AudioCodes Enterprise Session Border Controller (E-SBC) Products

Mediant™ 4000 Enterprise Session Border Controller (E-SBC)

- High Capacity Enterprise SBC
- Scalable up to 4000 SBC Sessions
- Enables secured connectivity and interoperability between enterprise IP-PBX systems, Unified Communication solutions, Call Center servers and SIP Trunking services
- Supports remote workers and mobile SIP clients
- Enhanced enterprise perimeter defense against VoIP Denial Of Service, Fraud and Eavesdropping
- VoIP quality monitoring and enforcement (Advanced Call Admission Control)
- Stand Alone Survivability (SAS) for continued service during WAN failure
- Active/Standby High Availability (1:1 configuration) assuring continued service
- Advanced media processing* including Transcoding and Wideband speech

About AudioCodes
AudioCodes Ltd. (NASDAQ: 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, Enterprise networks and Cable. 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, VoIPerfect™, 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.

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AudioCodes Mediant™ 4000 Enterprise Session Border Controller (E-SBC) is a member of the AudioCodes family of Enterprise Session Border Controllers, enabling connectivity and security between enterprise and Service Providers’ VoIP networks.

The Mediant 4000 E-SBC provides Perimeter Defense as a way of protecting enterprises from malicious VoIP attacks; mediation for allowlisting connection of any IP-PBX to any Service Provider; and Service Assurance for service quality and manageability. Designed for high capacity and high performance, the Mediant 4000 E-SBC is based on AMC technology, scaling up to 4000 secured E-SBC VoIP sessions.

The Mediant 4000 E-SBC provides a perfect solution for security-focused organizations such as contact centers, large data centers, hosted services and government institutions.

Why Enterprise Session Border Controllers?
Session Border Controllers were originally deployed at the border of Service Provider core networks. Both enterprises and Service Providers have now realized the essential need of enterprise-based session border controllers, located at the customer premises for addressing the security, mediation and SLA requirements of the enterprise. The Mediant 4000 E-SBC provides an open and flexible architecture for all enterprise deployments, acting as the demarcation point between the enterprise and SIP Trunking providers, an enterprise and a hosted Unified Communication service provider, or an enterprise and other organizations for direct VoIP calling.

VAST MEDIATION CAPABILITIES AND PROVEN INTEROPERABILITY
In a world of growing flavors of SIP implementations, enterprises and Service Providers alike must ensure interoperability for successful integration and service delivery. The Mediant 4000 E-SBC includes comprehensive media security, and SIP normalization capabilities. As a direct evolution of the field-proven and highly interoperable AudioCodes E-SBC product family, the Mediant 4000 E-SBC provides unparalleled interoperability, enabling mediation between an extensive list of IP-PBXs, Unified Communications solutions and SIP Trunking providers.

HIGH AVAILABILITY AND SURVIVABILITY
The Mediant 4000 E-SBC supports high-availability configurations with reliable two box redundancy, ensuring no loss of active sessions during failure time.

SIP TRUNKING SOLUTION
The Mediant 4000 provides security, session mediation and service level assurance services, connecting the enterprise to multiple SIP Trunking providers, while maintaining interoperability and manageability.

CONTACT CENTER SOLUTION
Contact Centers place the SIP Application Server in the LAN, with SIP User Agents deployed remotely across the WAN. The Mediant 4000 E-SBC monitors these User Agents, and resolves any NAT traversal issues they might face.
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**Hosted Centrex Solution**

IP Centrex solutions rely on VoIP technology, whose implementation may present significant challenges, especially to businesses without prior VoIP experience. One of the challenges is service continuity during WAN outages. The Mediant 4000 E-SBC, with its Stand Alone Survivability feature, is able to monitor registrations to the SIP Proxy, so that if connectivity is lost, the Mediant 4000 E-SBC enables internal calls to continue uninterrupted.

