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Before You Begin

There are a few things you will need before you get started installing your new Mediant 1000.

- One Ethernet patch cable.
- A 19" rack or other place to mount the appliance. Rails may be needed depending on rack hardware.
- One static IP address on the same subnet as your fax server.
- Sufficient telephone and/or ISDN PRI cables to connect the telephony modules.
- If using T1 or PRI trunks, you will need the exact configuration specification from the trunk provider (telco).
- A PC connected to the same subnet the Mediant 1000 will be on. The PC will need a web browser to connect to the Web UI of the Mediant 1000.

In addition, the following are recommended.

- An Uninterruptable Power Supply (UPS) with USB monitor interface.

Connecting the Mediant 1000 to the Network

Media Gateway: On the front of the appliance you will see two RJ45 Ethernet connections on the “CPU” module labeled “I” and “II”. Connect “I” to your network using an Ethernet patch cable.

Plug the power cable in, the Mediant 1000 will power on after a short pause.

On the PC, configure its IP address:

- **IP Address:** 10.1.10.200
- **Subnet Mask:** 255.255.0.0

You will now be able to access and configure the Mediant 1000.

Accessing the Media Gateway via Browser

**Media Gateway IP Address:** 10.1.10.10

Open a web browser, and navigate to [http://10.1.10.10/](http://10.1.10.10/)

You will see a login prompt. Enter

- **User:** Admin
- **Password:** Admin

Assign Static IP Addresses

The first step is to assign static IP addresses to the Mediant so you can configure it on the regular network.

Media Gateway Component

Connect to the Media Gateway IP (10.1.10.10) via a web browser. Navigate to Network Settings > IP Settings, and enter the IP Address, Subnet Mask and Default Gateway Address as appropriate for your network.

Click “Submit” at the bottom right corner of the page. You can now access the Media Gateway component at its assigned IP address.
Initial Media Gateway Configuration

This document only covers basic configuration. For more information regarding these options, and more advanced configuration, please refer to the AudioCodes Mediant 1000 manual which can be found on the AudioCodes documentation CD.

IMPORTANT: Changes you make will be lost when the device reboots, unless you click the Burn button at the top of the page. Once you are done making changes, be sure to click “Burn”.

General Settings

Configuration > Media Settings > Fax/Modem/CID Settings
- Fax Transport Mode: RelayEnable

Configuration > Protocol Configuration > Protocol Definition > SIP General Parameters
- Fax Signaling Method: T.38 Relay
- Detect Fax on Answer Tone: Initiate T.38 on Preamble
- SIP Transport Type: UDP

Configuration > Protocol Configuration > Protocol Definition > Proxy & Registration
- Use Default Proxy: No

Configuration > Protocol Configuration > Protocol Definition > Coders
- Only one entry should be present:
  - Coder Name: G.711U-law
  - Packetization Time: 20
  - Rate: 64
  - Silence Suppression: Disabled
Trunk Groups

Configuration > Protocol Configuration > Trunk/IP Group > Trunk Group

The following screen shot is an example only, your hardware will need a different configuration. Read below for details. See also “Media Gateway Configuration Examples” for sample configurations.

The configuration instructions that follow will use Trunk Group ID 1 for all “PSTN” ports. That is, all ports capable of calling other numbers. Trunk Group ID 2 is used only for FXS ports that connect directly to fax machines.

Module: Choose one of the modules installed in the Mediant. You will repeat the following configuration for each module installed in the Mediant chassis. Note that each individual port on each FXS device will need its own line as well if the port phone numbers are non-consecutive. See the “Phone Number” entry below for more information.

From Trunk / To Trunk: PRI modules (only) require an additional “From Trunk” and “To Trunk” setting. Set “From Trunk” to 1 and “To Trunk” to the highest number available.

Channels: This indicates the range of channels to include in this group line. For FXO modules, this will be “1-4”, for FXS it can be either “1-4” as well, or it can be each individual channel.

