About AudioCodes

AudioCodes Ltd. (NasdaqGS: AUDC) provides innovative, reliable and cost-effective Voice over IP (VoIP) technology, Voice Network Products, and Value Added Applications to Service Providers, Enterprises, OEMs, Network Equipment Providers and System Integrators worldwide. AudioCodes provides a diverse range of flexible, comprehensive media gateway, and media processing enabling technologies based on VoIPerfect™ – AudioCodes' underlying, best-of-breed, core media architecture. The company is a market leader in VoIP equipment, focused on VoIP Media Gateway, Media Server, Session Border Controllers (SBC), Security Gateways and Value Added Application network products. AudioCodes has deployed tens of millions of media gateway and media server channels globally over the past ten years and is a key player in the emerging best-of-breed, IMS based, VoIP market. The Company is a VoIP technology leader focused on quality and interoperability, with a proven track record in productand network interoperability with industry leaders in the Service Provider and Enterprise space. AudioCodes Voice Network Products feature media gateway and media server platforms for packet-based applications in the converged, wireline, wireless, broadband access, cable, enhanced voice services, video, and Enterprise IP Telephony markets. AudioCodes' headquarters and R&D are located in Israel with an additional R&D facility in theU.S. Other AudioCodes' offices are located in Europe,India, the Far East, and Latin America.

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Mediant™ 1000 MSBG Multi-Service Business Gateway

Benefits for Service Providers
• A highly integrated device for VoIP, Data, Security & Access forming a single managed point of demarcation
• SIP Mediation enabling SIP Trunking in a variety of IP-PBX environments
• Simplified management & maintenance using a unified management tool
• Service survivability and high availability

Benefits for Businesses Customers
• "All-in-one" box reducing CapEx and simplifying maintenance and management
• Enhanced Voice and Data Security based on an embedded Enterprise-Class Session Border Controller and Firewall
• SIP mediation for flexible SIP Trunking service
• Multiple service provider connectivity to optimize tariff rates
• Ready for hosting IP-PBX and office Value Added Services for increased productivity

Benefits for OEM and Value Added Services developers
• An integrated and compact platform ready for hosting a variety of business applications
• Solving interoperability and integration "pains" with Media Gateways, Media Servers, SBCs, Routers, etc.
• Built-in SIP-controlled media processing resource for advanced voice applications (Conferencing, Streaming, etc.)
• Embedded SIP mediation and transcoding enabling SIP trunking services
• Enhanced Voice and Data Security

Product Highlights
• A direct evolution of the field-proven and highly interoperable Mediant 1000™ VoIP media gateway
• Enterprise-Class Session Border Controller
• IP-to-IP Protocol normalization and Media transcoding
• Full Data security suite including Firewall, IDS/IPS, VPN & SSL
• Integrated Router
• Advanced Media Processing Module and generic application processor

The **Mediant™ 1000 MSBG** is an all-in-one multi-service access solution for Service Providers offering managed services and distributed Enterprises. This multi-service business gateway is designed to provide converged Voice & Data services for business customers at wire speed, while maintaining SLA parameters for superior voice quality.

The Mediant 1000 MSBG is based on AudioCodes' VoIPerfect best-of-breed Media Gateway technology, combined with Enterprise class Session Border Controller, Data & Voice security elements, Data Routing, LAN Switching and WAN Access.

Best-of-Breed Enterprise Class Media Gateway
The Mediant 1000 MSBG is based on a highly interoperable Media Gateway which supports a mix of 1-4 E1/T1/J1 Spans, 4-20 BRI lines and 4-24 Analog FXS/FXO interfaces. Enhanced dialing plans and voice routing capabilities along with SIP to SIP mediation, allow Enterprise customers to enjoy the benefits of SIP Trunking services and IP based Unified Communications, as well as flexible PSTN and legacy PBX connectivity.

Data Routing and WAN Access
The Mediant 1000 MSBG offers Data Routing capabilities by providing static routing and dynamic routing protocols such as RIP/OSPF and BGP. In addition, the MSBG supports a selection of WAN interfaces providing flexibility in connecting to Service Providers.

SBC (Session Border Controller) and Security Services
AudioCodes' Mediant 1000 MSBG is designed as a secured VoIP and Data platform. Enhanced Media Gateway security features include SRTP for media, TLS for SIP control, IPSec for management, and other additional features. Data Security functions include integrated Stateful Firewall, IDS/IPS, SSL for remote user access and site to site VPN. A fully featured Enterprise class Session Border Controller provides a secured voice network deployment based on a Back-to-Back User Agent (B2BUA) implementation.

