



Application Note

Mediant™ 1000 MSBG – The Ideal Enterprise Platform for hosting IP-PBX and VAS Applications

Powered by AudioCodes Multi-Service Business Gateways (MSBG)

Introduction

IP-PBX, voice applications and Value Added Services (VAS) developers targeting Unified Communications are facing a variety of challenges when developing and deploying services in the enterprise space. Selecting the platform on which the application will be running is instrumental for a successful deployment of any application. Multi-Service Business Gateways (MSBG) form an ideal platform for hosting IP-PBX and VAS applications in a multi-functional enterprise oriented device. This application note will review a handful of the most commonly encountered challenges and how the AudioCodes Mediant 1000-MSBG intends to solve them.

Current Challenges Experienced in Enterprise Telephony Networks

Difficult Integration in a multi-element environment

The IP-PBX is not the only network element in a typical enterprise network. Installing an IP-PBX, could pose several integration efforts with a variety of elements: Media Gateways which are converting IP traffic to TDM and PSTN networks, Session Border Controllers (SBCs) in charge of securing and monitoring VoIP transactions, Firewalls and Data Security devices, Routers, Switches etc. Completing integration with a variety of elements, facing the challenge of selecting different protocol flavors and network configurations is quite a “headache” for any system or network integrator.

Targeting SMBs – How to “keep it simple”

With an estimated 35 million organizations worldwide, the Small-Medium Business (SMB) market is one of the main drivers of enhanced IP voice application adoption. SMBs usually lack internal IT human resources and rely mainly on solution providers and system integrators to supply their communication needs. Ease of installation, minimal cabling, simplified management and remote troubleshooting are important factors for launching a successful and sustainable service in this environment. A multi-vendor “stacked box” solution is not likely to be the best choice in this case. Such a solution results in time-consuming “finger-pointing” among the different vendors causing customer dissatisfaction. In addition, it requires a lengthy learning curve by the solution provider staff for mastering a variety of management tools needed for ongoing operations.

Securing your telephony application

A direct trade-off of the IP network flexibility and “flatness” is the vulnerability to security hazards such as phishing, spamming and Denial of Service (DoS), threatening VoIP applications as well as Data traffic. Enterprises today take advantage of Session Border Controllers (SBC) to monitor all VoIP traffic and actively block any malicious communication from entering the organization network. An Enterprise-class SBC can be used to hide the enterprise IP network topology from any potential intruder thus providing a higher level of immunity against security hazards. In addition, encryption mechanisms (such as SRTP, IPSec and SIP over TLS) are commonly used today. Taking care of this suite of capabilities is a necessity but also a burden for any application or IP-PBX developer.

Fitting into All-IP networks

Both service providers and enterprises are quickly embracing All-IP networks in which Voice over IP and Unified Communications are just a few of many applications mounted on this infrastructure. Introducing the IP-PBX and SIP based application servers, and cost effective SIP trunks or IP Centrex Voice services seems ideal – we all speak the same “language” of SIP, don’t we? Well, not really... SIP can be open to variations, flavors and interpretations. Moreover, these “degrees of freedom” are often abused to create proprietary types of this standard protocol aimed at clutching the entire customer network in a single vendor’s hands. Reality proves that SIP conversion or translation is often required between the enterprise owned IP-PBX and a service provider SIP trunk. In other cases the IP-PBX needs to communicate with an application server and both are not fully interoperable (e.g. Microsoft Unified Communications which uses proprietary extensions for SIP). Is your platform ready for All-IP environments and does it have a rich enough interoperability record?

Enabling branch office network survivability

In many service oriented enterprises and businesses that currently conduct mission critical operations, the need to ensure continuous operation of office communication is fundamental. In other words, can a branch office maintain normal telephony operations in case the connection to the central IP-PBX is down? Most of the common solutions tackling a central (Headquarters) server outage involve a costly duplication of part of the application server in each remote branch office. This common approach can incur extremely large investments and integration efforts. Is there a "thinner and meaner" solution for this challenge?

The processing power barrier – how far can my IP-PBX/VAS platform go?

