Mediant™ 800 MSBG — Multi-Service Business Gateway

ABOUT AUDIOCODES

AudioCodes Ltd. (NasdaqGS: AUDC) designs, develops and sells advanced Voice over IP (VoIP) and converged VoIP and Data networking products and applications to Service Providers and Enterprises. AudioCodes is a VoIP technology market leader focused on converged VoIP & data communications and its products are deployed globally in Broadband, Mobile, Cable, and Enterprise networks. The company provides a range of innovative, cost-effective products including Media Gateways, Multi-Service Business Gateways, Session Border Controllers (SBC), Residential Gateways, IP Phones, Media Servers and Value Added Applications. AudioCodes' underlying technology, VoIPerfectHD™, relies on AudioCodes' leadership in DSP, voice coding and voice processing technologies. AudioCodes High Definition (HD) VoIP technologies and products provide enhanced intelligibility and a better end user communication experience in Voice communications.

International Headquarters
1 Hayarden Street,
Airport City
Lod 70151, Israel
Tel: +972-3-976-4000
Fax: +972-3-976-4040

AudioCodes Inc.
27 World's Fair Drive,
Somerset, NJ 08873
Tel:+1-732-469-0880
Fax:+1-732-496-2298

Contact us: www.audiocodes.com/info
Website: www.audiocodes.com

Ref. # LTRM-30025 04/11 V.3

MEDIANT 800 MSBG CONFIGURATION OPTIONS

Part Number	FXS Ports	FXO Ports	BRI Ports	T1/E1 Ports	LAN Ports (GE/FE)	WAN Port	OSN	PoE	Software Upgradable from 2 to 12 LANs	Software Upgradable to 4 BRI
M800-4S-2L	4				2 (2/0)	GE				
M800-4S4O-12L-P-X1	4	4			12 (4/8)	GE	Y	Y		
M800-4S8O-2L-X1	4	8			2 (2/0)	GE	Y			
M800-12S-12L-P	12				12 (4/8)	GE		Y		
M800-8S-12L-P	8				12 (4/8)	GE		Y		
M800-12S-12L-P-X1	12				12 (4/8)	GE	Y	Y		
M800-12O-12L-P-X1		12			12 (4/8)	GE	Y	Y		
M800-4O-2L-X1		4			2 (2/0)	GE	Y			
M800-8S-2L-P-2U12	8				2 (2/0)	GE		Y	Y	
M800-12S-2L-P-2U12	12				2 (2/0)	GE		Y	Y	
M800-4S4O-2L-P-X1-2U12	4	4			2 (2/0)	GE	Y	Y	Y	
M800-12S-2L-P-X1-2U12	12				2 (2/0)	GE	Y	Y	Y	
M800-12O-2L-P-X1-2U12	12				2 (2/0)	GE	Y	Y	Y	
M800-1B-12L-P			1		12 (4/8)	GE		Y		Y
M800-2B-12L-P			2		12 (4/8)	GE		Y		Y
M800-3B-12L-P			3		12 (4/8)	GE		Y		Y
M800-4B-12L-P			4		12 (4/8)	GE		Y		
M800-4B-12L-P-X1			4		12 (4/8)	GE	Y	Y		
M800-4B-2L-P-X1-2U12			4		2 (2/0)	GE	Y	Y	Y	
M800-1B-2L-P-2U12			1		2 (2/0)	GE		Y	Y	Y
M800-2B-2L-P-2U12			2		2 (2/0)	GE		Y	Y	Y
M800-3B-2L-P-2U12			3		2 (2/0)	GE		Y	Y	Y
M800-4B-2L-P-2U12			4		2 (2/0)	GE		Y	Y	
M800-1ET-12L-P-2T				1	12 (4/8)	2 x T1	Y			
M800-1ET-12L-P				1	12 (4/8)	GE	Y			
M800-1ET-2L-P-2T-2U12				1	2 (2/0)	2 x T1	Y		Y	
M800-1ET-2L-P-2U12				1	2 (2/0)	GE	Y		Y	
M800-4B-12L-P-4SHDSL			4		12 (4/8)	4 x SHDSL		Y		
M800-4B-2L-P-4SHDSL-2U12			4		12 (4/8)	4 x SHDSL	Y	Y		

