Mediatrix 1204 Gateway

How to configure Mediatrix 1204 four port analog FXO gateway

Configuring the Mediatrix 1204 using Unit Manager Express

Connecting Unit Manager Express to the 1204 Unit

The following configuration example describes how to use the Mediatrix 1204 analog 4 port FXO gateway as a local PSTN gateway with sipX. Mediatrix chose SNMP as the interface and protocol used to configure and administer their gateways. SNMP is not easy to deal with at the MIB level, so if you are not familiar with SNMP we recommend to chose another gateway manufacturer.

Unit Manager Express is the SNMP management tool provided by Mediatrix. It runs on the Windows operating system and is installed easily. After installation of Unit Manager Express you have to install the MIB tree definition that corresponds to the current firmware installed in your 1204 unit. This MIB tree definition comes as an .exe file with the unit and can be installed automatically by running it.

Once Unit Manager Express and the corresponding MIB tree definitions are installed, you should be able to fire up Unit Manager Express and connect to the 1204 gateway. By default the 1204 unit obtains its IP address using DHCP. Therefore, you might want to use the *Discoer Agents* function under the *SN MP* tab in Unit Manager Express. Once found click on the gateway and connect. The icon in the footer of Unit Manager Express should now show *connected* .

Configuring the 1204 Unit

The Mediatrix should be configured with a static IP Address rather than a DHCP address. If DHCP is used a specific IP addressed should be reserved for the Mediatrix gateway based on its MAC address.

Configure Static IP Address (mediatrixConfig/ipAddressConfig/ipAddressConfigLocalHost)

> **DHCP:**
> localHostSelectConfigSource: DHCP [default]
> **Or if you prefer STATIC:**
> localHostSelectConfigSource: STATIC
> localHostStaticAddress: The IP address of the Mediatrix Gateway
> LocalHostStaticPrimaryDNS: The IP address of the primary DNS server
> localHostStaticDefaultRouter: The IP address of the default router
> LocalHostStaticSubnetAddress: The IP subnet address of the Mediatrix Gateway

Generic Settings (mediatrixConfig/telephonyMIB/telephonyMIBObjects)

> telephoneIpsignalingProtocolSelection: This must be SIP [default]
> TelephonyIpSignalingProtocolProprietary: Leave blank [default]
> TelephonyCoutrySelection: For the USA use northAmerica1 [default]

Basic SIP Server Settings (mediatrixConfig/ipAddressConfig/ipAddressConfigSipServer)

> sipServerSelectConfigSource: Static or DHCP (choose STATIC)
> sipHomeDomainProxyStaticHost: sipX domain name if using SRV; FQHN if not using SRV
> sipHomeDomainProxyStaticPort: 0 (use the default, 0)
> sipOutboundProxyStaticHost: 0.0.0.0 (use the default, 0.0.0.0).
> sipOutboundProxyStaticPort: 0 (use the default, 0).
> sipRegistrarStaticHost: Leave blank; the FXO Mediatrix does not register.
> sipRegistrarStaticPort: Leave blank; the FXO Mediatrix does not register.

The Mediatrix 1204 FXO gateway technically is a SIP user agent. However, it is not an endpoint we want to call and therefore it does not need to register with sipX. Calls are routed to the gateway based on rules defined in the dialplan active on sipX.

⚠

⚠ When connecting an FXS gateway like the Mediatrix 1102, 1104 and 1124 (that connects to an analog phone), you would want the gateway to register with sipX, so that this line can be assigned to a user that has an extension number, voicemail box, etc.

