

ALCATEL-LUCENT IP BORDER CONTROLLERS

DEPLOY FLEXIBLE SESSION BORDER
CONTROLLERS THAT FIT YOUR NEEDS

- Powers key SBC requirements for fixed VoIP, VoLTE and RCS with a wealth of security mechanisms
- Provides WebRTC Border Controller Function to bridge the Web to the service provider network
- Purpose-built for multimedia services, keeps up with growing markets and provides OPEX savings year after year

As all-IP networks add more services beyond fixed VoIP, the role of Session Border Controllers (SBCs) is evolving. Service providers are launching new services such as Voice over LTE (VoLTE), Rich Communications (RCS) and video over many devices and many networks. Services are also evolving toward Web Real Time Communications (WebRTC) embedded in HTML 5 browsers. In this environment, it becomes ever more important to economically secure and control media and signaling streams that cross the edge of service provider networks, whether fixed, mobile, PacketCable™-compliant or converged. The Alcatel-Lucent IP Border Controllers solution ensures that service providers' New Conversation Experience offers will deliver a safer and trusted quality of experience (QoE) to subscribers, over any device and across any network.

OVERVIEW

The IP Border Controllers solution provides integrated or distributed SBC configurations that meet varied subscriber needs, including fixed VoIP, VoLTE, video, RCS and WebRTC. The solution is fully integrated in Alcatel-Lucent IMS Communications solutions to preserve existing services and ensure that any new services, access methods and devices remain safe from evolving threats.

A wealth of security mechanisms meet the New Conversation Experience requirements and deliver features unique in the industry, including separate signaling and media interfaces, per-subscriber rate limiting, a dedicated hardware firewall and recovery from catastrophic events with registration prioritization.

As the first SBC designed for services beyond voice, the scalable solution can be enriched with RCS and video streams without performance degradation. In addition, the solution links and secures access between new WebRTC services and the service provider's IMS network.

USE CASES

Purpose-built for multimedia and naturally supporting the Web, the IP Border Controllers solution delivers superior performance through capabilities such as enhanced security, fast handling of mass registration events and eSRVCC for VoLTE. The solution scales easily to support growing Web and VoLTE traffic volumes, and requires half the number of SBCs used for typical deployments. With the Alcatel-Lucent IP Border Controllers solution, service providers – whether fixed, mobile, PacketCable™-compliant or converged – can keep up with growing markets and enjoy OPEX savings year after year.

Security

Security is an obvious requirement for session border control. As we move to all-IP networks, the security issues we've experienced on our PCs are now applicable to the plethora of end-user devices. Viruses, Denial of Service (DoS) attacks, spam over Internet telephony (SPIT), and theft or misuse of resources and personal information are just a few of the potential malicious attacks that can affect smartphones, tablets, PCs, televisions and other IP connected devices. The Alcatel-Lucent IP Border Controller solution offers superior protection from malicious attacks through several hardware-enabled security features.

KEY FEATURES

FEATURE	BENEFIT
High-performing scalable architecture	<ul style="list-style-type: none">• Built for next generation SBC needs to ensure the best QoE with a rich set of enhanced CODECs, including HD voice, a high capacity signaling plane and an unrivalled routing engine• Integrated configuration supports up to 200,000 subscribers and 32,000 concurrent sessions• Distributed configuration supports up to 2 million subscribers and 64,000 concurrent sessions
Separate interfaces for signaling and media	<ul style="list-style-type: none">• Better scaling for new services beyond fixed VoIP, such as VoLTE, presence, instant messaging, file transfer and video; stronger security ensures that an attack on one interface does not affect the other
Dedicated hardware-enabled firewall	<ul style="list-style-type: none">• Improved security: When an attack occurs, the extent is quickly limited
Mechanisms for fast recovery	<ul style="list-style-type: none">• Faster service resumption in overload conditions with registration prioritization to limit the impact on quality of service
Enhanced Single Voice Call Radio Continuity (eSRVCC) support for VoLTE	<ul style="list-style-type: none">• Allows service providers to use existing infrastructure to maintain coverage without dropping active calls and with minimal disruption during handover from LTE to 2G/3G networks
Service enablers	<ul style="list-style-type: none">• Ensure SLA compliance for all services through capabilities such as IPv4/v6 interworking, transcoding between HD CODECs and regular CODECs, and Secure Realtime Transport Protocol-to-Realtime Transfer Protocol (SRTP-to-RTP) interworking between devices and the core network
WebRTC Border Controller Function	<ul style="list-style-type: none">• Extends the reach of real-time communications into the Web, opening up new markets and business models by linking and securing access between new WebRTC services and the service provider's IMS network ; provides encryption and security for video calling media

