

6.80A.261.013 - AudioCodes Mediant 1000b SIP Digital Gateway



1 Important Notes

- Check the *SIP 3rd Party Validation Website* for current validation status. The *SIP 3rd Party Validation Website* can be viewed at:
<http://testlab.inin.com>
- It is recommended to utilize the web interface for configuration.
- As this unit is a critical piece of the SIP infrastructure, it is highly recommended that DHCP not be used. A static IP address is the preferred method and is how the unit was configured during validation.
- After a factory reset, the Mediant 1000b will default to G.729 as its primary codec
- Routing Table entries will supersede all proxy settings.
- The option for clock master is now exposed in the web interface. You can change the TDM Bus Clock Source at VoIP > TDM > TDM Bus Settings.
- When using SRTP the number of available channels decreases by ~25%.
- The Gateway was upgraded from 6.4 to 6.8 firmware. Upgrading from older firmware was not tested.
- Homing redundancy behavior has been optimized. The gateway can now home between 3 different proxies and will always choose the proxy of highest preference.
- A previous issue with using homing to switch between 3 proxies in a single proxy set when a proxy of a higher priority becomes available has been fixed.
- The new version of the AudioCodes firmware is designed such that all Proxy Sets should be made members of an IP Group that have an IP Profile assigned them and are then Placed inside of an SRD which has a Media Realm configured for its use.

2 Vendor Documentation

Documentation can be found on the CD shipped with the Mediant 1000b.

3 Validated Firmware Version

V6.80A.261.013

This document applies to one or more Interactive Intelligence and/or Vonexus products.
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4 Install

Download the Mediant 1000b files from the 3rd Party Validation website:

<http://testlab.inin.com>

Contained in the zip file will be the validated version of firmware (.cmp) as well as any supplemental configuration files.

5 Configuration

Methods:

- INI File
 - An empty ini file can be uploaded to restore the device to factory default settings.
- Web interface
 - This method was used to configure the unit during validation. There are many advanced options that are exposed in the web interface. Caution should be exercised and the AudioCodes documentation should always be referenced when using the web interface configuration option.
- TFTP
 - This has not been tested.

Initial Setup:

- Unzip the ZIP file containing the Mediant 1000b configuration files and firmware.
- Follow the AudioCodes instructions (on the CD or in the booklet shipped with the Mediant 1000b) for getting an IP address assigned to the M1k.
- Start a web browser and type in the IP address of the Mediant 1000b.
- The default user name is “Admin” (with a capital “A”) and the password is “Admin” (with a capital “A”). It is recommended to change the password at this time for security reasons.
- “Terminate Analysis on Connect” under the “Session” page of the line configuration needs to be enabled for fax functionality through the Mediant’s FXS component.

Download Current Firmware (CMP file):

- From the main web screen, select Management > *Software Update* from the icons on the left side of the page.
- Depending on what version of firmware is currently running on the Mediant 1000b, two options will be available, “Software File-Download” or “Software Upgrade Wizard”
- Choose the appropriate option and load the validated version of firmware onto the Mediant 1000b.
- After the validated firmware has been applied, the Mediant 1000b will restart. Once the restart is complete, return to the web interface and click on “Status & Diagnostics” on the left hand side of the screen. Then select “System Information” from the top of the screen. The displayed Version ID should match the firmware version as noted in section 3. If it does not, check the upgrade steps and consult the AudioCodes documentation if necessary.

Download Auxiliary File(s):

- From the Software Update Section, select “Load Auxiliary Files”
- Click the browse button to select the auxiliary file to download, then click “Send File.”
- Repeat the steps in this section any additional auxiliary files required for this installation.

