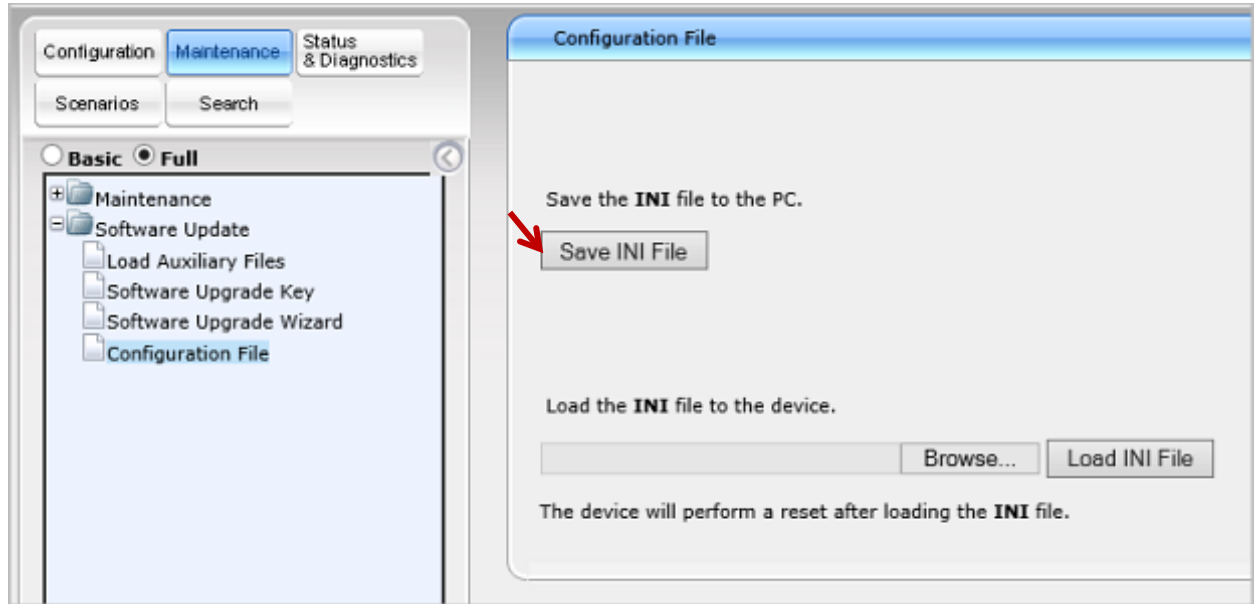
2. Reset the device to its default settings. This procedure will **not** reset the device's web login IP address.

   A. Use the Windows application Notepad to create an empty file. In this example, we name it *nullconfig.ini*.

   B. In the AudioCodes configuration tool, click **Maintenance** above the menu and then select **Software Update** > **Configuration File**. Click **Browse** and select the empty file that you just created (*nullconfig.ini*).

   C. Click **Load INI File** and follow the instructions to reboot the gateway.

Disable the DHCP Sever

Disable the DHCP server to avoid conflict with another DHCP server during the initial configuration.
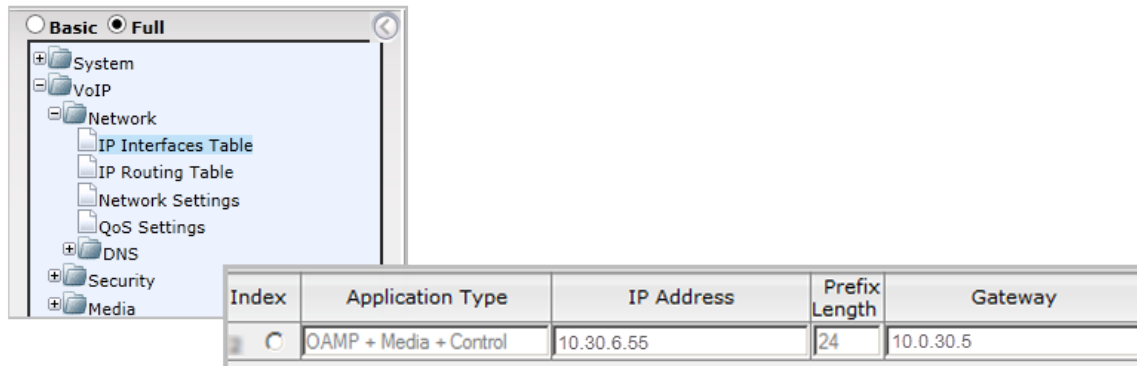
1. Click **Configuration** above the menu. Select **Data** > **Data Services** > **DHCP Server**.

2. If the **WAN Ethernet** service is shown as **Enabled**, click the pencil icon on that row to edit the settings. From the menu, select **Disabled** and click **OK**.
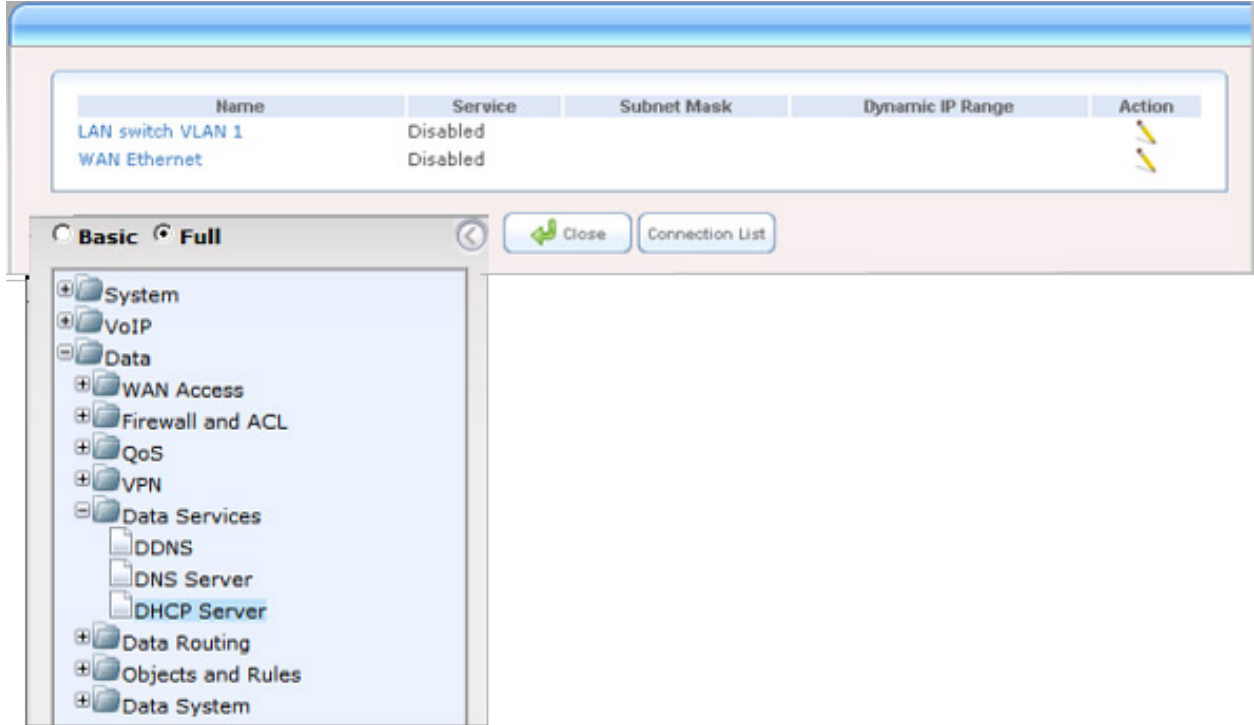
Set VOIP Parameters

Set the gateway IP address information for your system.

1. Select **VoIP** > **Network** > **IP Interfaces Table**.

2. Click the **0** (zero) Index button; an *Edit* button appears. Click it and configure the network settings corresponding to your network IP address scheme:

    - Set *IP Address* to the AudioCodes gateway's IP address
    - Set *Prefix length* to the subnet mask length in CIDR notation
    - Set *Gateway* to the default gateway's IP address
    - (Optional) DNS: Enter the primary DNS server IP address (and the secondary if relevant)
    - Leave the remaining options set to their default settings