Phone Number: This will be the default caller id when caller id could not be determined. For FXO and PRI modules you can enter “1000” if it is the first module, “2000” for the second module, etc. For FXS ports, you will need to enter either a real phone number that will be associated with that port or assign a simple extension. If you are using real phone numbers and all the ports on the FXS module will be sequential then you can create just one group entry for the entire module, the Mediant will automatically add the port number to the Phone Number specified here.

Trunk Group ID: Assign all modules, trunks, and channels that will be connecting to the PSTN (i.e. FXO ports and PRIs) to Trunk Group ID 1.

Assign all modules, trunks and channels that will be connecting to internal devices (i.e. FXS ports) to Trunk Group ID 2.

IP Profile ID: Profiles are generally not needed. Set all IP Profile IDs to 0.

Click “Submit” when you are done. Click “Burn” at the top of the page.
Create two trunk groups:

- **Trunk Group ID** 1
  - **Channel Select Mode**: Cyclic Ascending
  - **Registration Mode**: (blank)

- **Trunk Group ID** 2
  - **Channel Select Mode**: By Dest Phone Number
  - **Registration Mode**: (blank)

Click “Submit” when you are done. Click “Burn” at the top of the page.
Routing Table – Tel to IP

Configuration > Protocol Configuration > Routing Tables > Tel to IP Routing

This page allows you to route calls from the telephony interfaces to the IP address of the fax server. The following screen shot is an example only, your hardware will need a different configuration. Read below for details. See also “Media Gateway Configuration Examples” for sample configurations.

![Tel to IP Routing Configuration](image)

If you are using any FXS ports, first we need to route their DIDs to your FMIS server. Create one entry per FXS port:

- **Dest. Phone Prefix**: *
- **Source Phone Prefix**: The port’s “Phone Number” that was assigned on the Trunk Group page.
- **Dest. IP Address**: The IP address of the FMIS server
- **IP Profile ID**: 0

After all FXS port entries, create one entry that will route everything else to the fax server:

- **Dest. Phone Prefix**: *
- **Source Phone Prefix**: *
- **Dest. IP Address**: The IP address of the fax server
- **IP Profile ID**: 0

Click “Submit” when you are done. Click “Burn” at the top of the page.
Routing Table – IP to Trunk Group

Configuration > Protocol Configuration > Routing Tables > IP to Trunk Group Routing

This page allows you to route calls from IP addresses to the telephony interfaces on the device. The following screen shot is an example only, your hardware will need a different configuration. Read below for details.

Create one entry:

Dest. Phone Prefix  *
Source Phone Prefix  *
Source IP Address  The IP address of the fax server
Trunk Group ID  1
IP Profile ID  0

If you are using an FMIS, create another entry:

Dest. Phone Prefix  *
Source Phone Prefix  *
Source IP Address  The IP address of the FMIS server
Trunk Group ID  2
IP Profile ID  0

Click “Submit” when you are done. Click “Burn” at the top of the page.
PRI or T1 Configuration

Configuration > PSTN Settings > Trunk Settings

Configure each trunk to match the PRI configuration specified by your service provider. Click “Submit” when you are done. Click “Burn” at the top of the page.
FXO Configuration

Configuration > Protocol Configuration > Endpoint Settings > Automatic Dialing

**NOTE:** Do not configure automatic dialing for FXS ports; this will prevent you from faxing to any number but the “Destination Phone Number.”

If you are receiving DTMF tones from a PBX on the FXO lines, it is not strictly necessary to configure automatic dialing. It is recommended to configure automatic dialing so that the call is not lost if the PBX fails to send DTMF tones. For each FXO port, enter the port’s corresponding phone number in the “Destination Phone Number” field. Set “Auto Dial Status” to “Hotline.”

If you are not receiving DTMF tones, you will need to configure a fixed phone number for each FXO port. Enter the port’s corresponding phone number in the “Destination Phone Number” field. Set “Auto Dial Status” to “Enable.”

Click “Submit” when you are done. Click “Burn” at the top of the page.