AudioCodes Mediant™ 800 MSBG is an all-in-one box solution, designed to provide converged voice and data connectivity for small-to-mid size business (SMB) customers, and to form a well-managed point of demarcation for service providers. Based on AudioCodes' VoIPerfectHD technology, the Mediant 800 MSBG integrates a variety of communication functions into a single platform, including VoIP mediation, Enterprise Session Border Controller, Data Routing, WAN access, voice and data security, branch survivability, and an optional server for hosting value added applications.

INTEGRATED LAN SWITCH AND DATA ROUTING
AudioCodes Mediant 800 MSBG has an integral LAN Switch supporting up to 12 Power-over-Ethernet (PoE) LAN ports for IP Phones and other PoE devices. It is equipped with an integrated WiFi (802.11n) access point, as well as optional dynamic and static data routing capabilities.

FLEXIBLE WAN ACCESS CAPABILITIES
AudioCodes Mediant 800 MSBG has a versatile WAN interface supporting optical Gigabit Ethernet and Copper, T1 WAN and a selection of DSL protocols such as SHDSL, ADSL2+ and VDSL. It also supports a 4G/3G cellular connection through a USB dongle. This selection of options provides great flexibility in connecting to service provider networks.

SMALL-TO-MID SIZE BUSINESS CLASS MEDIA GATEWAY
AudioCodes Mediant 800 MSBG is built upon a highly interoperable VoIP Media Gateway that can be delivered in several pre-defined configurations, supporting a single E1/T1/J1 trunk, up to 4 BRI ports (8 calls) or up to 12 analog (FXS/FXO) ports.

ENTERPRISE SESSION BORDER CONTROLLER (E-SBC)
By upgrading the platform with software E-SBC licenses, the Mediant 800 MSBG protects the enterprise network and provides secured connectivity into SIP Trunking and other service provider applications. The key security features include Call Admission Control (CAC), encryption and authentication, topology hiding, traffic separation and protection against Denial of Service (DoS) attacks.

BRANCH SURVIVABILITY
Customers served by a centralized, SIP-based IP Centrex server or branch offices of distributed enterprises, may face service discontinuities because of WAN failure. In such cases the integrated Stand Alone Survivability (SAS) feature of the Mediant 800 enables internal office communication between SIP clients (e.g. IP Phones), along with PSTN fallback for making and receiving external calls.

OPEN PLATFORM FOR HOSTING VALUE ADDED APPLICATIONS
AudioCodes Mediant 800 MSBG extends the flexibility of the Multi-Service Business Gateway with a built-in Open Solution Network (OSN) server option based on an Intel processor. Independent software vendors and OEM customers can utilize this integrated, general purpose server to host their own applications such as IP-PBX, IVR, Call Center, Conferencing, and more.

POWERFUL MEDIA PROCESSING SERVICES
The on-board DSP resource farm enables the implementation of a variety of narrowband and wideband VoIP media processing services, such as recording, integrated voice response (IVR), conferencing and transcoding. Utilizing AudioCodes dedicated DSP resources enables a more robust and predictable voice performance compared to systems that are based on general purpose CPUs.