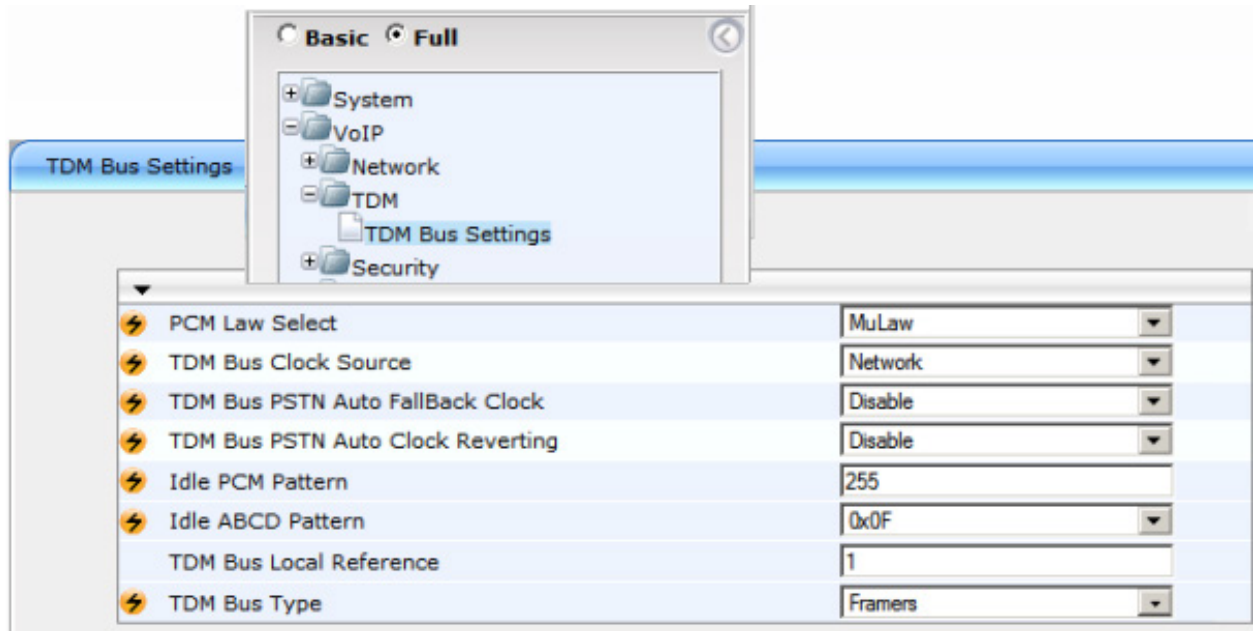| Index	Application Type	IP Address	Prefix Length	Gateway
○	OAMP + Media + Control	10.30.6.55	24	10.0.30.5

3. Click **Apply**. Click **Done**. Click **Burn**. The gateway reboots and starts using the new IP address. Maintain the cabled connection between the gateway LAN port and the provisioning computer.

Set TDM Bus Parameters

The PSTN gateway's TDM bus must be configured. The parameters shown below configure the signal encoding used between the AudioCodes gateway and MaxCS.

1. Select **VoIP** > **TDM** > **TDM Bus Settings**.

2. Set *PCM Law Select* to **MuLaw**.

3. Click **Submit**.

Set PSTN Trunk Parameters

Important!   In this example, we use the typical PRI parameters. Before you configure this section, talk to your PRI service provider to get the correct protocol type and parameters.

1. Select **VoIP** > **PSTN** > **Trunk Settings**.

2. Set these parameters:

   - Set *Protocol Type* to **T1 NI2 ISDN**
   - Set *Framing Method* to **T1 FRAMING ESF CRC6**

3. Click **Submit**.
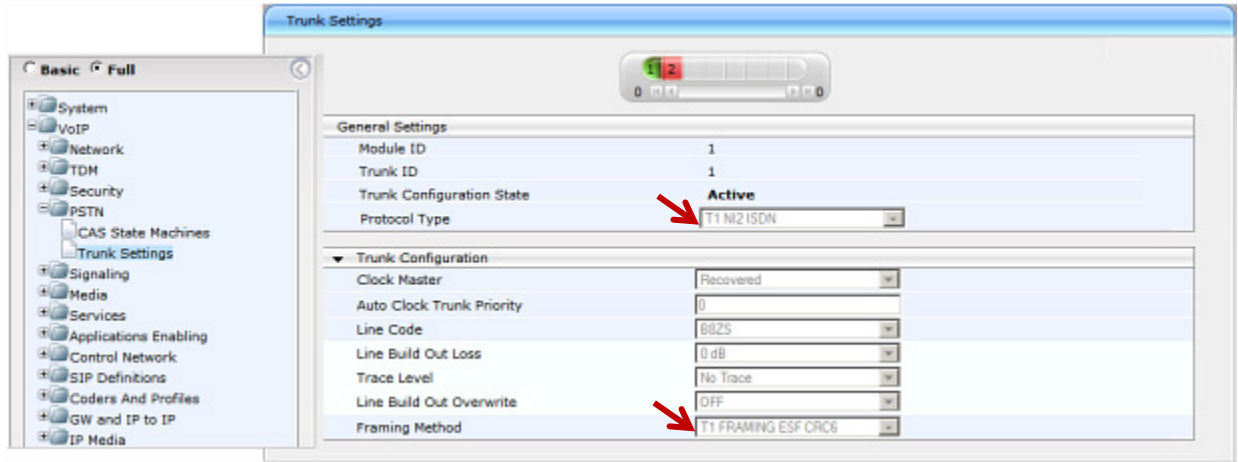
Set IPMedia Parameters

Configure the IPMedia parameters.

1. Select **VoIP** > **Media** > **IPMedia Settings**.

2. Set these (optional) parameters:

   - Set *IPMedia Detectors* to **Enable**
   - Set *Enable AGC* to **Enable**
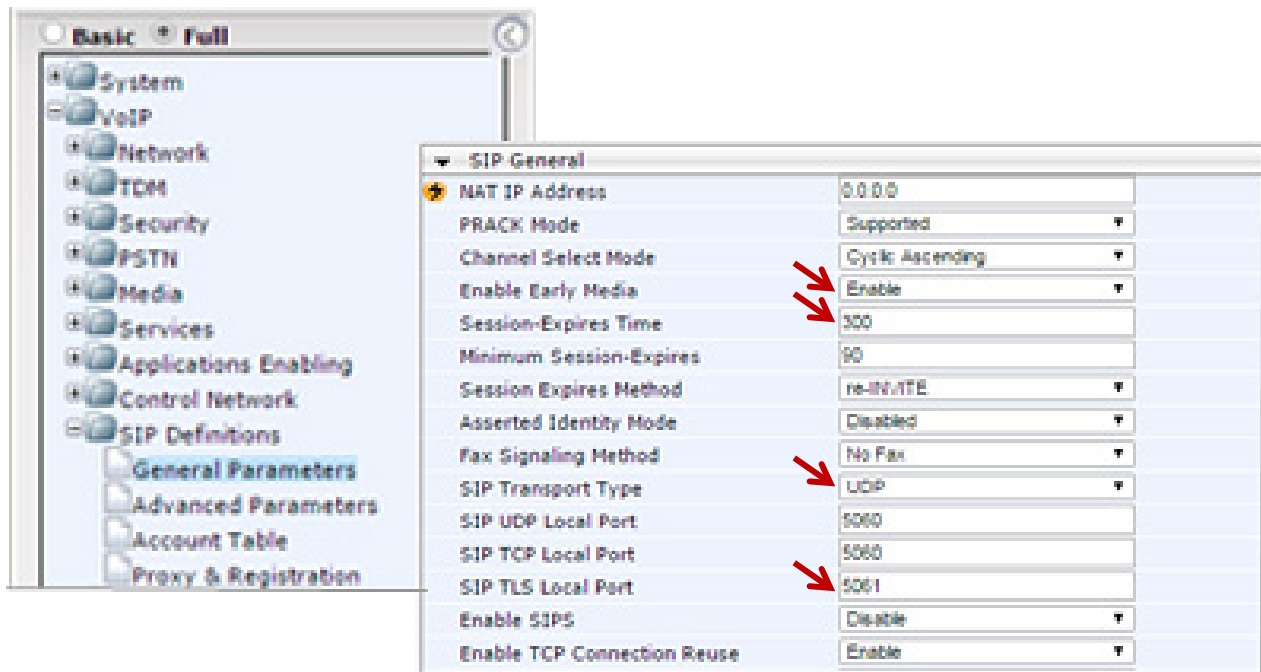
3. Click **Submit**.
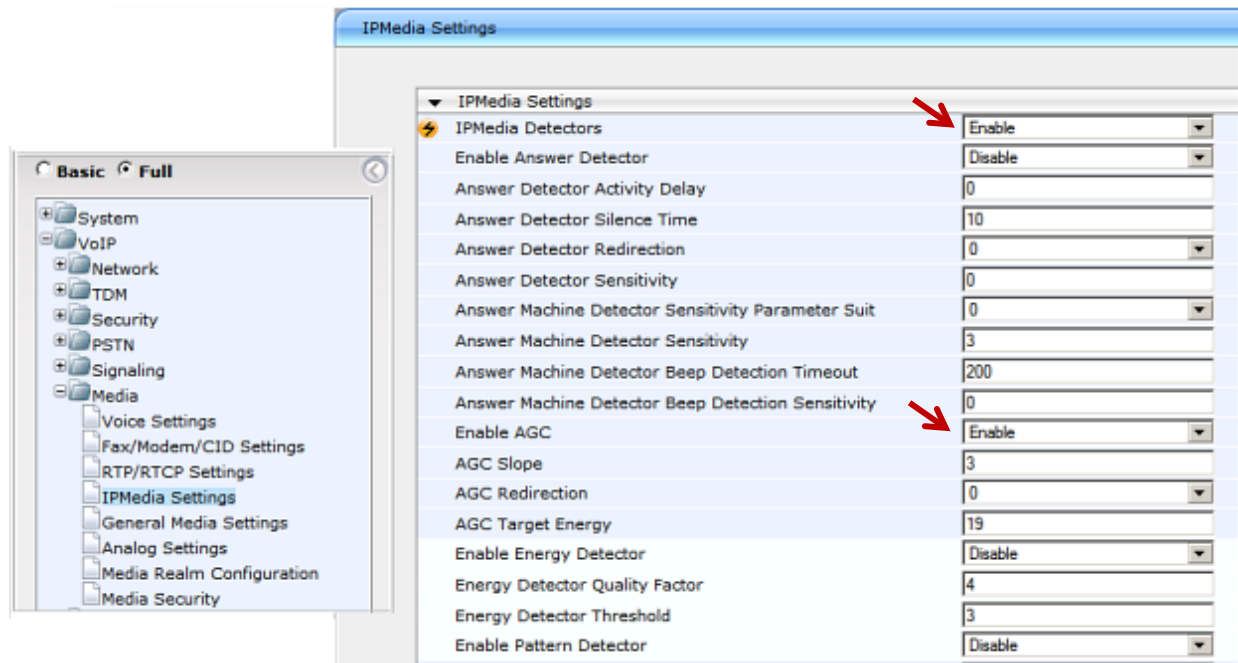
Set SIP General Parameters