SLA assurance

The IP Border Controllers solution helps service providers manage their network resources to meet SLAs by performing call admission control and bandwidth-based session admission control, and by prioritizing media traffic. The solution also ensures that the media path is optimized by allowing RTP traffic flow directly between caller and callee if they are part of the same enterprise.

Consistent VoLTE and RCS implementation

The solution provides key functions to ensure a successful VoLTE implementation. It also enables end-user devices to communicate with core network elements and with other devices that have different characteristics, such as VoIP transport, and different security and CODEC capabilities.

To ensure consistency with the VoIP user experience, the solution adheres to communications regulatory requirements, prioritizing emergency calls and supporting monitoring capabilities, so calls can be intercepted for recording of required by law enforcement agencies.

Bridges telecom and the Web with WebRTC Border Controller function

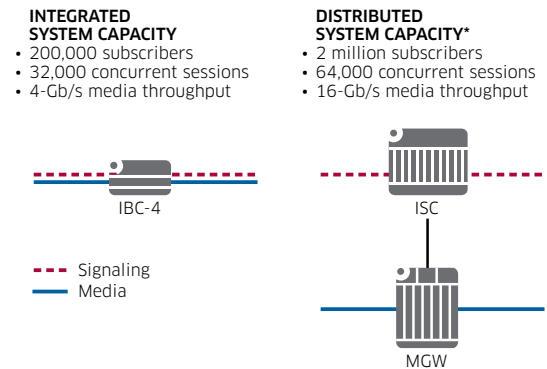
WebRTC technology allows any device with a browser to become a smart communicator with the capability to support sessions that include audio, video and data. This capability extends the reach of real-time communications into the Web and opens up new opportunities to capitalize on existing network investments and enhance the customer experience. By using the network to extend cohesive value across telecom and the Web, service providers can increase their total addressable market, create new markets and inspire web developers' innovation.

ARCHITECTURE AND COMPONENTS

The Alcatel-Lucent IP Border Controllers solution is available in an integrated 4U form factor or a distributed form factor (see Figure 1), so service providers can deploy a flexible SBC model that meets their needs for subscriber scaling and application delivery. Both options maintain feature parity. Service providers can start small, with the integrated configuration, then scale easily to the distributed configuration.

- The Alcatel-Lucent IP Border Controller-4 (IBC-4) offers integrated SBC functionality for VoIP, multimedia and next-generation, presence-based applications in a fully redundant 4U chassis. Prior to a move to a distributed deployment, the integrated option dramatically reduces capital expenditures/operating expenditures (CAPEX/OPEX) by providing an integrated border controller suitable for a range of point of presence (POP) capacities.
- The Alcatel-Lucent IP Session Controller (ISC) and the Alcatel-Lucent Media Gateway (MGW) offer a distributed configuration. The ISC provides the Proxy Call Session Control Function (P-CSCF) as the signaling contact point for users. The ISC also provides the Service Policy Decision Function (SPDF) to ensure the availability of IP network resources according to operator-defined policy rules, supporting IMS-based applications such as video sessions. The MGW supports Core Border Gateway Function (C-BGF) to provide bearer processing and security capabilities.
- The WebRTC Border Controller Function that powers the Alcatel-Lucent WebRTC solution is available in both integrated and distributed configurations to perform signaling and media translation from the WebRTC client to the IMS core.

Figure 1. Alcatel-Lucent IP Border Controllers: Platforms



*A single ISC can control multiple MGW for a flexible and scalable deployment

LEARN MORE

For more information about the Alcatel-Lucent IP Border Controllers, please visit www.alcatel-lucent.com/solutions/ip-border-controllers

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