A common trend among IP-PBX and VAS developers is to leverage on cost-effective PC-based platforms, using open-source solutions for their applications. Using such a strategy can produce low-cost platforms primarily addressing low to medium scale deployments. In many cases these PC-based platforms are limited and are quickly "choked" when trying to deploy CPU-consuming media processing tasks. Advanced capabilities such as conferencing, transcoding (or even the combination of the two), streaming, recording and enhanced detectors are out of reach for such platforms.

Targeting optimal Voice Quality

Currently, it seems that it is a difficult task to satisfy customers. There are continuously rapid developments in voice technology, especially in regards to superior voice quality. Watch this space for further developments such as the introduction of High Definition voice coders. With the updating of voice technology, it is important to question whether your platform is ready to support any newly introduced coders.

Simplifying the fulfillment process under an OEM model

Many IP-PBX vendors would require their delivered platforms to be branded and labeled as their own products even though they are based on Other Equipment Manufacturer (OEM) platforms. From an end customer's point of the view, this ability presents a stronger position in regards to both commercial and technology aspects. Private labeling prevents customer confusions in identifying the front-taking vendor and therefore improves the entire fulfillment model. In fact, not all platform providers are capable of enabling this and experienced enough for this type of sales model.

How Multi-Service Business Gateways (MSBG) are Addressing IP-PBX developer challenges?

What is an MSBG? AudioCodes Mediant 1000 MSBG is an integrated device incorporating voice, data, security, survivability and value added applications and has the following functionalities:

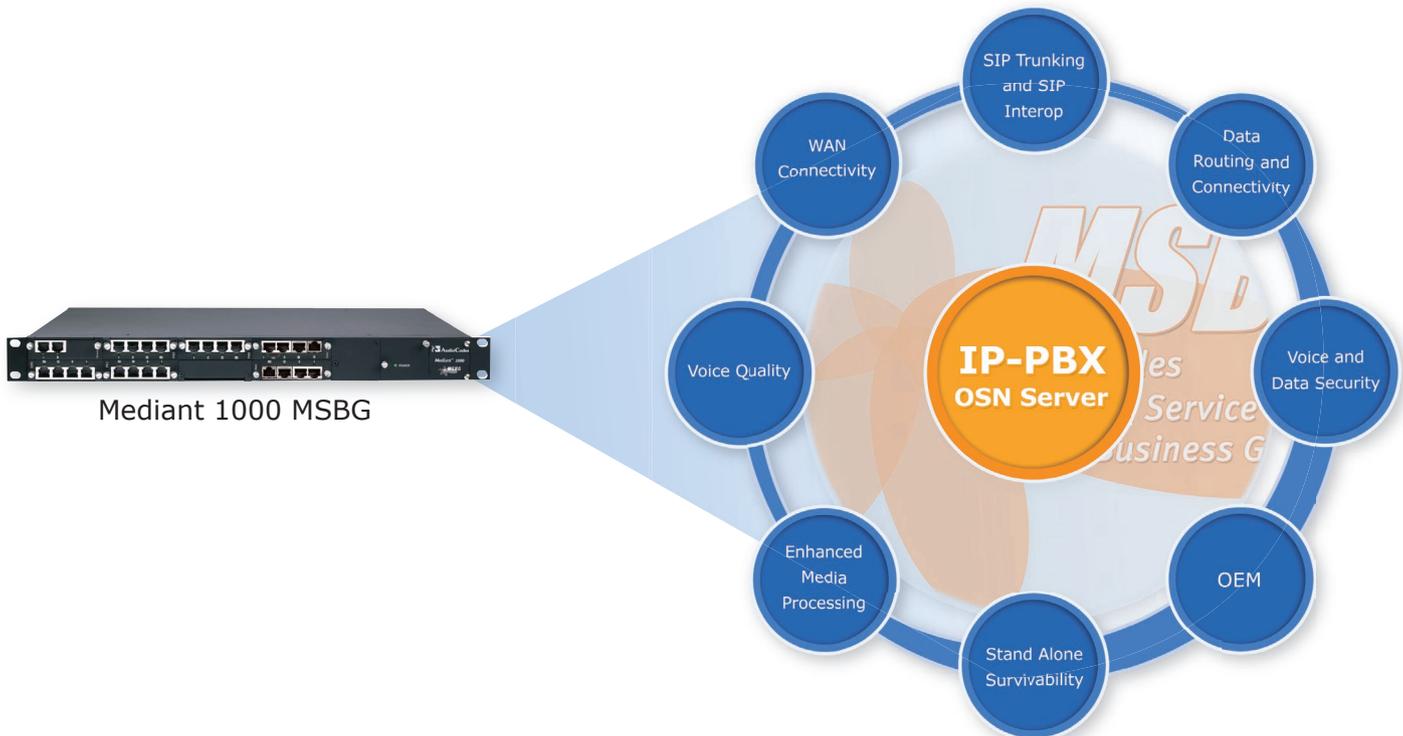
1. A modular VoIP Media Gateway supporting a mix of E1/T1/J1, BRI and analog FXS/FXO lines
2. A Session Border Controller securing voice traffic and performing SIP normalization for SIP Trunking services
3. A statefull Firewall device securing WAN data traffic and performing Deep Packet Inspection (DPI)
4. A Data Router and LAN switch
5. A WAN access device with multiple WAN options
6. A Stand Alone Survivability agent acting as a local "emergency" proxy server which takes over on WAN connection outage or central IP-PBX failure. In addition, PSTN Fall back is available for emergency calls and continuous operation
7. An OSN (Open Solution Network) server – an Intel-based CPU and hard disk drive module is open for hosting any 3rd party application e.g. IP-PBX
8. A DSP farm module available for enhanced voice processing (e.g. Conferencing, Transcoding) and controlled by standard protocols of SIP and MSCML