Configure the gateway SIP parameters.

1. Select **VoIP** > **SIP Definitions** > **General Parameters**.

2. Set the following parameters:

   - Set *Enable Early Media* to **Enable**
   - Set *Session Expires Time* to **300**
   - Make sure that *SIP Transport Type* is set to **UDP**
   - Make sure that *SIP TLS Local Port* is set to **5061**
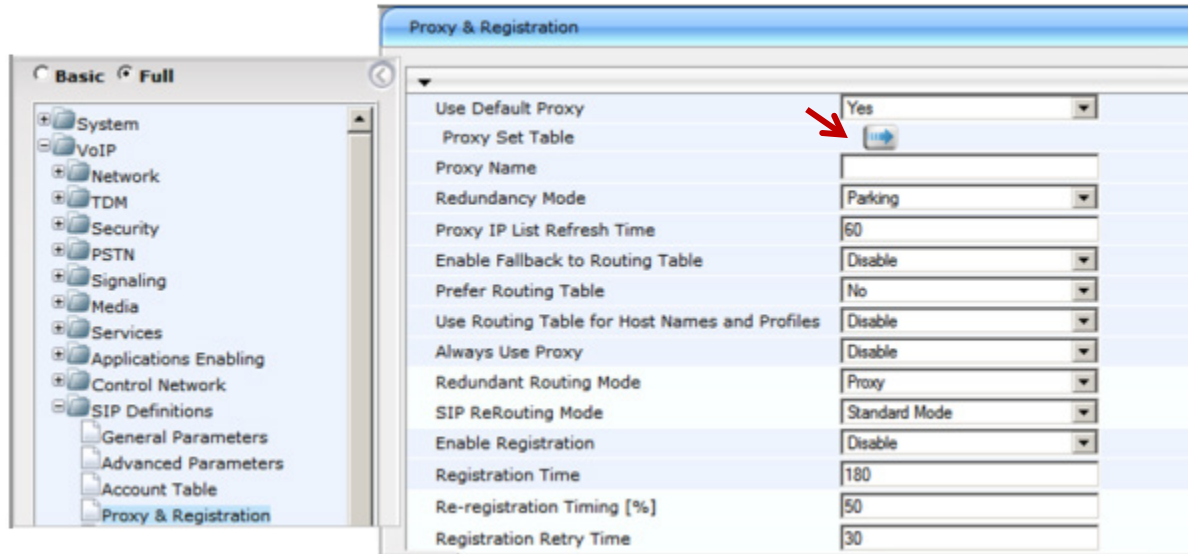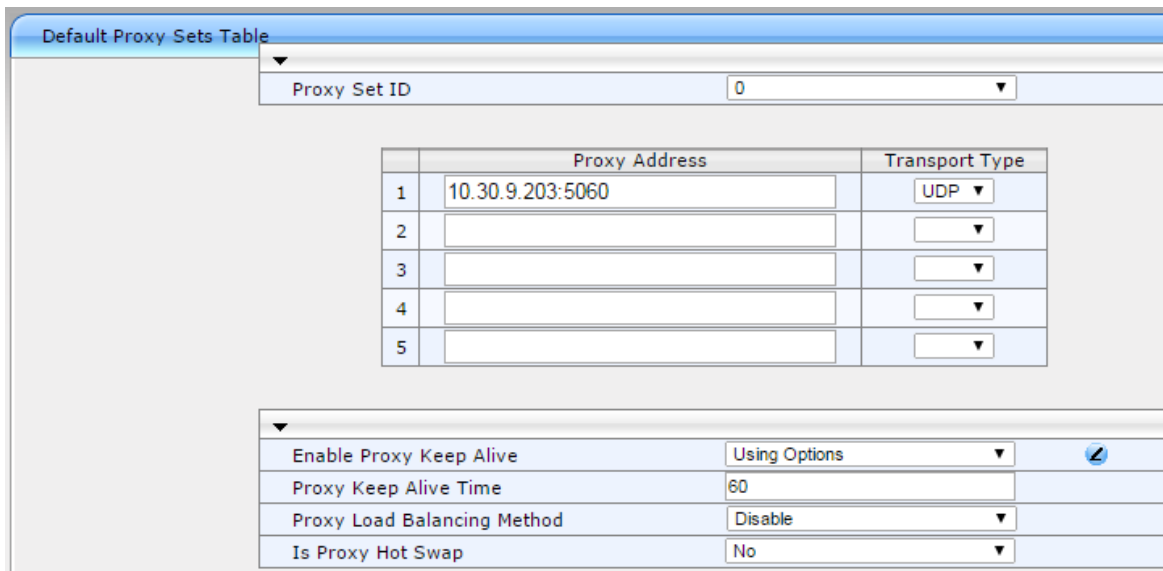
3. Click **Submit**.

Set Proxy and Registration Parameters

Configure proxy and registration parameters.

1. Choose **VoIP** > **SIP Definitions** > **Proxy & Registration**.

2. Set *Use Default Proxy* to **Yes**.

3. Click the arrow below the *Use Default Proxy* option to open the Proxy Set Table.

4. On row 1, set *Proxy Address* to the MaxCS server's IP address and port 5060.
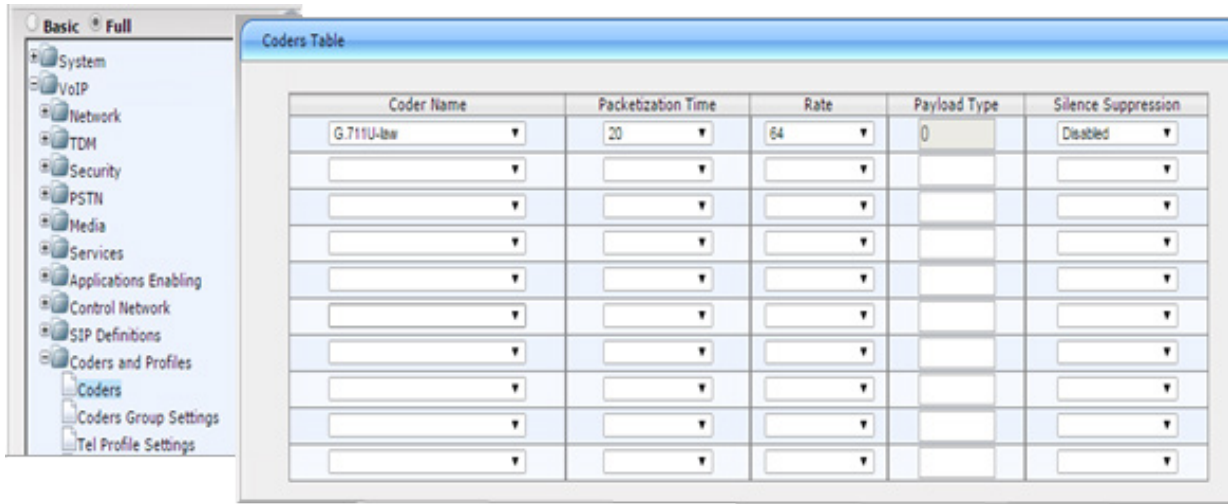

5. Set *Transport Type* to **UDP**.

6. Set *Enable Proxy Keep Alive* to **Using Options**.

7. Click **Submit**.

Set VOIP Coder Parameters

Configure the VoIP coder parameters.

1. Choose **VoIP** > **Coders and Profiles** > **Coders**. Set the following parameters:

   • For *Coder Name,* select the codec type to **G.711 U-la**w.

   • Set *Silence Suppression* to **Disable**.

2. Click **Submit**.

Set VoIP Trunk Group Parameters

Configure VoIP Trunk group settings.