**Mediant 4000 E-SBC in Service Provider Networks**

As Enterprises strive to control their communication operating and equipment costs, outsourcing Voice and Data infrastructure to a Service Provider is becoming an attractive option. The Mediant 4000 E-SBC offers Service Providers, who deliver hosted and managed communication services, a clear and easy-to-manage demarcation point, combining security, mediation services, and service level assurance.

**Benefits for Service Providers**

- A highly integrated device for providing SIP Services to Enterprises
- Extensive interoperability and partners that extend across multiple vendor devices and protocol implementations
- Enhanced SIP Mediation capabilities, which enable SIP Trunking in a variety of IP-PBX customer environments
- Simplified management and maintenance using a unified management tool
- Assuring standalone survivability at the customer premises during WAN outage

**Mediant 4000 E-SBC in Enterprise Networks**

Enterprises are motivated to become more productive, efficient, and responsive to their internal users. The combination of secured voice services, standalone survivability, mediation services, and service level assurance offered by the Mediant 4000 E-SBC ensures a high level of investment protection, cost optimization and support for the growing communications needs of enterprise users, whether at the head office, branch offices or on the road.

**Benefits for Business Customers**

- A highly integrated device for secured SIP Trunking access, forming a single and managed point of demarcation for VoIP networks
- Future-proof solution with the ability to support various SIP Trunking and UC applications
- Multiple Service Provider connectivity to optimize tariff rates
- Local survivability upon WAN network connectivity failures

**Specifications**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Max. Sessions</th>
<th>4000 SBC sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Registered Users</td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>Service Control</td>
<td>Denial and Distributed Denial of Service protection through the rate filtering using White/Black Lists, including bandwidth thresholding</td>
<td></td>
</tr>
<tr>
<td>VoIP Bandwidth</td>
<td>RTP prioritisation management according to SBC offer/answer model, Rough RTP detection and prevention, SIP message policy</td>
<td></td>
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<tr>
<td>Encryption and Authentication</td>
<td>TLS, SRTP, HTTPS, SDI, Client/Server authentication</td>
<td></td>
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<tr>
<td>Privacy</td>
<td>Topology Hiding, User Privacy</td>
<td></td>
</tr>
<tr>
<td>Traffic Separation</td>
<td>Physical separation or VLAN interface separation for multiple Media, Control and DAM interfaces</td>
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</tbody>
</table>

**Interoperability**

- SIP Brokering
- Full SIP transparency, tunnels & broadly deployed SIP trunking
- STS and IP PBX support
- Interoperable with many SIP trunk Service Providers and IP PBX vendors, such as Verizon, Skype and Microsoft Lync
- Transport Mediation
- SIP over UDP to SBC over TCP or SBC over TLS, IPv4 to IPv6, RTP to SRTP
- Header manipulation
- Programmable header manipulation, Ability to add/modify/delete headers
- URI and Header manipulations
- URI User and Host name manipulations, Ingress & Egress Digit Manipulation
- Transcoding and Voicers
- Coder normalisation including transcoding, coder enhancement and re-prioritisation
- Extensive voice support: Windows: G.711u/a, G.723.1, G.728, G.727, G.729A/B/E
- Wireless: GSM 8.6, AMR; Voiceband: AWB 86, G.722, SLIK, SPEEX

**Signal Conversion**

- DTMF/IP/2633, VolP/1.7khz, Packet Tone Conversion

**Networks**

- RTP/RTCP

**Safety and EMC**

- EN55022 Class A, EN 55024, EN300 386, EN61000-3-3, EN61000-3-2

**Diagrams**

[Diagram of Mediant 4000 E-SBC in Enterprise Networks]

[Diagram of Mediant 4000 E-SBC in Service Provider Networks]

**Additional Information**

- **Regulatory Compliance**
  - FCC part 15 Class A
  - EN15022 Class A, EN/15024, EN300 386, EN1000-3-5, EN1000-3-2

- **1 – Roadmap**