**Configuration > Advanced Applications > FXO Settings**

**Dialing Mode**  One Stage

**Configuration > Protocol Configuration > Protocol Definition > DTMF & Dialing**

This controls DTMF collection on both FXO (inbound dial) and FXS (outbound dial) ports. If you are *not* using FXS ports, *and* are doing DTMF collection on the FXO ports, then you can decrease the values here to slightly decrease call times.

For example, if you are collecting 4 digits on the FXO ports, try these timings:

- **Max Digits in Phone Num**  4
- **Inter Digit Timeout for Overlap Dialing**  1
- **Hotline Dial Tone Duration**  2

Test after making any changes to verify all DTMF digits are still being captured.

**Burn Configuration Changes**

**IMPORTANT:** Click the “Burn” button at the top of the page so that the configuration will be permanently saved to flash memory. If you do not click “Burn,” any changes you made will be lost when the device reboots.
Media Gateway Configuration Examples

Only a PRI Module
This example Mediant has only a single PRI module installed.

<table>
<thead>
<tr>
<th>Group Index</th>
<th>Module</th>
<th>From Trunk</th>
<th>To Trunk</th>
<th>Channels</th>
<th>Phone Number</th>
<th>Trunk Group ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Module 1 PRI</td>
<td>1</td>
<td>1</td>
<td>1-23</td>
<td>1000</td>
<td>1</td>
</tr>
</tbody>
</table>

Tel to IP Routing

<table>
<thead>
<tr>
<th>Dest Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>Dest IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 *</td>
<td>*</td>
<td>&lt;Fax server’s IP address&gt;</td>
</tr>
</tbody>
</table>

The “Dest IP Address” above is the IP Address of the NET SatisFAXtion Fax Server.

IP to Trunk Group Routing

<table>
<thead>
<tr>
<th>Dest Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>Source IP Address</th>
<th>Trunk Group ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 *</td>
<td>*</td>
<td>*</td>
<td>1</td>
</tr>
</tbody>
</table>

Only FXO Modules
This example Mediant has three FXO modules installed for a total of twelve FXO ports.

<table>
<thead>
<tr>
<th>Group Index</th>
<th>Module</th>
<th>From Trunk</th>
<th>To Trunk</th>
<th>Channels</th>
<th>Phone Number</th>
<th>Trunk Group ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Module 1 FXO</td>
<td>1-4</td>
<td></td>
<td></td>
<td>1000</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Module 2 FXO</td>
<td>1-4</td>
<td></td>
<td></td>
<td>2000</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Module 3 FXO</td>
<td>1-4</td>
<td></td>
<td></td>
<td>3000</td>
<td>1</td>
</tr>
</tbody>
</table>

Tel to IP Routing

<table>
<thead>
<tr>
<th>Dest Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>Dest IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 *</td>
<td>*</td>
<td>&lt;Fax server’s IP address&gt;</td>
</tr>
</tbody>
</table>

The “Dest IP Address” above is the IP Address of the NET SatisFAXtion Fax Server.

IP to Trunk Group Routing

<table>
<thead>
<tr>
<th>Dest Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>Source IP Address</th>
<th>Trunk Group ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 *</td>
<td>*</td>
<td>*</td>
<td>1</td>
</tr>
</tbody>
</table>
Mixed PRI and FXS Modules

This example Mediant has one PRI module and two FXS modules (8 FXS ports) installed.

Trunk Groups

<table>
<thead>
<tr>
<th>Group Index</th>
<th>Module</th>
<th>From Trunk</th>
<th>To Trunk</th>
<th>Channels</th>
<th>Phone Number</th>
<th>Trunk Group ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Module 1 PRI</td>
<td>1</td>
<td>1</td>
<td>1-23</td>
<td>1000</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Module 2 FXS</td>
<td>1-4</td>
<td></td>
<td></td>
<td>3605550100</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Module 3 FXS</td>
<td>1</td>
<td></td>
<td>1</td>
<td>5035550197</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Module 3 FXS</td>
<td>2</td>
<td></td>
<td>1</td>
<td>5035550154</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Module 3 FXS</td>
<td>3</td>
<td></td>
<td>3</td>
<td>5035550129</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Module 3 FXS</td>
<td>4</td>
<td></td>
<td>4</td>
<td>5035550198</td>
<td>2</td>
</tr>
</tbody>
</table>

In the above table, Module 2 FXS is assigned a phone number range of 3605550100 through 3605550103. The ports in Module 3 FXS are each assigned a unique phone number.

