

Enabling Multi-Service Branch Office Unified Communications

Powered by AudioCodes Multi-Service Business Gateways (MSBG)

The Challenge

Enterprise organizations building their ICT infrastructure may face many challenges. They are striving to be more productive, efficient, and responsive to their internal customers. With additional services and applications running on the same IP infrastructure, with voice, data and video converging into Unified Communications systems, building a network that can accommodate all these services becomes increasingly more complicated.

One of the most demanding locations in the enterprise network is the enterprise branch. Many enterprises are distributed nationally or globally, supporting hundreds and thousands of remote branch offices, requiring the same level of services and performance as the enterprise headquarters.

Enterprises trying to create ideal connectivity solutions for their branch office must develop a solution that can scale to support hundreds of users per location, sustain unknown future applications, integrate voice, data and video, provide manageability and security, and have the right cost-performance to enable mass deployments.

Analyzing the requirements for the branch office access solution, the various needs and services to be supported by the access solution, including WAN Access, IP routing, LAN Switching, VoIP & PBX interfacing, Data & Voice Security and many more should be taken into account.

Traditional Solutions

Traditional enterprise branch office solutions often utilize multiple stacked devices from different vendors in order to provide full functionality. In extreme conditions, an enterprise can reach the point where separate devices for each of the following functions are used:

- An ADSL / Cable Modem connecting the branch office to the service provider WAN
- A Router, providing IP routing functions and data quality of service
- A LAN Switch, connecting branch office users into the network
- A Data Firewall, providing application-level security and IPSec / SSL VPN support
- A Media Gateway, connecting the office TDM PBX to the VoIP network **or**
- A remote IP-PBX server, providing local survivability for branch office IP Phones in case of a network failure
- A Session Border Controller, providing security for the voice network

Although such a solution obtained from various vendors may provide the most ideal feature set for an enterprise, it is increasingly problematic to manage. Both capital and operational expenses of such a fragmented solution are very costly, due to multiplying it by hundreds of thousands of enterprise branch offices. "Finger pointing" occurs when trying to identify problems that frequently materialize in such a design. Additionally, interoperability introduces the challenge of attempting to implement services that require end-to-end compatibility and consistency such as Quality of Service or Security.

AudioCodes' Solution

AudioCodes' solution for branch offices of distributed enterprises introduces a ground breaking new technology, integrating many functions into a single, integrated multi-service device - the Multi-Service Business Gateway (MSBG). The first product to adopt the MSBG technology is the Mediant™ 1000 MSBG, which is based on the award-winning AudioCodes' Mediant 1000 Media Gateway. With the Mediant 1000 MSBG, AudioCodes is introducing a product that will ultimately integrate all required functionalities for the enterprise branch-office into a single, integrated product:

- A top quality, highly interoperable modular Media Gateway platform, supporting a combination of FXS, FXO, BRI & E1/T1/J1 trunks, connecting the branch office's existing legacy PBX into the VoIP network*
- IP Telephony & Unified Communications survivability agent, enabling continuous support of branch office IP Telephony users in case of a WAN failure, utilizing the AudioCodes SAS (Stand Alone Survivability) feature*
- A general purpose application server, based on an Intel-based CPU, hard disk and memory, that can host any branch office application such as IP-PBX, IVR, Conferencing Server or any other application utilizing the AudioCodes OSN (Open Solutions Network) server*
- A DSP resource pool, supporting the offloading of computing-intensive media applications such as conferencing, recording or announcements from the software based application server, utilizing the Audiocodes MPM (Media Processing Module)*
- An IP-IP Session Mediation and Transcoding Gateway, enabling the connectivity of the enterprise into one or more SIP service providers, saving on PSTN costs, and mediating between different flavors of SIP applications, such as Microsoft Office Communications Server 2007 and other industry leading IP-PBX applications*

