VoIP Media Gateway

Mediant™ 1000 VoIP Media Gateway

The Mediant™ 1000 is AudioCodes’ cost-effective, converged wireline VoIP media gateway. Intelligently packaged in a stackable 1U chassis, it is designed to interface between TDM & IP networks in enterprises or small-scale carrier locations. Incorporating AudioCodes’ innovative Voice over Packet technology, the Mediant 1000 enables rapid time-to-market and reliable cost-effective deployment of next-generation networks.

The Mediant 1000 is based on VoIPerfect™, AudioCodes underlying, best-of-breed, media gateway core technology for all of its products. The Mediant 1000 provides superior voice-technology for connecting legacy telephone and PBX systems to IP networks, as well as seamless connection of the IP-PBX to the PSTN. In addition to operating as a pure media gateway, the Mediant 1000 can also host partner applications and serve as an IP-PBX platform. The Mediant 1000 is fully interoperable with multiple vendor gateways, softswitches, gatekeepers, proxy servers, IP phones, Session Border Controllers and firewalls.

**Scale Up As Your Business Grows**

The Mediant 1000 matches the density requirements for small locations while meeting enterprises and service providers’ demands for scalability. The compact Mediant 1000 Modular Gateway is extremely scalable and supports multiples of 1, 2, or 4 E1/T1/J1 spans, 4 to 20 BRI ports or 1 to 24 analog ports in various FXO/FXS configurations. The Mediant 1000 also supports mixed digital/analog with media processing capabilities such as conferencing, play/record configurations.

The Mediant 1000 can support a variety of telephony interfaces. The digital module can be configured as regular E1/T1/J1 interfaces, with up to 1 or 2 paired spans acting as life-line interfaces for switching to the PSTN in case of power failure or network problems. The analog module is available as regular FXS or FXO interfaces, where 1 FXS line can be used as a life-line interface for switching to the PSTN.

**Interface Modules:**
- Digital (E1/T1/J1) – connecting the PSTN or PBX to the IP-network
- Analog FXS – connecting analog phones and fax machines to the IP-network
- Analog FXO – connecting analog lines from the Central Office (CO) or PBX to the IP network
- BRI – connecting to PBXs or the PSTN

**SAS - Stand Alone Survivability for Service Continuity**

Customers who connect to centralized IP Centrex services, as well as branch offices of enterprises who use a centralized IP-PBX server may face a survivability challenge. Stand Alone Survivability (SAS), supported in the Mediant 1000 is based on the SIP B2BUA (Back to Back User Agent) functionality, and enables the backup of SIP clients such as SIP IP and Soft Phones in the case of a connectivity failure with the centralized SIP server.

**Seamless Interface with Legacy Enterprise Networks**

The Mediant 1000 has enhanced hardware and software capabilities to ease its installation and to help maintain voice quality. If the measured voice quality falls beneath a pre-configured value, or the path to the destination is disconnected, the Mediant 1000 can assure voice connectivity by falling back to the PSTN. In the event of network problems, calls can be routed back to the PSTN without requiring routing modifications in the PBX. Further reliability is provided by dual Ethernet ports and optional dual AC power supply.

**3rd Party Application Platform**

The Mediant 1000 extends the flexibility of the Media Gateway family with additional deployment options. The open platform on the Mediant 1000 offers partners the option to host their own applications (e.g., IP-PBX, call center, conferencing and messaging applications) using the OSN (Open Solution Network) Server platform, including a powerful processor and hard disks to provide a complete solution within the Mediant 1000 chassis along with rich SIP gateway features.
## Specifications

### Interfaces

<table>
<thead>
<tr>
<th>Modularity and Capacity</th>
<th>Voice interface: Equipped with 6 Slots that can host voice modules, up to a maximum of 24 analog ports or 4 digital spans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Modules</td>
<td>1, 2 or 4 E1/T1/11 span with RJ-45 connectors per module, up to 4 digital modules (maximum 4 spans per gateway); Optional 1+1 or 2+2 fallback spans</td>
</tr>
<tr>
<td>Analog FXO and FXS Modules</td>
<td>4 ports using RJ-11 connectors per module, up to 6 modules per gateway, Ground Start and Loop Start</td>
</tr>
<tr>
<td>BRI Module</td>
<td>4 BRI ports (8 calls) per module, up to 5 modules per gateway with S/T interfaces Supports: Euro ISDN, N2, SESS or QSIG</td>
</tr>
<tr>
<td>Media Processing Module</td>
<td>Hosting media processing features: conferencing, playing/record over HTTP or NFS</td>
</tr>
<tr>
<td>I/O</td>
<td>MOH (Music On Hold), NB (Night Bell)</td>
</tr>
<tr>
<td>Ethernet</td>
<td>Dual Redundant 10/100 Base-T Ethernet ports via 2 RJ-45 connectors</td>
</tr>
<tr>
<td>RS-232</td>
<td>Debugging and configuration</td>
</tr>
</tbody>
</table>