1. Choose **VoIP** > **GW and IP to IP** > **Trunk Group** > **Trunk Group**.

2. For each trunk group, set these parameters:

- Set *Module* to the module number and type (e.g., PRI) on which the trunks are located
- Set *From Trunk* (first available) and *To Trunk* (last) to the physical trunk range
- For *Channels*, specify **1-23**
- Set *Phone Number* to the number for the first channel; the rest will be assigned sequentially
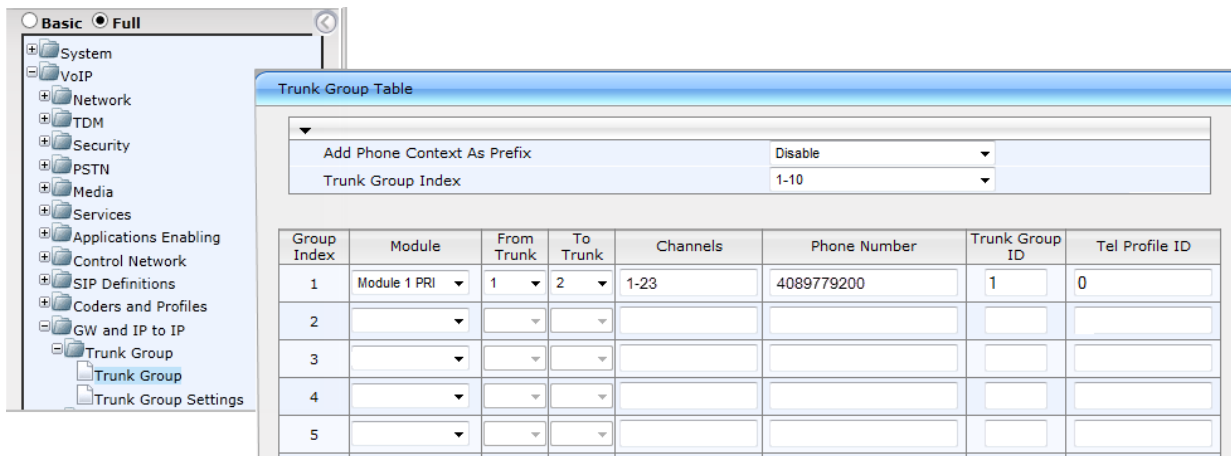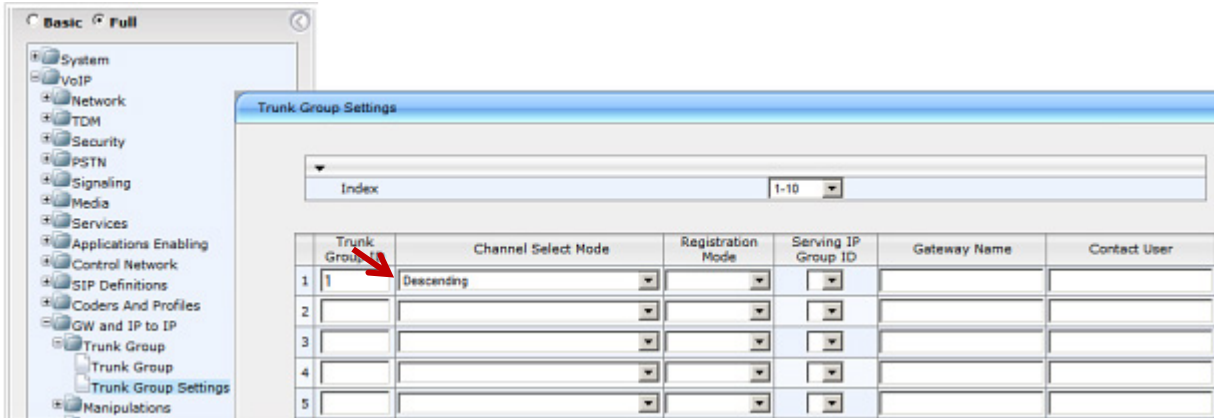- Set *Trunk Group ID* to the ID group

3. Click **Submit**.

Set VOIP Trunk Group Parameters

Configure the Trunk Group setting.

1. Select **VoIP** > **GW and IP to IP** > **Trunk Group** > **Trunk Group Settings**.

2. For each trunk group, set *Channel Select Mode* to **Descending** and click **Submit**.

Configure IP to Trunk Group Routing

Important! Be sure to set the source IP address as the MaxCS server's address instead of a wild card; otherwise, a device from any IP address can use the gateway to make PSTN calls.

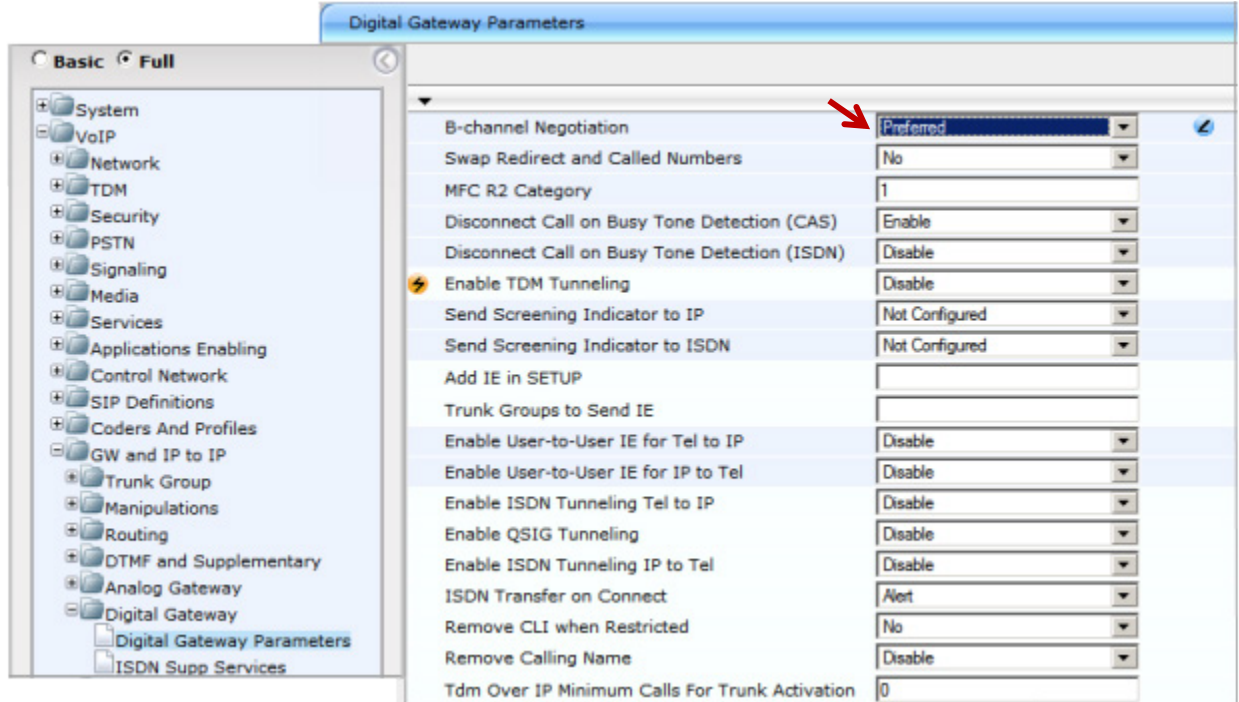1. Choose **VoIP** > **GW and IP to IP** > **Routing** > **IP to Trunk Group Routing**.

2. Set *Source IP Address* to the IP address of the MaxCS server.

3. Click **Submit**.
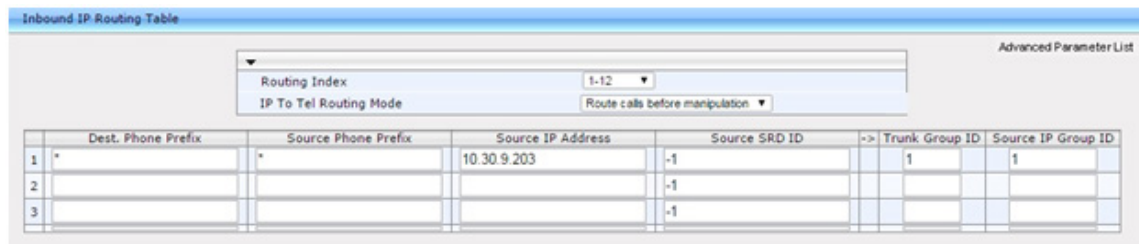
Set Digital Gateway Parameters

Configure digital gateway options.