Modularity Support:

- The Mediant 1000b supports modularity. Both analog and digital modules can be purchased in the following configurations:
 - 1,2,or 4 port Digital Modules (E1, T1, ISDN)
 - 2 or 4 port FXS analog module
 - 2 or 4 port FXO analog modules
- Configuration is consistent with all the other AudioCodes Analog and Digital gateways except for the configuration of the FXS station extensions. Two differences when configuring the FXS stations are:

- To configure FXS station extensions a Trunk Group is created with the appropriate port mod/port number with the extension of the FXS phone. (Figure 1)
 - You can assign multiple ports #'s by selecting channels 1-3 and using phone number formats such as:
 - 200[1-3]# - This will assign extensions 2001, 2002, and 2003 to FXS ports 1, 2, & 3 respectively when channels 1-3 are selected to use.
 - 715422[2-3]# - This will assign the phone numbers 7154222 & 7154223 to FXO ports 1 & 2 when channels 1-2 are selected.
- An entry is created in the "IP to Tel Routing Table" to direct the incoming SIP station calls to the appropriate trunk group. (Figure 2)
 - You can use similar formatting from above to match to entries in the IP to Tel Routing tables.

Group Index	Module	From Trunk	To Trunk	Channels	Phone Number	Trunk Group ID	Profile ID
1	Module 1 Digital	1	1	1-23	5246739	1	0
2	Module 2 FXO			1	7154222	2	0
3	Module 2 FXO			2	7154223	2	0
4	Module 4 FXS			1	7011	3	0
5	Module 4 FXS			2	7012	3	0
6	Module 4 FXS			3	7013	3	0
7	Module 4 FXS			4	7014	3	0
8	Module 1 Digital	2	2	1-24	5555555	5	0
9							
10							
11							
12							

Figure 1

	Dest. Phone Prefix	Source Phone Prefix	Source IP Address	Trunk Group ID	Profile ID
1	71*	*	*	1	0
2	7*	*	*	3	0
3	*	*	*	1	0
4					
5					
6					
7					
8					
9					
10					
11					
12					

Figure 2

Changing the Configuration:

- Prior to making any changes, the Audiocodes documentation should be consulted for information on configuration parameters, options and functions.
- Changes can be made via the web interface or the .ini file can be modified and re-downloaded to the Mediant 1000b.

- Description of more significant .ini parameters. This is not a comprehensive list of all parameters found in the .ini file. A **bold** face parameter name indicates that it should be changed to represent specific site information.

Parameter	Description
IPTOS	Sets the 4 TOS layer 3 bits. <i>Values:</i> 0 through 15 <i>Example:</i> IPTOS = 0
DTMFTransportType	Specifies transport mechanism for DTMF tones <i>Values:</i> 0 (erase digits and do not relay) 1 (erase digits and relay to remote – proprietary) 2 (digits remain in voice stream – inband) 3 (erase digits and relay using RFC2833) <i>Example:</i> DTMFTransportType = 3
RFC2833PayloadType	Payload number to use for RFC2833 packets. This value is only used when DTMFTransportType = 3. <i>Values:</i> 96-99, 105-127
CoderName	Decides which coders should be used. Each coder will be on its own line. Up to 5 can be given. The first one specified is given precedence. <i>Values:</i> g711Ulaw64k,20 g711Alaw64k,20 g729 g7231 g726 <i>Note:</i> This line can be specified multiple times. <i>Example:</i> ;first coder used CoderName = g711Ulaw64k,20 ; second coder used CoderName = g7231
IsProxyUsed	Using a Proxy (or Interaction Center Server) for all calls? <i>Values:</i> 0 (no, using the Prefix Routing Table) 1 (yes, the proxy is in the <i>ProxyIP</i> field) <i>Example:</i> IsProxyUsed = 1
ProxyIp-0-1	Proxy or Interaction Center Server IP address (if <i>IsProxyUsed=1</i>). <i>Note:</i> If a proxy is not used then the Prefix Routing Table is used. <i>Example:</i> ProxyIp = 172.16.129.160
IsRegisterNeeded	Whether to register. <i>Values:</i> 0 (no), 1 (yes) <i>Example:</i> IsRegisterNeeded = 0
ProxyName	Proxy Server Name. Used in host portion in the SIP address in the To header. <i>Example:</i> ProxyName = ICServer1.inin.com
SipGatewayName	Gateway Host Name. Used in host portion in the SIP address in the From header. <i>Example:</i> SipGatewayName = mp1xxfxo.inin.com
DNSPriServerIP DNSSecServerIP	Address of the primary and secondary DNS servers. <i>Example:</i> DNSPriServerIP = 172.16.1.1 DNSSecServerIP = 172.16.1.2
IsFaxUsed	This must be set to "1" in order for faxing to work.
V22ModemTransportType	Enables/Disables Fax/Modem determination. Should be set to "0"
V23ModemTransportType	Enables/Disables Fax/Modem determination. Should be set to "0"
V32ModemTransportType	Enables/Disables Fax/Modem determination. Should be set to "0"
V34ModemTransportType	Enables/Disables Fax/Modem determination. Should be set to "0"
TDMBusClockSource	<i>Values:</i> 0 – Use internal oscillator 1 – Derive clock from the network
ClockMaster	<i>Values:</i> 0 – All Trunks Receive Clock 1 – All Trunks Drive Clock
ClockMaster_x Example: ClockMaster_0	<i>Values</i> are the same as ClockMaster , however these trunk specific settings will override the global ClockMaster parameter.