SIP Transport (mediatrixTelephonySignaling/sip/sipMIB/sipMIBObjects/sipTransport)

sipTransportEnable: UDP should be enabled, TCP disabled [default]
SipTransportQValue: BLANK (Only used if registering. The FXO does not need to register)

User Agent Username (mediatrixTelephonySignaling/sip/sipMIB/sipMIBObjects/sipUAIfTable)

sipUAMainUsername: The main user name uniquely identifies this endpoint in the domain
sipUADisplayName: This is the friendly name for the user agent
SipUAOtherAcceptedUsernames: Leave this field and the proceeding sipUA fields blank

Voice Codec Preferences (mediatrixConfig/voiceIfMIB/voiceIfMIBObjects)

voiceIfCodecPreferred: Enter your preferred codec here for each FXO port [default]
(Normally pcmu is preferred if there are no BW limitations, otherwise g729 is good)

voiceIfCodecPcmuEnable: Enable if you want this codec as a choice [default]

voiceIfCodecPcmuMinPTime: The minimum ptime for pcmu. 10 is a good choice [default]
voiceIfCodecPcmuMaxPTime: The maximum ptime for pcmu. 30 is a good choice

voiceIfCodecPcmaEnable: Enable if you want this codec as a choice [default]

voiceIfCodecPcmaMinPTime: The minimum ptime for pcma. 10 is good choice [default]
voiceIfCodecPcmaMaxPTime: The maximum ptime for pcma. 30 is a good choice

VoiceIfCodecG723Enable: Enable if you want this codec as a choice [default]

VoiceIfCodecG723MinPTime: The minimum ptime for g723. 30 is a good choice [default]
VoiceIfCodecG723MaxPTime: The maximum ptime for g723. 60 is a good choice

VoiceIfCodecG729Enable: Enable if you want this codec as a choice [default]

VoiceIfCodecG729MinPTime: The minimum ptime for g729. 10 is a good choice [default]
VoiceIfCodecG729MaxPTime: The maximum ptime for g729. 30 is a good choice

voiceifDtmfTransport: Choose outOfBandUsingRTP

voiceIfDtmfPayloadType: Choose 96 [default]

Configuring telephony attributes below tells the FXO gateway to automatically route incoming calls from the PSTN to the auto-attendant.

⚠ If you change the extension number for the auto-attendant in sipX, you also have to change the setting below.

Telephony Attributes (telephonyAttributesMIB/telephonyAttributesMIBObjects

telephonyAttributesAutomaticCallEnable: This should be enabled
telephonyAttributesAutomaticCallTargetAddress: This should be 100, the autoattendant?s extension
telephonyAttributesCallDirectionRestriction: This should be noRestriction unless you want to restrict calls

⚠ Make sure you configure a Call Target Address for each line connected to the PSTN (1 to 4).

Digit Map (digitMapMIB/digitMapMIBObjects)

```
digitMapAllwedEnabled: Enable each digit map you want to utilize [default]
digitMapAllowedDigitMap: x.T is the default; this can be used [default]
digitMapAllowedIsValid: The digit map must be Valid and Enabled to be utilized [default]
digitMapPrefixedDigitRemovalCount: 0 [default]
digitMapPrependedString: Leave this blank [default]
digitMapSuffixStringToRemove: Leave this blank [default]
digitMapAllowedLineToApply: ALL [default]
```

Voice Interface (voiceIfMIB/voiceIfMIBObjects/voiceIfTable)

```
voiceIfAdaptiveJitterBufferEnable: Enable, this enables the adaptive jitter buffers [default]
voiceIfTargetJitterBufferLength: 30, this should normally be twice the ptime [default]
voiceIfMaxJitterBufferLength: 125, must be more than IfTargetJitterBufferLength [default]
VoiceIfG711VoiceActivityDetectionEnable: Conservative [default]
VoiceIfEchoCancellationEnable: You cannot disable this feature.
VoiceG711ComfortNoiseGenerationEnable: CustomNoise [default]
VoiceBaseGainConfigurationSource: Not implemented.
VoiceIfUserInputGainOffset: 0, this is added to the BaseInputGain [default]
VoiceIfUserOutputGainOffset: 0, this is added to the BaseInputGain [default]
VoiceIfBaseInputGain: Not implemented.
VoiceIfBaseOUtputGain: Not implemented.
VoiceIfBaseInputGainOffset: Not implemented.
VoiceIfBaseOutputGainOffset: Not implemented.
VoiceIfNlpThresholdLevel: Not implemented.
VoiceIfG729VoiceActivityDetectionEnable: Enable [default]
VoiceIfG723VoiceActivityDetectionEnable: Enable [default]
```

Defining a new PSTN gateway in sipX

Setting up a new gateway in sipX is really simple. Go to the *Gateways* in the left navigation bar, enter a unique name for the gateway and its IP address. Done. You can now use this gateway in all your dial plan definitions, which allows you to define specific rules about which calls should be routed to which gateway.