1. Choose **VoIP** > **GW and IP to IP** > **Digital Gateway** > **Digital Gateway Parameters**.

2. Set *B-Channel Negotiation* to **Preferred**.

3. Click **Submit**.

Digital Gateway Parameters

| Parameter	Value
B-channel Negotiation	Preferred
Swap Redirect and Called Numbers	No
MFC R2 Category	1
Disconnect Call on Busy Tone Detection (CAS)	Enable
Disconnect Call on Busy Tone Detection (ISDN)	Disable
Enable TDM Tunneling	Disable
Send Screening Indicator to IP	Not Configured
Send Screening Indicator to ISDN	Not Configured
Add IE in SETUP	
Trunk Groups to Send IE	
Enable User-to-User IE for Tel to IP	Disable
Enable User-to-User IE for IP to Tel	Disable
Enable ISDN Tunneling Tel to IP	Disable
Enable QSIG Tunneling	Disable
Enable ISDN Tunneling IP to Tel	Disable
ISDN Transfer on Connect	Alert
Remove CLI when Restricted	No
Remove Calling Name	Disable
Tdm Over IP Minimum Calls For Trunk Activation	0

4. Click **Burn** and reboot the gateway.

Configuring the MAX Communications Server

This section shows how to configure MaxCS to work with the AudioCodes gateway.

Configure the SIP Trunk in Enterprise Manager

Configure the SIP trunk in Enterprise Manager.

1. In MaxAdministrator, select **VoIP** > **Enterprise Network Management**.

2. In Enterprise Manager, click the **Codec** button on the top menu bar.
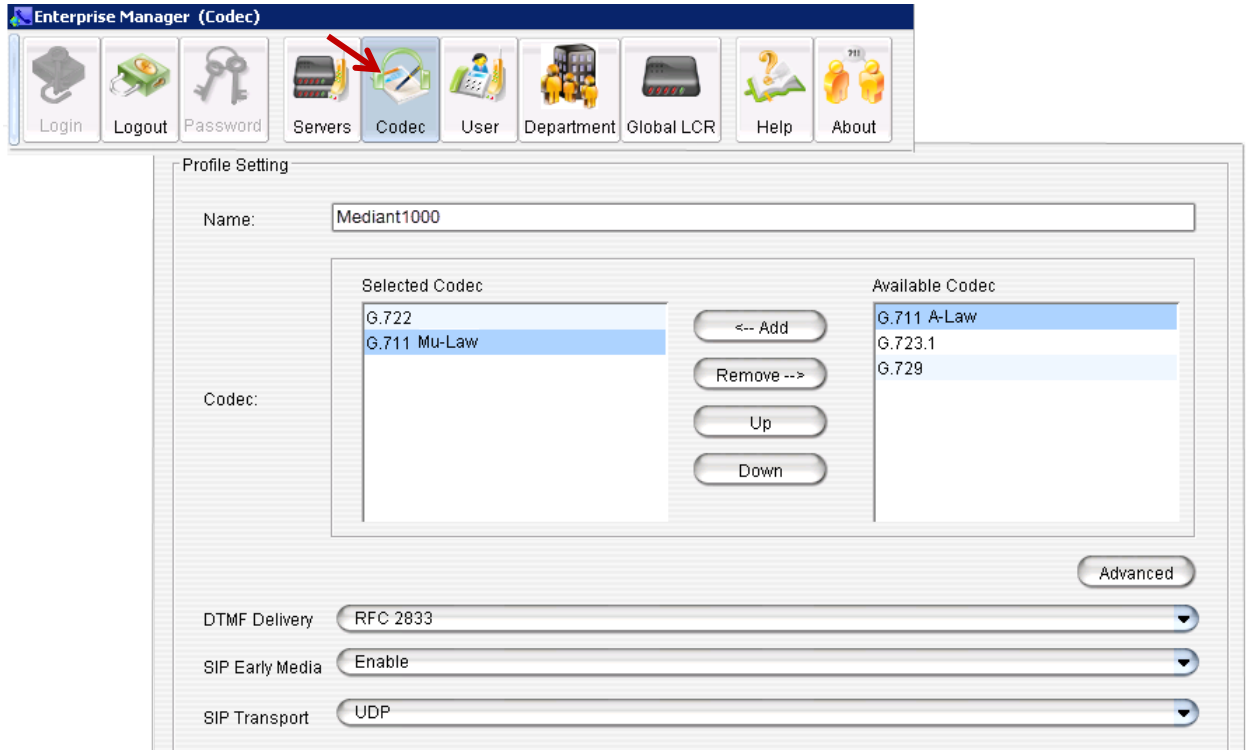
3. In the lower left corner, click **Add** to add a new codec profile. Name the profile **Mediant1000** and assign the following properties:

   - For *Selected Codec*, select the appropriate codec and then add **G.711 Mu-Law**

   - Set *DTMF Delivery* to **RFC 2833**

   - Set *SIP Early Media* to **Enable**

   - Set *SIP Transport* to **UDP** and click **Apply**

4. Click the **Servers** button on the top menu bar.

5. Click the **IP Codec** tab, and in the IP Codec pane, click **Add** (the button below the IP Device Range).
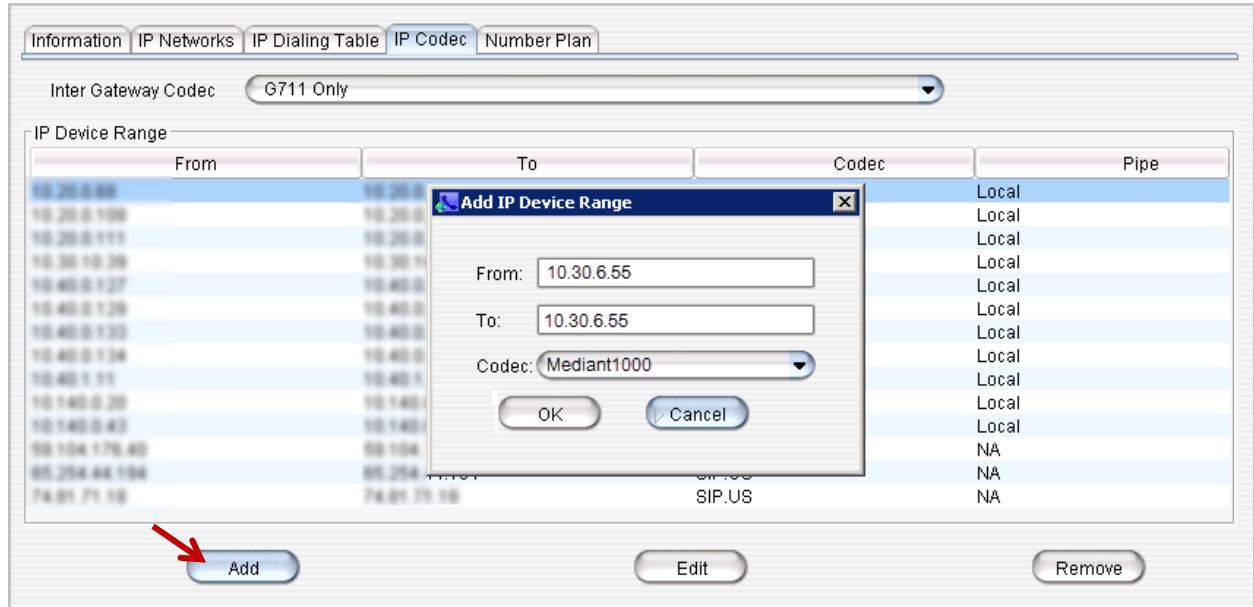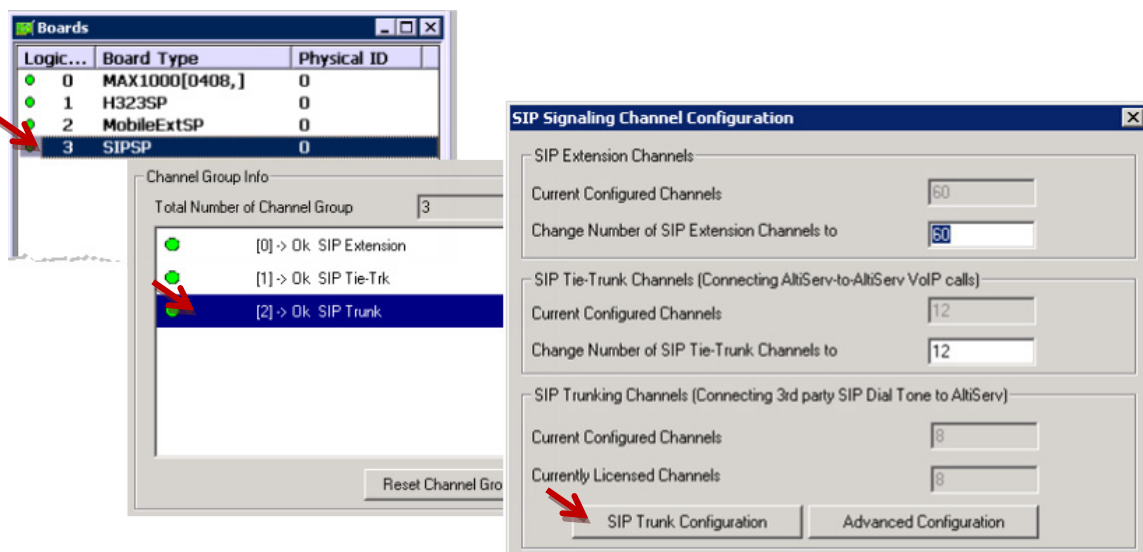
6. Enter the gateway IP address for both the *From* and *To* IP addresses.