BENEFITS FOR SERVICE PROVIDERS
- A highly integrated device for VoIP, Data, Security & Access, forming a single managed point of demarcation
- SIP Mediation that enables secured SIP Trunking in a variety of IP-PBX environments
- Simplified management & maintenance using a unified management tool
- Standalone Survivability
- Quality of Experience (QoE) lifecycle management solution

BENEFITS FOR SMB CUSTOMERS
- "All-in-one" box reducing CAPEX and OPEX, simplifying maintenance and management
- Smooth connectivity to cloud services
- 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 applications and additional 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
- Relieving interoperability and integration "pains" with Media Gateways, Media Servers, SBCs, Routers, etc.
- Built-in SIP-controlled media processing resources for advanced voice applications (Conferencing, Streaming, etc.)
- Embedded SIP mediation and transcoding, enabling SIP trunking services
- Enhanced Voice and Data Security

Mediant™ 800 Multi-Service Business Gateway

## Mediant 800 MSBG in Service Provider Networks

As SMB's strive to control their communication operating and equipment costs, outsourcing a Voice and Data infrastructure to a Service Provider is becoming an attractive option. The Mediant 800 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 the Stand Alone Survivability feature,Using the Mediant 800 MSBG. Service Providers' SMB customers can easily and securely consume cloud-based SaaS services.
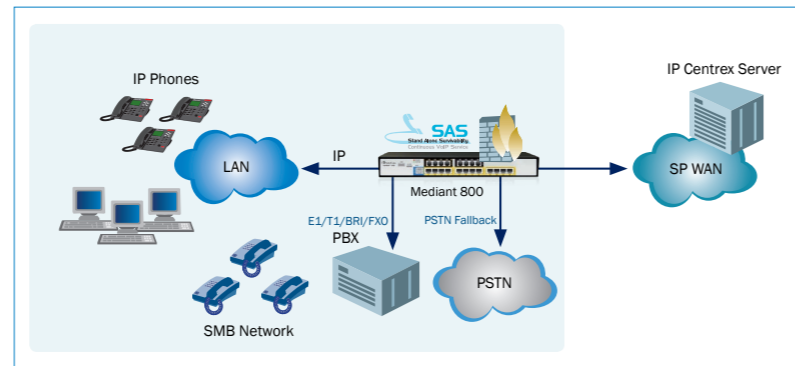
Mediant 800 MSBG in Distributed Enterprise Networks

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

The Mediant 800 can be utilized at the company's remote branches, 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. In addition, the higher density Mediant 1000 MSBG is a well-suited platform for converging VoIP Gateways and a Session Border Controller, thereby improving the enterprise headquarter's service level.
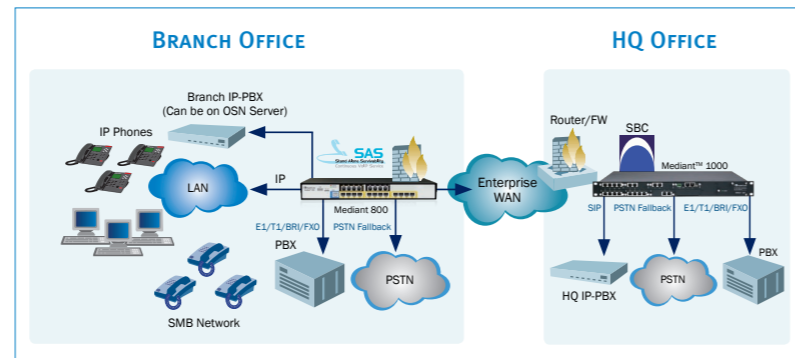
Target Applications

- SIP Trunking
- IP Centrex and hosted services
- IP-PBX for SMB/SOHO
- Remote connection to IP-PBX in distributed Enterprise branches
- Unified Communications mobility and Value Added Services for SMB/SOHO

Specifications

Interfaces

PSTN Capacity	Voice interfaces: The Mediant 800 is equipped with up to 12 analog PSTN interfaces, 4 BRI and single E1/T1/J1 span, or a combination
Digital Interfaces	Single span E1/T1/ using RJ-48c connectors 4 BRI ports using RJ-48c connectors
Analog Interfaces	4 ports FXO, 4 FXS ports, 8 FXS ports, 12 FXS ports or 12 FXO ports using RJ-11 connectors Option of 1 FXS Lifeline ports in case of power failure
BRI Interfaces	4 BRI ports (8 calls), network S/T interfaces. NT or TE termination