### Media Processing

**Voice Coders**

G.711, G.726, G.727, G.723.1, G.729, GSM FR, NS GSM, ISUP, EG.711, EVRC, QCELP, AMR, GSM EFR, G.722

**Echo Cancellation**

G.165 and G.166-2002, with 32, 64 or 128 tap length

**Quality Enhancement**

Dynamic programmable jitter buffer, VAD, CNG, 802.1p/v VLAN tagging, Diffserv, voice quality monitoring, G.729B, RTCPXR

**DTMF/MF Transport**

Packet side or PSTN side detection and generation, RFC 2833 compliant DTMF relay

**Call Progress tones detection and generation**

RFC 2833 compliant

**IP Transport**

VoIP (RTP/RTCP) per: ETSI RFC 3505 and 3561

**Fax and Modern Transport**

T.38 compliant (real time fax), Automatic bypass to PCM or ADPCM

### OSN Server Platform - Embedded, Partner Application Platform for third party services

<table>
<thead>
<tr>
<th>OSN Types</th>
<th>OSN1</th>
<th>OSN2</th>
<th>OSN3* (ON AMC Chassis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel® Celeron™ 600 Mhz</td>
<td>Intel Pentium M 1.4 Ghz</td>
<td>Intel Core2 Duo</td>
</tr>
<tr>
<td>Memory</td>
<td>One 500GMM slot with 512M RAM</td>
<td>1 or 2 GRAM</td>
<td>Two 500GMM slots with 2.4 G RAM, ECC support</td>
</tr>
<tr>
<td>Storage</td>
<td>Single/Dual hard disk drives</td>
<td>Single SATA HHD</td>
<td>Single or Dual SATA HDD</td>
</tr>
<tr>
<td>Interfaces</td>
<td>10/100 Base-TX, USB, RS-232, VGA</td>
<td>10/100 Base-TX, USB, RS-232, VGA</td>
<td>1000 Bas-TX, USB, RS-232</td>
</tr>
</tbody>
</table>

### Signaling

**Digital - PSTN Protocols**

CAS: MF-R2, T1 CAS (E&M, Loop, Start, Feature Group-D, E911CAMA)

E1 CAS (R2 MFC), R.5.3 numerous protocol and country variants

ISDN PRI: T.25/E1/2, 10-G, N2 and other variants (ISDN10, SESS) QSIG

(Basic and supplementary), ILA (SIGTRAN), V6, V4, V6

**Analog Signaling**

FXS: Caller ID, polarity reversal; metering tones, distinctive ringing, visual message waiting indication, Loop Start, Ground Start

### Control & Management

**Control Protocols**

SIP, MSOCN, H.323 (MEGACO - for digital trunks)

**Operations & Management**

AudioCodes Element Management System

Embedded HTTP Web Server, Telnet, SNMP V2, V3

Remote configuration and software download via TFTP, HTTP, HTTPS, DHCP and BootP, RADIUS, Sipping for events, alarms and CODRs, Auto Update

### Security

IPSEC, HTTPS, TLS (SSL), SSL, Web access list, RADIUS login and SRTP

### Hardware Specifications

**Power Supply**

100-240V, 50-60Hz, 1.5A Max, single (default) or redundant (optional) power supply configurations

**Physical**

10 high, 19 inch wide

### Regulatory Compliance

**Telecommunication Standards**

T1A/E1A/IS-968, TBR-4, TBR-13, and TBR-21

**Safety and EMC Standards**

UL60950-1; FCC 47 CFR part 15 Class B

CE Mark (EN55022 Class B, EN60950-1, EN55024, EN300 388, EN55000-3-2/3.3)

**Environmental Specifications**

ETS 300019-2 Storage TL2, ETS 300019-2 Transportation 2T3

ETS 300019-2 Operating 2T2

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1 Some PSTN variants may not be supported with all control protocols

2 May reduce density

3 OSN3 can be used on the Mediant 1000B Chassis only (with AMC support)