7. For *Codec*, select **Mediant1000**.

8. Click **OK**.

## Configure the SIP Trunk in MaxAdministrator

Configure the SIP trunk.

1. In MaxAdministrator, double-click **SIPSP** board in the *Boards* panel.

2. In the Board Configuration window, double-click **SIP trunk**.

3. In the SIP Signaling Channel Configuration window, click **SIP Trunk Configuration**.

4. In the SIP Trunk Configuration window, click **SIP Trunk Profile**.

5. In the SIP Trunk Profile window, click **Add** to add a new profile.
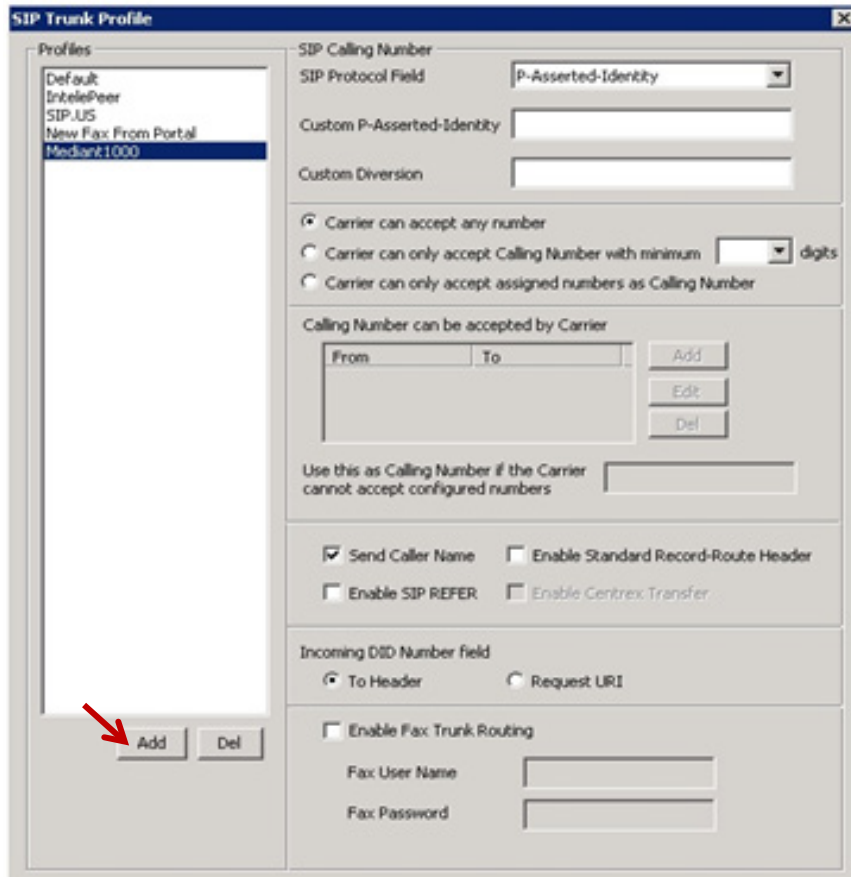

6. Name this new profile *Mediant1000* and click **OK**. Assign the following properties to this profile:

   - Set the *SIP Protocol Field* to **P-Asserted-Identity**

   - Set the options for the carrier's ability to accept transmitted caller ID based on the restrictions provided by the PRI carrier. In this example, *Carrier can only accept Calling Number with minimum xx digits* is set to **10** digits.

   - For *Use this as Calling Number if the Carrier cannot accept configured numbers*, enter your main AudioCodes number.

   - Select **Send Caller Name** to send the extension's name in the outbound call. Note that many remote systems may not receive or display this information.

   - Make sure that *Enable Standard Record-Route Header* is NOT checked.

   - Select **To Header** for the *Incoming DID Number* field.

7. Click **OK**.

8. In the SIP Trunk Configuration window, select the first SIP Trunk channel to configure and click **Edit**. Configure this channel as follows:

- For *SIP Server IP Address,* enter the gateway IP address

- For *User Name*, enter **Audiocodes**

- Enter the SIP REGISTRATION password

- Enter a Domain name

- Set *SIP Register Period* to **0**

- Set *SIP Trunk Profile* to **Mediant1000**

- Set both the *SIP Source Port* and the *SIP Destination Port* to **5060**

- Check the *Enable Channel* option

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

10. Use the **Copy To…** feature to copy the configuration for this channel to any other channels that are needed.

11. Click **OK** again to close the SIP Trunk Configuration window; a pop-up warns you to restart switching. This does not apply to changes made to SIP Trunks and can be safely ignored; click **OK** to proceed.
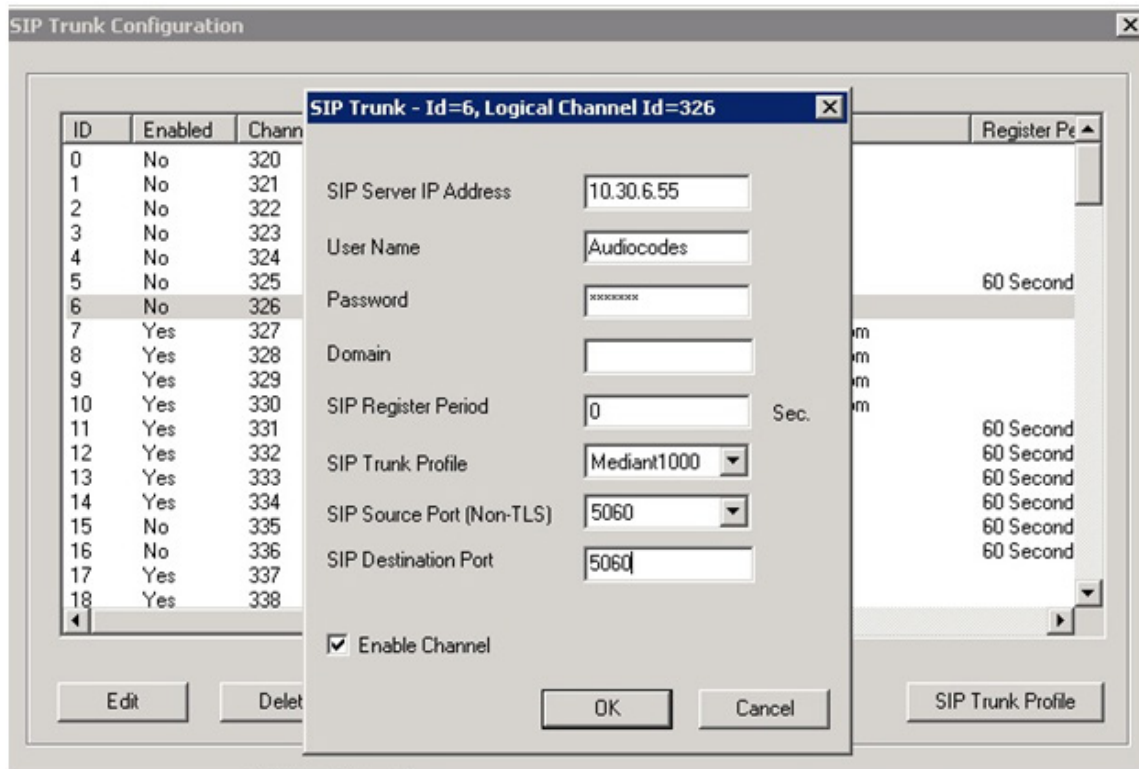
12. Open the Boards view. Double click **SIPSP**, select **Board Configuration**, and click **Advanced Configuration**. Add the gateway's IP address, 10.30.6.55, to the *Trusted SIP Device* List.
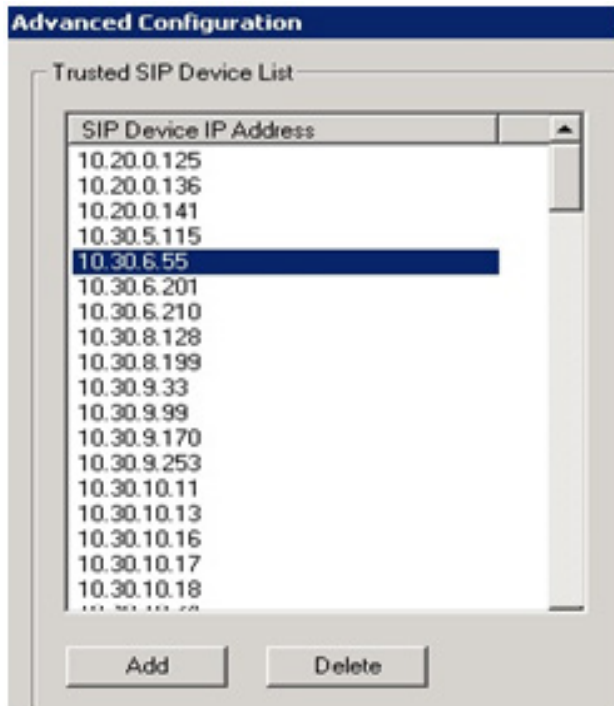
If this IP address is not included in the list, then the IP address will be treated as a malicious SIP device due to excessive SIP messages coming from that address.

