Session Border Controller

The AudioCodes Mediant 4000 session border controller (SBC) is a mid-to-high scale capacity solution for enterprises and service providers, delivering service assurance and enabling scalable, reliable and secured connectivity between different VoIP networks.

Scaling up to 5,000 concurrent sessions, the Mediant 4000 connects IP-PBXs to any SIP trunking service provider and offers superior performance in connecting any SIP to SIP environment.

The Mediant 4000 is a perfect solution for enterprises and large organizations such as contact centers, large data centers, hosted service providers and government institutions where security, reliability and high performance are critical.

**5,000 SBC Sessions | Pure IP SBC | 1+1 High Availability | Certified SBC for Teams Direct**
Routing supporting media optimization

- **Comprehensive interoperability**
  Proven interoperability with SIP trunks, SIP platforms and IP cloud services

- **Flexible licensing**
  Various licensing options for easy and cost-effective scalability regardless of enterprise size

- **Enhanced security**
  Robust perimeter defense against cyber, DoS and DDoS attacks, as well as eavesdropping, fraud and service theft. Complies with Federal Information Processing Standards (FIPS) 140-2 Level 1

- **Superior voice quality**
  Advanced capabilities for optimizing and monitoring voice service quality

- **High resiliency**
  High availability using 1+1 redundancy and local branch survivability
Specifications

Mediant™ 4000

**Capacities**

<table>
<thead>
<tr>
<th></th>
<th>Mediant 4000</th>
<th>Mediant 4000B</th>
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</thead>
<tbody>
<tr>
<td>Max. Signaling</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Max. RTP/SRTP Sessions</td>
<td>5,000/3,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Max. Transcoding Sessions</td>
<td>2,400</td>
<td>5,000</td>
</tr>
<tr>
<td>Max. Registered Users</td>
<td>20,000</td>
<td>20,000</td>
</tr>
</tbody>
</table>

**Network Interfaces**

Ethernet: 8 10/100 Base-T Ethernet ports for physical separation between multiple LAN and WAN between Media, Control and OA&M

**Security**

Access Control: DoS/DDoS line rate protection, bandwidth throttling, dynamic blacklisting (Intusution Detection System)

VoIP Firewall: RTP pinhole management, rogue RTP detection and prevention, SIP message policy, advanced RTP latching

Encryption/Authentication: TLS, DTLS, SRTP, HTTPS, SSH, client/server SIP Digest authentication, RADIUS Digest

Privacy: Automatic topology hiding, user privacy

Traffic Separation: VLAN/physical interface separation for multiple media, control and OAMP interfaces

Certification: FIPS 140-2 Level 1

STIR/SHAKEN: STIR/SHAKEN support. Interworking with STI-AS/VS

**Interoperability**

SIP B2BUA: Full SIP transparency, mature and broadly deployed SIP stack, stateful proxy mode

SIP Interworking: 3xx redirect, REFER, PRACK, session timer, early media, call hold, delayed offer and more

Registration and Authentication: SIP Registrar, registration on behalf of users/servers, SIP Digest access authentication

Transport Mediation: Mediation between SIP over UDP/TCP/TLS/WebSocket, IPv4/IPv6, RTP/SPRT (SDES/DTLS)

Header Manipulation: Add/modify/delete SIP headers and message body using simple WireShark-like language with powerful capabilities such as variables and utility functions

URI and Number Manipulations: URI user and host name manipulations, ingress and egress digit manipulation

Transcoding and Vocoder: Coder normalization including transcoding, coder enforcement and re-prioritization, extensive vocoder support: G.711, G.723.1, G.726, G.729A/B, GSM-FR, AMR-NB, AMR-WB (G.722.2), SILK-NB/WB, Opus-NB/WB

Signal Conversion: DTMI/RFC 2813/SIP T.38 fax, packet-time conversion

WebRTC Gateway: Interworking between WebRTC endpoints and SIP networks. Supports WebSocket, Opus, VP8 video coder, DTLS, RTP multiplexing, secure RTCP with feedback.

NAT: Local and far-end NAT traversal for support of remote workers, ICE full and lite support (RFC 8445)

**Voice Quality and SLA**

Call Admission Control: Limit number and rate of concurrent sessions and registers per peer for inbound and outbound directions

Packet Marking: 802.1p/Q VLAN tagging, DiffServ, TOS

Standalone Survivability: Maintains local calls in the event of WAN failure.

Voice Monitoring and Enhancement: Transrating, RTCP-XR, Acoustic echo cancellation, replacing voice profile due to impairment detection, fixed and dynamic voice gain control, packet loss concealment, dynamic programmable jitter buffer, silence suppression/comfort noise generation, RTP redundancy, broken connection detection

Direct Media: Hair-pinning (no media anchoring) of local calls to avoid unnecessary media delays and bandwidth consumption

High Availability: SBC high availability with two-box redundancy, active calls preserved

Test Agent: Ability to remotely verify connectivity, voice quality and SIP message flow between SIP UAs

**SIP Call Handling**

Criteria: Incoming SIP trunk, DID ranges, host names, any SIP headers, codecs, QoS, bandwidth

Querying External Databases: Decisions based on customized queries of ENUM, LDAP, HTTP server (REST API)

Available Destinations: Configured SIP peers, registered users, IP address, request URI

Advanced Features: Alternative destinations, load balancing, LCR, call forking, 911 emergency call detection and prioritization

Multiple LANs: Support for up to 48 separate LANs

SBC Media Types: Audio/Video/Txn/Message Session Relay Protocol (MSRP)/Binary Floor Control Protocol (BFCP)

SIPREC: IETF standard SIP recording interface, supporting both audio and video SBC sessions

**Management**

OAM&P: Browser-based GUI, CLI, SNMP, INI Configuration file, REST API, CDR, One Voice Operations Center (OVOC)

Multi Tenancy: Advanced multi-tenant SBC partitioning

**Physical/Environmental**

<table>
<thead>
<tr>
<th></th>
<th>Mediant 4000</th>
<th>Mediant 4000B</th>
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<tbody>
<tr>
<td>Dimensions</td>
<td>1U x 19” (444mm) x 14” (355mm) (HxWxD)</td>
<td>1U x 19” (444mm) x 14.9” (378mm) (HxWxD)</td>
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<tr>
<td>Weight</td>
<td>Approx. 15.7 lbs (7.1Kg)</td>
<td>Approx. 16.3 lbs (7.4Kg)</td>
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<tr>
<td>Mounting</td>
<td>Desktop or 19” rack mount</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>Dual power supply (hot- swappable): 100-240VAC 50-60Hz 2.5A max</td>
<td>Dual universal power supply (hot- swappable): 40-60VDC, 17A max, or 100-240 VAC, 50-60 Hz, 7A max</td>
</tr>
<tr>
<td>Environmental</td>
<td>5°-40°C</td>
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* Requires a dedicated software build