ClockMaster_1 ClockMaster_2 Etc.	T.38 faxing will be most impacted by improper clock settings.
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6 Redundant Proxy Configuration

The following configuration options are found under Protocol Management/Protocol Definition/Proxy & Registration in the web interface. In order for the Mediant 1000b to function with redundant proxies, the following value must be set:

Parameter	Description
Proxy IP Address	IP Address of the primary proxy.
First Redundant Proxy IP Address	IP Address of the secondary proxy.
Redundancy Mode	Values: Homing, Parking Homing: Gateway will ALWAYS try the primary proxy on every call attempt. Parking: Gateway will "park" on the last known good proxy until that proxy fails.
Enable Proxy Keep Alive	Value: Using Options Gateway will send OPTIONS messages to verify a proxy is online.
Enable Proxy Hot-Swap	Value: Enabled Gateway will only attempt proxy failover if this is set.

The following parameters are optional and enable advanced failover capabilities:

Parameter	Description
Enable Fallback to Routing Table	If none of the configured proxies are available, the gateway will attempt to deliver the call based upon its internal routing Tel to IP routing table.
Proxy Keep Alive Time	How often (in seconds) the OPTIONS message will be sent to verify a proxy is online.
Number of RTX Before Hot-Swap	How many re-transmits before failover takes place.

7 Putback Transfer

Select the Call Putback checkbox for the SIP line to enable the ability for the IC system to receive a call from the PSTN or a PBX, perform some processing on the call and then transfer the call to a non-IC destination (a PBX station or a remote number), without tying up two IC trunks (one for the original call and one for the call to the destination). By default this setting is unchecked.

If TLS/SRTP is being used, the “SIP UDP Local Port” parameter in “SIP General parameters” must be set to the same port that the “SIP TLS Local Port” is set to.

8 Security

StrongEncryption must be enabled via license key.

The Mediant requires a feature key with “StrongEncryption” enabled in order to support the required cipher suites. StrongEncryption may not be enabled by default. To check, follow these steps: Select Software Update from the left menu. Choose Software Upgrade Key from the top, view the Key features, and verify:

Security: IPSEC MediaEncryption **StrongEncryption** EncryptControlProtocol

If “StrongEncryption” is shown, then it is enabled.

When using SRTP the number of available channels decreases by ~25%.

Analog spans have 18 SRTP channels available (out of 24 spans max)

FXO has 3 SRTP channels available (4-port card)

FXS has 3 SRTP channels available (4-port card)

SRTP Settings

Enable Media Security

[EnableMediaSecurity]

Enables or disables the Secure Real-Time Transport Protocol (SRTP).

0 = SRTP is disabled (default).

1 = SRTP is enabled.

Note 1: SRTP is available only if DSPVersionTemplateName = 0 or 2.

Note 2: Use of SRTP has the following limitations. For digital 4-span modules, the channels are reduced from 120 to 100. For analog modules with four ports, the 4th port (right-most port on the module) is disabled.

To check the Mediant DSP Version, select Status & Diagnostics on the left, and Device Information from the top. Under Versions, view DSP Type. For the rest of the TLS/SRTP configuration refer to either the 6.8 User manual or the Interactive Intelligence document: Securing AudioCodes Mediant and MediaPack Gateways with xIC