We can easily demonstrate how the MSBG creates a powerful combination overcoming the challenges listed above:

- Difficult integration - Integration is "built-in" when all elements are delivered as a unified device
- Keeping it simple - Simplicity of deployment, management and maintenance is clearly achieved when using the same management tool and actually having a single vendor for multiple network elements
- Voice security hazards - Enhanced voice security features as well as SIP mediation and translation are provided by the embedded Session Border Controller
- Ready for All-IP networks – SIP mediation is performed leveraging on AudioCodes rich interoperability record and built-in transcoding capabilities

- Branch office Survivability - Enabled by the SAS (Stand Alone Survivability) agent embedded in the MSBG. In addition a dual power supply brings an extra level of box survivability
- Voice processing limits - In addition to the OSN server, ready to host IP-PBX applications, the MSBG provides a built-in IPmedia processing module enabling enhanced voice processing tasks such as conferencing and transcoding, extending the IP-PBX breadth of functionalities and performance
- Optimal voice quality - Watch this space for the introduction of an advanced voice technology which will enable any IP-PBX application to easily upgrade its voice quality offering. The MSBG allows your IP-PBX application to be more "future proof" as it can be smoothly and constantly upgraded with the latest voice technology provided by AudioCodes
- Simplifying fulfillment process – AudioCodes is a leading supplier to global telecom OEM vendors. Solid experience in supporting OEM models allows AudioCodes to provide OEM vendors with important services such as full private labeling of gateway hardware and software (management interface). In addition, AudioCodes can load the OEM vendor's software and configuration files onto the gateway during the manufacturing process, delivering the Mediant 1000 MSBG fully configured and ready to be delivered to the end customer, thereby maximizing the profit for the OEM vendor



Summary

A well constructed MSBG is an ideal platform for a variety of IP-PBX and VAS application developers aiming at enhancing their offer, enriching their solution capabilities and simplifying their platform deployment and maintenance. Basing voice applications on AudioCodes' MSBG unique capabilities and advantages, results in higher customer satisfaction, better cost performance, and competitiveness of the provided solution.

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 product and 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 the U.S. Other AudioCodes' offices are located in Europe, India, the Far East, and Latin America.

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