Connect at least one PSTN line to the gateway before testing your setup. The gateway will reject all calls (the *in use* LED will not come on) unless it can connect to an external line.

Maintenance Tasks for the Mediatrix 1204 FXO Gateway

Reset to Factory Defaults

Reset to factory defaults can be done at run time or while powering up the unit. The procedure is the same: Insert a paper clip into the *Default Settings* hole at the back next to the Ethernet plug. Hold it in place until all four LEDs stop blinking and are steadily ON (10 to 15 seconds), then depress. Resetting to factory defaults deletes all configuration and history stored in the unit. Factory Defaults configures the unit to obtain an IP address from a DHCP server - make sure you got one on your network.

Mediatrix Analog Gateway Firmware Upgrade

You are an expert in SNMP management and MIB variables, right? If not I suggest you leave this task to an expert. Mediatrix only gives access to firmware downloads to their certified resellers, so that you have to contact your dealer to obtain a new firmware release. The firmware package includes the new image .zip file, updated documentation, as well as the MIB definition that corresponds to the new firmware image. In addition, you will need a recent copy of Unit Manager Express, the Mediatrix management tool.

The firmware image .zip file has to be unpacked and the resulting directory has to be put into the root directory of a TFTP server available on your network. The sipX server includes a TFTP server used to manage Polycom and other phones that can be used for this purpose. The TFTP root directory is */var /sipxdata/configserver/phone/profile/tftproot* on your sipX server.

Mediatrix allows you to configure the gateway to either optain the IP address and port for the TFTP server through DHCP or using a statically configured address. Unless you have real reason and know what you are doing, do not use the DHCP mechanism, but instead configure the IP address statically using Unit Manager Express.

Refer to Chapter 5: Software Download in the Mediatrix Administration Manual.

Start Unit Manager Express and navigate the following variables:

ⓘ Check *Automatic Get* in Unit Manager Express. Click on *Set* everytime you changed a variable to save.

private/enterprises/mediatrix/mediatrixConfig/ipAddressConfig/ipAddressConfigImage/
imageSelectConfigSource = **static**
ipAddressConfigImageStatic/imageStaticPrimaryHost = **IP addr of TFTP server**
ipAddressConfigImageStatic/imageStaticPrimaryPort = **69** (default)

private/enterprises/mediatrix/mediatrixConfig/imageMIB/

imageMIBObjects/imageLocation = **name of the directory in the TFTP root**

private/enterprises/mediatrix/mediatrixAdmin/groupAdminMIB/groupAdminMIBObjects/

groupAdminTable/groupAdminEntry/groupSetAdmin = **forcelock**

private/enterprises/mediatrix/mediatrixAdmin/sysAdminMIB/sysAdminMIBObjects/

sysAdminCommand = **download Software**

How do I know it worked?

During firmware upgrade all 4 LEDs blink in sequence at about 1 Hz. Once firmware upgrade is completed, the unit reboots and enters normal operation. If firmware upgrade failed, all four LEDs blink simultaneously at 2 Hz. You can also check the following MIB variable:

private/enterprises/mediatrix/mediatrixAdmin/sysAdminMIB/sysAdminMIBObjects/
sysAdminLastDownloadSoftware = **success**

private/enterprises/mediatrix/mediatrixMgmt/

sysMgmtMIB/sysMgmtMIBObjects/sysSoftwareVersion = **currently installed SW version**
sysMgmtMIB/sysMgmtMIBObjects/sysMIBVersion = **currently used MIB tree version**