

### 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 leader focused on VoIP communications, applications and networking elements, 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, Residential Gateways, IP Phones, Media Servers, Session Border Controllers (SBC), Security Gateways and Value Added Applications. AudioCodes underlying technology, VoIPPerfectHD™, relies primarily 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 emerging Voice networks.

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#### 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

#### PRODUCT HIGHLIGHTS

- A direct evolution of the field-proven and highly interoperable Mediant 1000 MSBG, MediaPack and Mediant VoIP gateways
- Enterprise-Class Session Border Controller
- IP-to-IP Protocol normalization and Media transcoding
- Full Data security suite including Firewall, IDS/IPS, VPN & SSL
- Support wireline and wireless LAN access
- Integrated static as well as dynamic routing capabilities
- Advanced Media Processing and generic application processor
- Embedded BroadSoft PacketSmart agent for QoE lifecycle management

**AudioCodes Mediant™ 800 MSBG** is an all-in-one, Multi-Service Business Gateway solution, designed to provide converged Voice & Data services for small-to-mid size business (SMB) customers, and to form a well-managed point of demarcation for service providers. The Mediant 800 MSBG is based on AudioCodes' VoIPPerfectHD best-of-breed Media Gateway technology, integrating a variety of communication functions into a single platform to support fundamental services, such as VoIP mediation, Data Routing, WAN access, Voice & Data security, survivability, and third party value-added services applications. These services allow smooth connectivity to cloud services.

#### BEST-OF-BREED SMALL-TO-MID-SIZE ENTERPRISE 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. In addition, the Mediant 800 MSBG provides enhanced dialing plans and voice routing capabilities along with SIP to SIP mediation, allowing business customers to enjoy the benefits of SIP Trunking services, IP Centrex connectivity, Unified Communications, as well as flexible PSTN and legacy PBX connectivity to VoIP.

#### LAN, DATA ROUTING AND WAN ACCESS

AudioCodes Mediant 800 MSBG is optimized for wire-speed delivery of data and wireless services supporting up to 8 10/100 Base-TX and 4 10/100/1000 Base-T PoE LAN ports (802.3af) and an integrated WiFi (802.11a/b/g/n) Access Point. The Integrated switch modules enable support for IP Phones and other PoE-powered devices. The Mediant 800 MSBG is equipped with a versatile WAN interface supporting 10/100/1000 copper and optical GigaBit Ethernet, and a selection of serial data transmission interfaces, providing great flexibility in connecting to Service Provider networks. Data routing capabilities are provided by static as well as dynamic routing protocols, including support for RIP, OSPF and BGP.

#### SESSION BORDER CONTROLLER (SBC) AND SECURITY SERVICES

AudioCodes Mediant 800 MSBG is designed as a secured VoIP and Data platform. Enhanced Media Gateway security features include encryption schemes, such as SRTP for media, TLS for SIP control, IPSec for management, and additional features. A fully featured Enterprise-class Session Border Controller provides a secured voice network deployment, based on the embedded Back-to-Back User Agent (B2BUA). Data Security functions include integrated Stateful Firewall, IDS/IPS, and SSL for remote user access and site to site VPN.

#### QUALITY OF SERVICE (QoS) AND QUALITY OF EXPERIENCE (QoE)

AudioCodes Mediant 800 supports enhanced IP Quality of Service (QoS) enforcement and Quality of Experience (QoE) Monitoring. Leveraging a BroadSoft PacketSmart embedded agent - a SaaS-based lifecycle management solution, the Mediant 800 enables service providers and multi-site enterprises to assess networks, certify VoIP deployments, and measure, monitor, track, and help optimize the QoE of their VoIP services. The PacketSmart solution is either offered as a public cloud service or within the customer's data center in a private cloud deployment. AudioCodes' Mediant 800 also supports enhanced IP Quality of Service (QoS), including Ethernet frame tagging (802.1P), IP packet marking (Diffserv), and traffic shaping.

#### SURVIVABILITY SERVICES

Customers served by a centralized, SIP-based IP Centrex server or branch offices of distributed enterprises, may face service discontinuities in case of a WAN failure. The integrated SAS (Stand Alone Survivability) feature of the Mediant 800 enables internal office communication between SIP clients (e.g. IP Phones), along with PSTN fallback, in case of disconnection from the centralized IP Centrex server or IP-PBX.