13. Verify the configuration by making inbound and outbound calls. Do not proceed any further with this configuration until you can successfully make and receive calls.

Configure the SIP Trunk when Gateway SIP Transport is TLS

This section shows how to configure the gateway, Enterprise Manager, and MaxCS Administrator for TLS support.

Configure the AudioCodes Gateway

Set the proxy and registration parameters.

1. Log into the AudioCodes web utility; make sure the menus are set to **Full**.

2. Choose **VoIP** > **SIP Definitions** > **Proxy & Registration**.

3. Set *Use Default Proxy* to **Yes**.

4. Click the arrow below the *Use Default Proxy* parameter to open the Proxy Set Table.
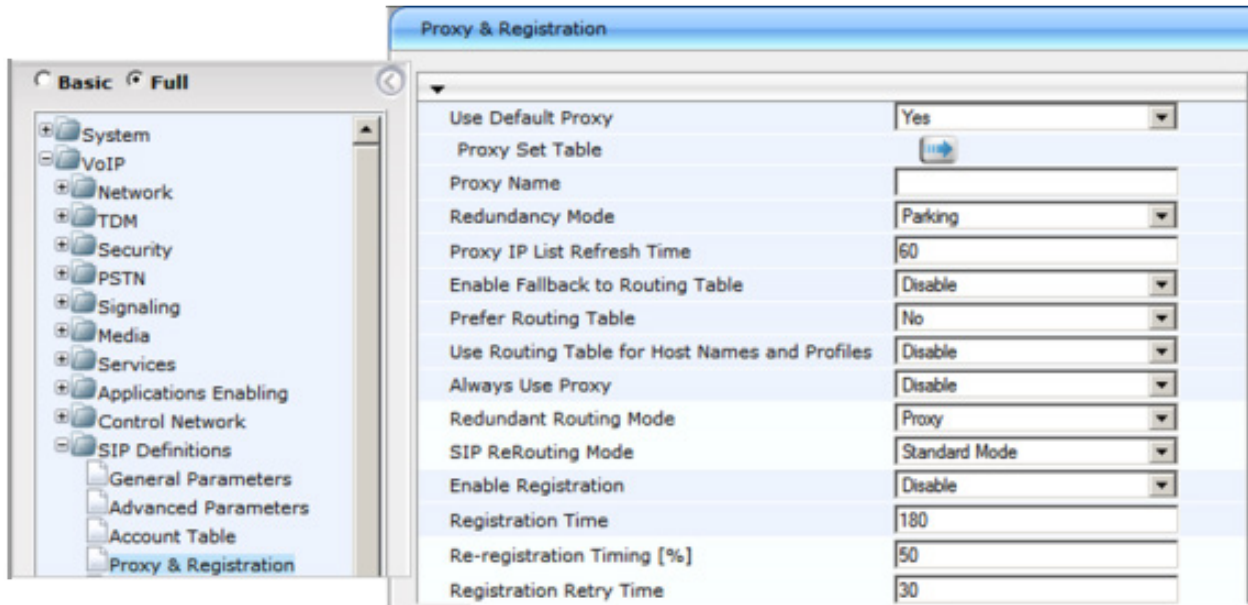
5. In row 1, set *Proxy Address* to the MaxCS server's IP address and port 5061.

   - Set *Transport Type* to **TLS**

   - Set *Enable Proxy Keep Alive* to **Using Options**
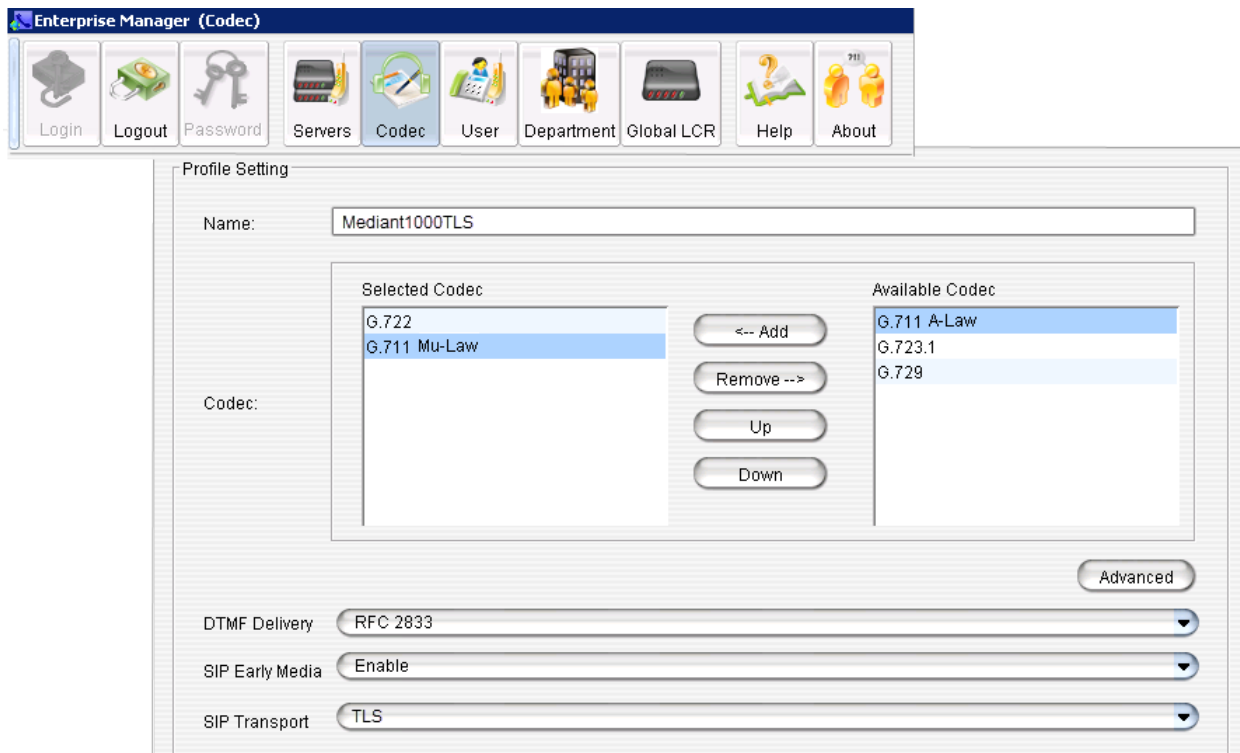
6. Click **Submit**. Click **Burn**.
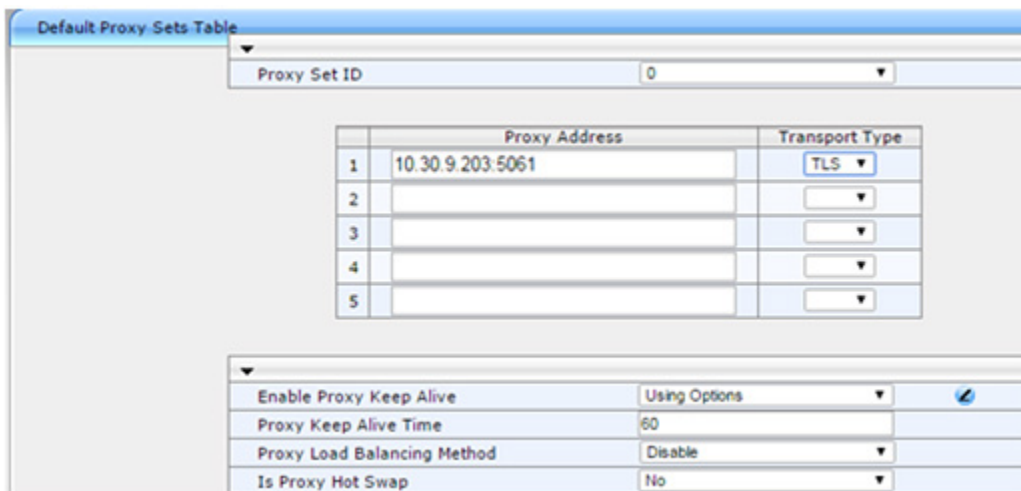
7. To enable SRTP, select **VoIP** > **Media** > **Media Security**. Change *Media Security* to **Enable**. Click **Submit**. Click **Burn**. Restart the gateway.

Configure the SIP Trunk in Enterprise Manager

Create a new codec profile in Enterprise Manager.