Survivability Services
Customers served by a centralized SIP-based IP-Centrex server or branch offices of distributed enterprises may face a service continuity challenge. The SAS (Stand Alone Survivability) functionality enables internal office communication between SIP clients, along with PSTN fallback, in the case of disconnection from the centralized SIP IP-Centrex server or IP-PBX.

Value-Added Services by a 3rd Party Application Platform
AudioCodes' Mediant 1000 MSBG extends the flexibility of the Multi-Service Business Gateway with a built-in Open Solution Network (OSN) Server module, an Intel processor based server, by hosting a variety of 3rd party applications (IP-PBX, Call Center, Conferencing and more).

In addition, an advanced DSP based Media Processing Module (MPM) enables the implementation of media processing services such as announcements, recording, IVR, conferencing & transcoding.

Target Applications
• Voice over Broadband (VOBB) and MSOs
• SIP Trunking
• IP Centrex
• Distributed Enterprises

Mediant™ 1000 MSBG Multi-Service Business Gateway

Mediant 1000 MSBG in Service Provider Networks

As Enterprises struggle to control their communication operating and equipment costs, outsourcing their Voice and Data infrastructure to a Service Provider is becoming a more attractive option. The Mediant 1000 MSBG offers service providers who are delivering hosted and managed communication services, a clear and easy-to-manage demarcation point, combining Data Routing and Security, WAN Access, Secured VoIP and a Stand Alone Survivability feature.
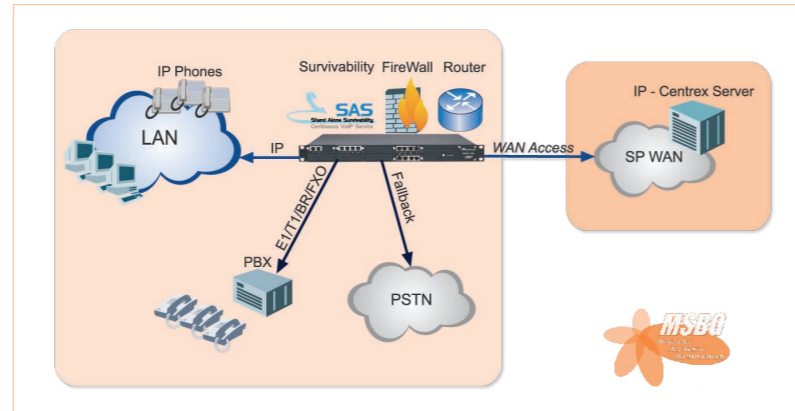
Mediant 1000 MSBG in Distributed Enterprise Networks

Enterprises are striving to be more productive, efficient, and responsive to their internal users. The convergence of secured voice services, Stand Alone Survivability, Data Routing and Security and WAN Access into a branch office's unified platform, enables a high level of protection, cost-optimization and support for the growing communication needs of the Enterprise.

Additionally, the Mediant 1000 MSBG can be utilized at company headquarters, providing a suite of services which include secured SIP Trunking by an Enterprise-class Session Border Controller, a survivable VoIP media gateway and a cost-effective IP-PBX platform.
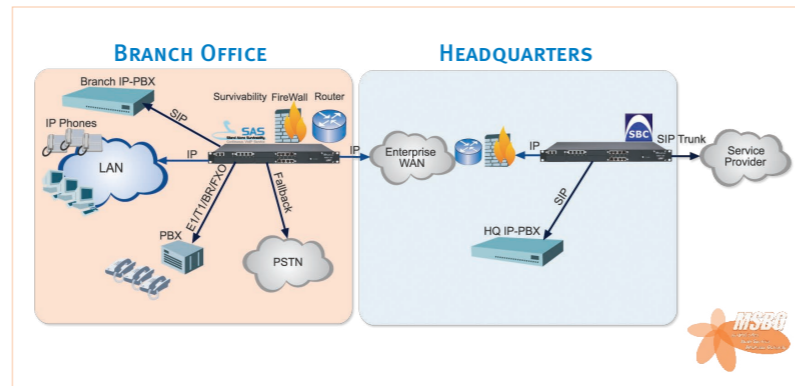
Specifications