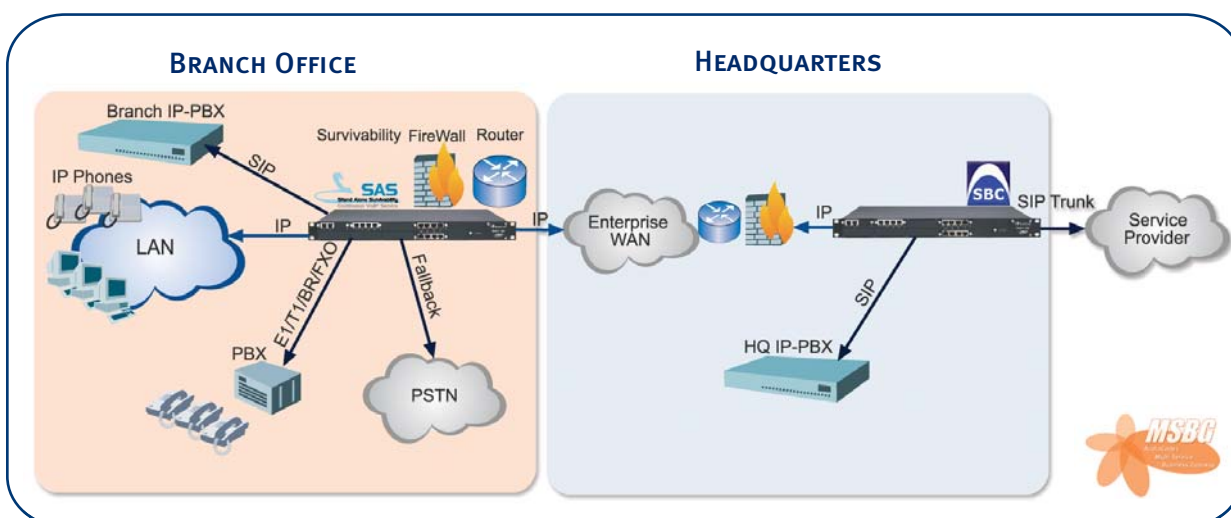
- A full feature enterprise-class Session Border Controller (SBC), enabling the secured connectivity of the enterprise branch to the headquarters or the secured connectivity of the headquarters IP-PBX system to other enterprises or to SIP service providers**
- A data router, supporting routing of the branch office IP transport to the headquarters, utilizing static or dynamic routing protocols (RIP/OSPF/BGP), and utilizing enhanced quality of service algorithms for data and voice applications**
- A secured data Firewall, supporting statefull inspection of typical branch office enterprise applications and deep packet inspection in line rate**
- An integrated IDS/IPS device, protecting the enterprise branch from malicious attacks in real time**
- A VPN agent and concentrator, supporting IPsec and SSL for site-to-site secured VPN connectivity and mobile users remote access VPN**
- A LAN Switch, supporting the connection of multiple 10/100/1000 LAN users directly into the Mediant 1000 MSBG, or alternatively the connection of the MSBG to an external LAN switch, supporting VLAN interfaces for increased security and scalability**
- A WAN Access device, supporting different WAN access technologies, such as Ethernet, ADSL2+, VDSL and xPON***

*Available now, using AudioCodes software version 5.4 on the Mediant 1000 Media Gateway

**Available by the end of 2008, using software version 5.6 on the Mediant 1000 MSBG

***Available in 2009, using software version 5.8 on the Mediant 1000 MSBG

All the above listed features and services are integrated in a single, compact, 1U rack-mountable device, which is uniformly managed, simplifying management and saving on capital and operational costs. As a member of the already successful AudioCodes' Mediant gateway family, the Mediant 1000 MSBG is an evolutionary extension of the Mediant family and brings forward the AudioCodes' technology expertise and interoperability certifications from a wide range of application partners. This enables the Mediant 1000 MSBG to be used with a wide range of both IP-PBXs and TDM PBXs today.



Many enterprises will choose to deploy the Mediant 1000 MSBG without using all of its features simultaneously. Some typical deployments can include:

- The Mediant 1000 MSBG deployed as a branch office Media Gateway only, connected to an external WAN router. Selecting the Mediant 1000 MSBG for such applications will provide the enterprise with a future proof VoIP solution, upgradable to support SBC services as well as IP-IP Mediation and transcoding connecting to a SIP service provider
- The Mediant 1000 MSBG deployed as a survivable branch office VoIP gateway, supporting the backup of the centralized enterprise IP-PBX in case of a WAN failure, and enabling local branch PSTN breakout for cost savings
- The Mediant 1000 MSBG deployed as a combined IP-IP and IP PSTN gateway and an SBC, connecting the enterprise headquarters to multiple SIP and/or PSTN service providers, supporting SIP mediation and SBC-based VoIP security.
- The Mediant 1000 MSBG deployed as an integrated branch office Media Gateway and secured data router, connected to an external WAN xDSL / Cable modem
- The Mediant 1000 MSBG deployed as the one and only branch office device, supporting all enhanced feature-rich functionalities described in this application note

Summary

With the introduction of the Mediant 1000 MSBG, AudioCodes is creating a new category of branch office enterprise solutions, enabling true convergence of the enterprise branch office services into a single, compact, cost effective product without compromising features and quality.

About Mediant™ 1000 MSBG

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 and superior voice quality.

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

Mediant 1000 MSBG



About AudioCodes

AudioCodes Ltd. (NASDAQ: 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 are located in Israel with R&D in the U.S. Other AudioCodes' offices are located in Europe, India, the Far East, and Latin America.

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Ref. # LTRM-09040 06/08 V.1