Networking Interfaces

WAN	WAN interface 10/100/1000 Base-T Copper Support for T1, SHDSL, ADSL2+, VDSL
LAN	**2 configurations**: 4 ports 10/100/1000Base-T plus additional 8 10/100Base-TX ports or 2 ports 10/100/1000Base-T
	PoE- Power-Over Ethernet on all ports is optional (Compliant to 802.3af-2003 with auto-detection Up to 15.4W per port), PoE management
WiFi*	WiFi Access Point support for 802.11 a/b/g/n

OSN Server Platform (Optional)

Single Chassis Integration	Embedded, open Network Solution Platform for third-party services
CPU	Intel Atom 1.6 GHz
Memory	1G RAM
Storage	SATA storage

Media Processing

Voice Coders	G.711, G.723.1, G.729A, G.722, AMR-WB
	Independent dynamic vocoder selection per channel
Echo Cancellation	G.165 and G.168-2002, with 32, 64 or 128 msec tail length
Quality Enhancement	Dynamic programmable jitter buffer, VAD, CNG
DTMF/MF Tones	Packet-side or PSTN-side detection and generation, RFC 2833 compliant DTMF relay and Call Progress tones Detection and Generation
IP Transport	VoIP (RTP/RTCP) per IETF RFC 3550 and 3551, IPv6 Supported
Fax Transport	T.38 compliant (real time fax), Automatic bypass to PCM

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), VN3, VN4, VN6
	ISDN BRI: Euro ISDN, VN4/6 or QSIG
Analog Signaling	Loop Start FXS/FXO, Caller ID, polarity reversal, distinctive ringing, visual Message Waiting Indication

Data Routing (Optional)

	DHCP/PPPoE/L2TP/PPTP client towards WAN
	DHCP server towards LAN
	VLAN
	Layer 3 routing
	Internal layer 2 switching
	Static and dynamic routing (RIP1, RIP2, OSPF, BGP)

Control and Management

Control Protocols	SIP-TCP, SIP-UDP, SIP-TLS and SIP-MSCML*, IPv6 Supported
	Stand alone Survivability for service continuity
Operations & Management	AudioCodes' Element Management System
	Embedded HTTP Web Server, SNMP V2/V3
	Remote configuration and software download via HTTP or HTTPS, RADIUS, Syslog (for events and alarms)

IP/VoIP Quality of Service

	IEEE 802.1P, TOS, DiffServ labeling
	IEEE 802.1Q VLAN tagging
	RTCP-XR* (Extended Reports per RFC 3611)
	Shaping Policing, Queuing, Bandwidth Reservation (Optional)

Security

Session Border Controller (SBC)	SIP Header conversion
	SIP Normalization
	Survivability
	IP-to-IP routing translations of various SIP transport types; 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
Data Security	IPsec
	ESP – Tunnel mode
	Encryption
	Authentication
	IKE mode – IPsec VPN
	IDS/IPS:
	- Fragmented traffic
	- Malformed Request
	- Ping of Death
	- Properly formed request from unauthenticated source
	- DDoS attack
	- SYN flood
	Stateful packet inspection firewall
	DMZ Host
	Port Triggering
	Packet Filtering
	Application Layer Gateway

Hardware Specifications

	Power Supply: Single, universal 90-260 V AC
	Physical Dimensions: 320mm x 345mm x 1U

Regulatory Compliance

Safety and EMC Standards	UL60950-1, EN60950-1, CB certification including National deviations
	EN55024, EN55022 Class A, EN61000-3-2, EN61000-3-3, EN300 386, FCC 47 Part 15 Class A
Telecommunication Standards	TIA/EIA-IS-968, ETSI ES 203 021 (FXO interface)

*Future Release