Interfaces

PSTN Modularity and Capacity	Voice interface: the Mediant 1000 is equipped with 6 Slots for hosting voice processing and PSTN termination modules (up to 120 TDM-VoIP channels per Gateway)
Digital Module	1, 2 or 4 E1/T1/J1 spans per module using RJ-48c connectors with an option of PSTN Fallback
Analog Module	4 ports FXO or FXS per module using RJ-11 connectors, ground start and loop start
BRI Module	4 BRI ports (8 calls) per module, network S/T interfaces. NT or TE termination
Media Processing Module	Support Media processing options of up to 60 Conferencing legs (3 way or N-way), play, record to IP or PSTN

Networking Interfaces

WAN	10/100/1000Base-T, 1000Base-SX/LX, T1 DSU/CSU, SHDSL*, ADSL2+*, E1 DSU/CSU*
LAN	3 ports 10/100/1000Base-T

OSN Server Platform

Single Chassis Integration	Embedded, Partner Application Platform for third party services
CPU	Pentium M 1.4 GHz
Memory	1G RAM or 2G RAM
Storage	Single/Dual hard disk drives
Interfaces	10/100/1000Base-T, USB, VGA, RS-232

*Future Release

Media Processing

Voice Coders	G.711, G.726, G.723.1, G.729A, GSM-FR, iLBC, EG.711, G.722* Independent dynamic vocoder selection per channel
Echo Cancellation	G.165 and G.168-2002, with 32, 64 or 128 tail length
Quality Enhancement	Dynamic programmable jitter buffer, VAD, CNG
DTMF/MF Tones	Packetside or PSTN side detection and generation, RFC 2833 compliant DTMF relay Call Progress tones Detection and Generation
IP Transport	VoIP (RTP/RTCP) per IETF RFC 3550 and 3551
Fax and Modem Transport	T.38 compliant (real time fax), Automatic bypass to PCM or ADPCM, V.34

Signaling

Digital – PSTN Protocols	**CAS**: MF-R1: T1 CAS (E&M, loop start, Feature Group-D, E911CAMA), E1 CAS (R2 MFC), R1.5 numerous protocol and country variants **ISDN PRI**: ETSI/EURO ISDN, ANSI NI2 and other variants (DMS100, 5ESS) QSIG.IUA (SIGTRAN), VN3, VN4, VN6 **ISDN BRI:** Support Euro ISDN, VN4/6 or QSIG
Analog Signaling	FXS, Caller ID, polarity reversal, metering tones, distinctive ringing, visual message waiting indication, loop start, ground start

Data Routing

	DHCP/PPPoE/L2TP/PPTP client towards WAN DHCP server towards LAN VLAN Layer 3 routing Internal layer 2 switching Static and dynamic routing (RIP, OSPF, BGP) PPP, HDLC IPv6*

Control & Management

Control Protocols	SIP-TCP, UDP, TLS and MSCML Stand Alone Survivability for service continuity
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, Syslog (for events, alarms and CDRs)

IP/VoIP Quality of Service

	IEEE 802.1p, TOS, DiffServ IEEE 802.1Q VLAN tagging Shaping, Policing, Queuing, Bandwidth Reservation RTCP-XR Report Publish (RFC 3611)

Security

Session Border Controller	SIP Header conversion: •IP to IP Routing translations of SIP, UDP, TCP, TLS •Translation of RTP, SRTP •Support SIP trunk with multi-ITSP (Registrations to ITSPs is invoked independently) •Topology hiding •Call Admission Control •Call Black/White list •Intrusion detection/prevention (NIDS) •Anti SPIT & SPAM mechanisms
Data Security	▪ IPsec, up to 8 links: •ESF – Tunnel mode •Encryption •Authentication •IKE mode – IPsec VPN ▪ DoS Protection of: •Fragmented traffic •Malformed Request •Ping of Death •DoS attack •Properly formed request from unauthenticated source •DDoS attack •SYN flood ▪ Stateful packet inspection firewall ▪ Bad fragment, spoofed connection ▪ DMZ Host ▪ Port Triggering ▪ Packet Filtering ▪ Application Layer Gateway ▪ SRTP

Hardware Specifications

Power Supply	Single or dual redundant universal 90-260 V AC, redundant power supply/DC*
Physical	1U high, 19-inch wide

Regulatory Compliance

Safety and EMC Standards	UL60950-1, FCC 47 CFR part 15 Class B CE Mark (EN55022 Class B, EN60950-1, EN55024, EN300 386, EN61000-3-2/3-3)
Telecommunication Standards	TIA/EIA-IS-968, TBR-4, TBR-13 and TBR-21
Environmental Specifications	ETS 300019-2-1 Storage T1.2, ETS 300019-2-2 Transportation T2.3, ETS 300019-2-3 Operating T3.2

*Future Release