1. In MaxAdministrator, select **VoIP** > **Enterprise Network Management**.

2. In Enterprise Manager, click the **Codec** button on the top menu bar.

3. In the lower corner, click **Add** to add a new codec profile. Configure these properties:

- Assign the name **Mediant1000TLS**

- Select the appropriate codec and then add **G.711 Mu-Law**

- Set *DTMF Delivery* to **RFC 2833**

- Set *SIP Early Media* to **Enable**

- Set *SIP Transport* to **TLS**

4. Click the **Servers** button. Click the **IP Codec** tab.

5. In the IP Codec pane, select the entry points to Mediant 1000 and click **Edit**.

- Enter the gateway IP address for both the *From* and *To* IP addresses

- For *Codec*, select **Mediant1000TLS**

6. Click **OK**.
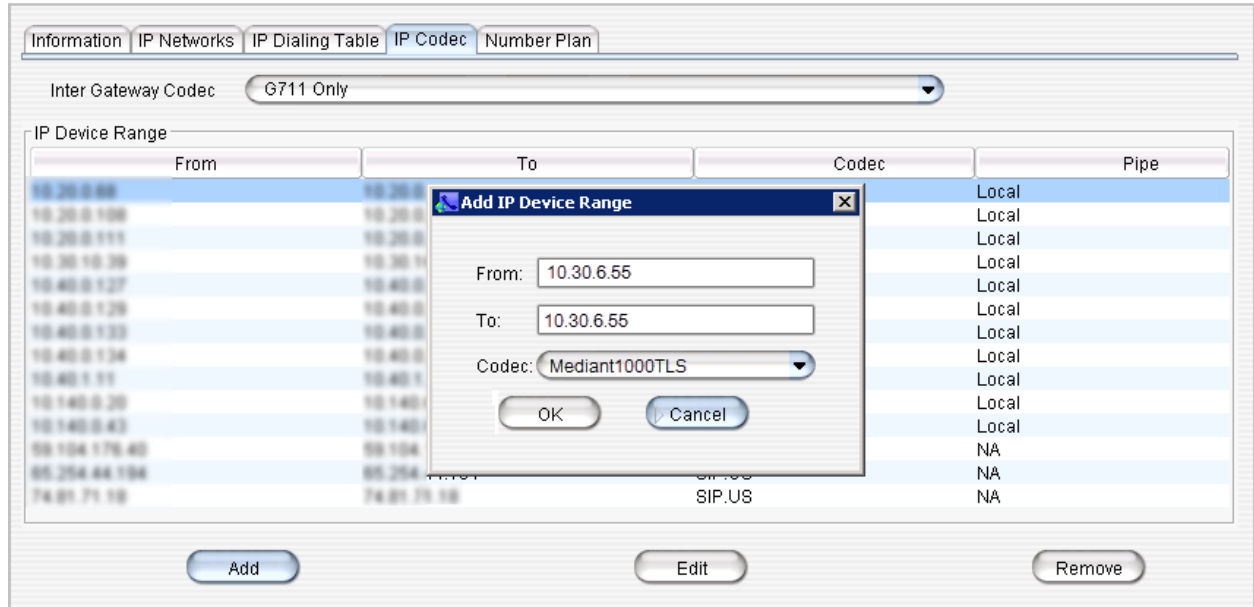
## Configure the SIP Trunk in MaxCS Administrator

Set up the SIP Trunk in MaxCS Administrator.

1. In MaxAdministrator, double-click the **SIPSP** board in the *Boards* panel.
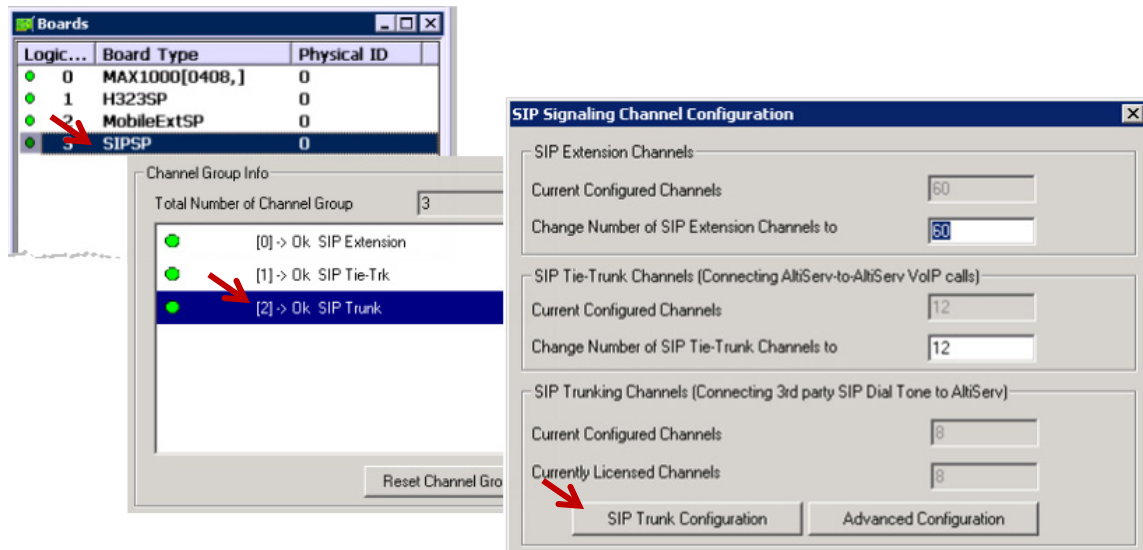
2. In the Board Configuration window, double-click **SIP trunk**. In the SIP Signaling Channel Configuration window, click **SIP Trunk Configuration**

3. In the SIP Trunk Configuration window, select the SIP Trunk channel to configure for AudioCodes Mediant 1000 and click **Edit**. Configure the following parameters:

   • For *SIP Server IP Address*, enter the gateway IP address

   • For *User Name*, enter **AudioCodes**

- Enter **AltiGen** as the password
- Enter a Domain name
- Set the *SIP Register Period* to **0**
- Set SI*P Trunk Profile* to **Mediant1000**
- Set *SIP Source Port* to **5060**; set *SIP Destination Port* to **5061**
- Check the *Enable Channel* option

4. Click **OK** to save the changes.

5. Use the **Copy To…** feature to copy the configuration for this channel to any other channels that are needed.

6. Click **OK** again to close the *SIP Trunk Configuration* window; a pop-up warns you to restart switching; this does not apply to changes made to SIP Trunks and can be safely ignored. Click **OK** to proceed.

7. Verify the configuration by making inbound and outbound calls.
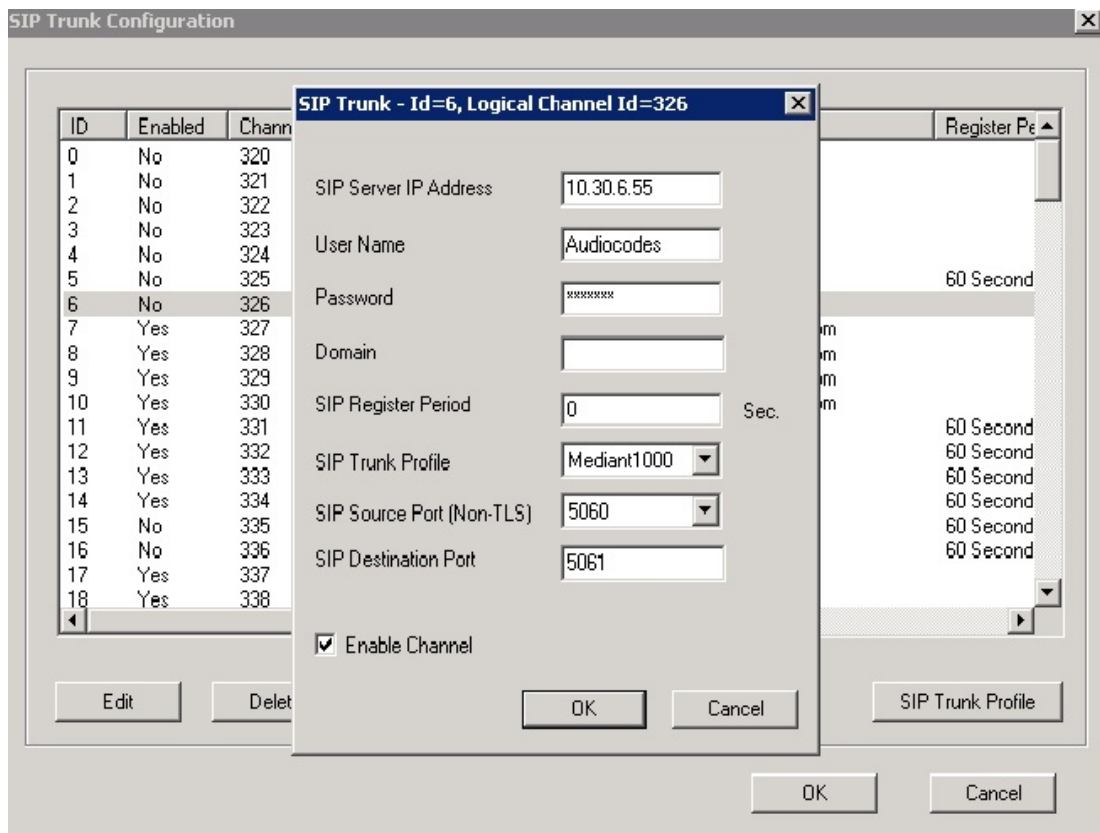
Troubleshooting

If making outbound PSTN calls sometimes fails, open the AudioCodes configuration tool, select **VoIP** > **GW and IP to IP** > **Digital Gateway** and set *Remove Calling Name* to **Enable**.