



## AudioCodes Session Border Controllers

### A key part of your UC strategy?

This guide aims to provide a comprehensive yet concise explanation of what today's session border controllers (SBCs) do, and how the AudioCodes Mediant family of SBCs can play a pivotal role in your overall unified communications (UC) strategy. It then outlines what SBCs might do in the future, and what challenges could be on the horizon.

#### What are session border controllers?

SBCs are network elements that are deployed at the *border* between an enterprise and a service provider. Available as either hardware devices or software applications, their primary function is to govern, or *control*, the flow of data generated during communications between two parties, otherwise known as *sessions*. SBCs also provide security, quality assurance and regulatory compliance, as well as ensuring that emergency calls are routed correctly and prioritized above other communications.

#### Meet the family

The AudioCodes [Mediant family of SBCs](#) support high availability at any scale to ensure uninterrupted communications, and are ideal for the following scenarios:

- SIP trunking
- IP contact centers
- Hosted UC applications
- WebRTC gateway
- Remote and mobile worker support
- Connecting to multiple service providers with least cost routing capability
- SIP mediation between UC and IP-PBX systems

AudioCodes' Mediant SBCs deliver the seamless connectivity, interoperability, survivability, security and quality assurance that today's businesses demand.

#### The SBC is changing

But today, with the continued forward march of unified communications, SBCs are taking on more and more network functions. This in turn leads to simplified network architecture and lower costs. Take a look at some of the ways that AudioCodes SBCs are leading the pack:

- AudioCodes SBCs provide router functions such as DHCP servers and Network Address Translation. No additional router in the network is required.
- AudioCodes SBCs include an integrated reverse HTTP proxy to handle the increased amount of voice traffic over HTTP. No need to install a reverse HTTP gateway alongside the SBC.
- AudioCodes' VoIPerfect SBC technology makes unified communications much more affordable by cutting 60% of MPLS voice bandwidth without impacting voice quality.
- AudioCodes SBCs contain a WebRTC gateway to enable embedded click-to-call buttons on enterprise websites. Standalone WebRTC gateways can now be dispensed with.
- AudioCodes SBCs encrypt and decrypt voice streams and facilitate the probing and tapping of unified communications traffic.
- AudioCodes' Universal Communications Architecture solution employs SBCs to create an overlay VoIP network with a unified dial plan and routing policy.



# Quick Guide

## The SBC heads to the cloud

As enterprises move more of their communications into the cloud, two trends are emerging:

- Enterprises copying and pasting their entire IT infrastructure operation from on premises to the cloud. Here, the SBC's responsibilities remain more or less the same.
- Enterprises consuming telephony services from the cloud, such as UCaaS. In this case, the SBC plays a different role, taking care of security, survivability and voice quality.

## The challenges of the cloud

But even though SBCs are heading very much in the direction of the cloud, there are some significant technical obstacles to overcome:

- SBC architecture needs to be completely redesigned. Before the cloud, if you needed more SBC capacity, the only option was bigger and more powerful hardware SBCs. In the cloud era, more capacity is easily created by adding small virtual machine instances. This requires a microservice architecture, where each of the major SBC functions (media, signaling and transcoding) are carried out by a separate node or microservice.
- Each public cloud has its own set of orchestration and automation tools and best practices, so SBCs need to support open RESTful APIs to work with different clouds.
- SBC vendors must build automation scripts and test them on each cloud environment.

## The security threats of the future

Future security threats mean that SBCs will need new technologies to defeat them, possibly by employing some of the methods used by firewalls. Expect to see SBC vendors keeping databases of any threats encountered by their SBC installation base, which will then be passed to all SBCs to prevent attacks from spreading to other regions. Also, cloud virtualization will change the way SBCs provide security, with techniques such as DPDK, GPUs for transcoding and cryptology accelerators becoming commonplace.

## Where next?

With today's rapid technological advances, will there ever come a time when the humble SBC is no longer needed? To answer this question, it should be borne in mind that the main reason that SBCs exist in the first place is because unified communications and PBX vendors can't agree on an open and common set of interfaces. This situation is unlikely to change anytime soon. On the contrary, protocols are becoming more complex with the growth of unified communications, and the need for an intermediary – the SBC – seems to be on the rise.



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