Tel to IP Routing

<table>
<thead>
<tr>
<th>Dest Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>Dest IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>2</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>3</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>4</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>5</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>6</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>7</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>8</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>9</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>10</td>
<td>*</td>
<td>&lt;Fax server's IP address&gt;</td>
</tr>
</tbody>
</table>

Here we see each possible FXS phone number (defined in the trunk group above) routed to the Fax Machine Integration Server (FMIS). All other faxes are routed to the NET SatisFAXtion Fax Server.

IP to Trunk Group Routing

<table>
<thead>
<tr>
<th>Dest Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>Source IP Address</th>
<th>Trunk Group ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*</td>
<td>&lt;Fax server's IP&gt;</td>
<td>1</td>
</tr>
<tr>
<td>*</td>
<td>*</td>
<td>&lt;FMIS's IP&gt;</td>
<td>2</td>
</tr>
</tbody>
</table>

We route all calls from the NET SatisFAXtion Fax Server out the PRI, and all calls from the Fax Machine Integration Server (FMIS) to the FXS ports.
Mixed FXO and FXS Modules

This example Mediant has two FXO modules (8 FXO ports) and two FXS modules (8 FXS ports) installed.

Trunk Groups

<table>
<thead>
<tr>
<th>Group Index</th>
<th>Module</th>
<th>From Trunk</th>
<th>To Trunk</th>
<th>Channels</th>
<th>Phone Number</th>
<th>Trunk Group ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Module 1 FXO</td>
<td>1-4</td>
<td></td>
<td></td>
<td>1000</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Module 2 FXO</td>
<td>1-4</td>
<td></td>
<td></td>
<td>2000</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Module 3 FXS</td>
<td>1-4</td>
<td></td>
<td></td>
<td>3605550100</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Module 4 FXS</td>
<td>1</td>
<td></td>
<td></td>
<td>5035550197</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Module 4 FXS</td>
<td>2</td>
<td></td>
<td></td>
<td>5035550154</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Module 4 FXS</td>
<td>3</td>
<td></td>
<td></td>
<td>5035550129</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Module 4 FXS</td>
<td>4</td>
<td></td>
<td></td>
<td>5035550198</td>
<td>2</td>
</tr>
</tbody>
</table>

In the above table, Module 2 FXS is assigned a phone number range of 3605550100 through 3605550103. The ports in Module 3 FXS are each assigned a unique phone number.

Tel to IP Routing

<table>
<thead>
<tr>
<th>Dest Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>Dest IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>2</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>3</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>4</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>5</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>7</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>8</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>9</td>
<td>*</td>
<td>&lt;FMIS's IP address&gt;</td>
</tr>
<tr>
<td>10</td>
<td>*</td>
<td>&lt;Fax server's IP address&gt;</td>
</tr>
</tbody>
</table>

Here we see each possible FXS phone number (defined in the trunk group above) routed to the Fax Machine Integration Server (FMIS). All other faxes are routed to the NET SatisFAXtion Fax Server.

IP to Trunk Group Routing

<table>
<thead>
<tr>
<th>Dest Phone Prefix</th>
<th>Source Phone Prefix</th>
<th>Source IP Address</th>
<th>Trunk Group ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*</td>
<td>&lt;Fax server's IP&gt;</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>*</td>
<td>&lt;FMIS's IP&gt;</td>
<td>2</td>
</tr>
</tbody>
</table>

We route all calls from the NET SatisFAXtion Fax Server out the FXO ports, and all calls from the Fax Machine Integration Server (FMIS) to the FXS ports.