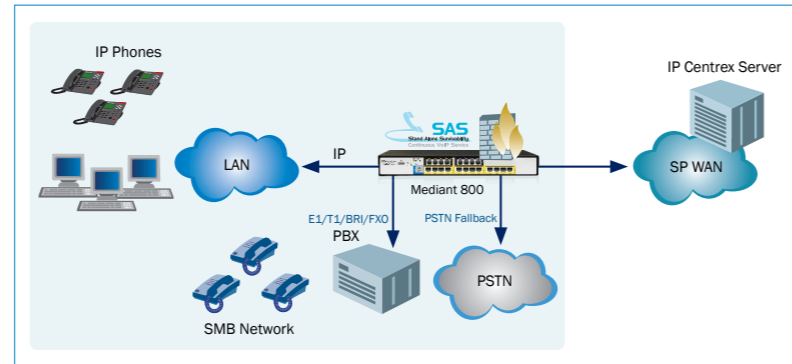
#### VALUE ADDED SERVICES BY AN OPEN PLATFORM FOR 3RD PARTY APPLICATIONS

AudioCodes Mediant 800 MSBG extends the flexibility of the Multi-Service Business Gateway with the 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 (e.g. IP-PBX, IVR, Call Center, Conferencing, and more). In addition, an advanced, on-board DSP Resource Farm enables the implementation of narrowband as well as wideband/High Definition VoIP (HD VoIP) media processing services, such as announcements, recording, IVR, conferencing and transcoding, all controlled by standard protocols (e.g., SIP and MSCML). Utilizing AudioCodes dedicated DSP resources, enables a more robust and predictable voice performance, as compared to typical software implementations, based on general purpose CPU's.

# Mediant™ 800 MSBG Multi-Service Business Gateway

## MEDIANT 800 MSBG IN SERVICE PROVIDER NETWORKS

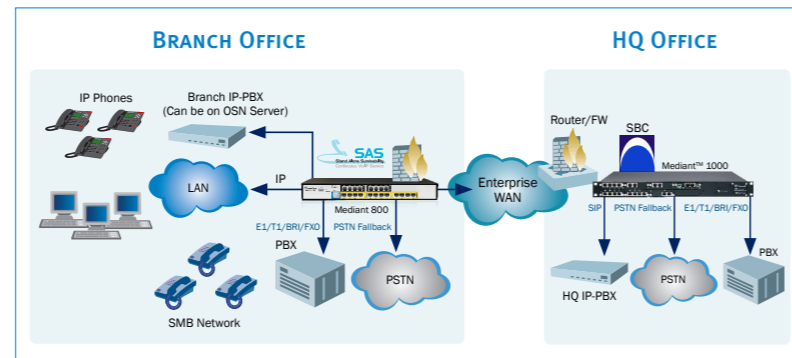
As SMB's strive to control their communication operating and equipment costs, outsourcing a Voice and Data infrastructure to a Service Provider is becoming an attractive option. The Mediant 800 MSBG offers service providers who are delivering hosted and managed communication services, a clear and easy-to-manage 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 8 analog PSTN interfaces, 4 FXS and 4 FXO The configuration is fixed and is not field upgradable or changeable Future support for up to 12 analog PSTN interfaces, 4 BRI ports and single E1/T1/J1 span module
Digital Interfaces* (Optional)	Single span E1/T1/ using RJ-48c connectors
Analog Interfaces (Optional)	4 ports FXO and 4 FXS ports using RJ-11 connectors Option of 1 FXS Lifeline ports in case of power failure
BRI Interfaces (Optional)	4 BRI ports (8 calls), network S/T interfaces. NT or TE termination
Networking Interfaces	
WAN (Optional)	WAN interface 10/100/1000 Base-T Copper Support for T1*, SHDSL*, ADSL2+*
LAN	<b>2 configurations:</b> 4 ports 10/100/1000Base-T plus additional 8 10/100Base-TX ports, 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* (Optional)	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
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## Data Security (Optional)

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