

Effective integration of Lync with AudioCodes gateways

Cisco ISRs fall short of delivering necessary features in Microsoft Lync deployments. Replacing them with AudioCodes gateways unlocks the power of Lync through effective integration, enabling smooth migration, additional functionality and increased productivity

AudioCodes, trusted partner of Microsoft

AudioCodes has been working closely with Microsoft since the early days of Office Communications Server (OCS), and more so since the launch of Lync, becoming the premier partner for network connectivity in Lync environments. The variety of AudioCodes Lync solutions is unmatched by any other vendor and includes certified session border controllers (SBC), media gateways, survivable branch appliances (SBA), E911 emergency (ELIN), desk phones, mobile clients and call recording.

AudioCodes is committed to continue investing in adapting its solutions to the evolution of Microsoft Lync. On the other hand, Cisco is competing directly with Microsoft Lync and therefore does not invest in specific Lync adaptations of Cisco routers and gateways. Replacing Cisco's Integrated Services Routers (ISRs) with AudioCodes Mediant gateways ensures that the shift to Lync will be efficient, cost effective and deliver the required performance and functionality.

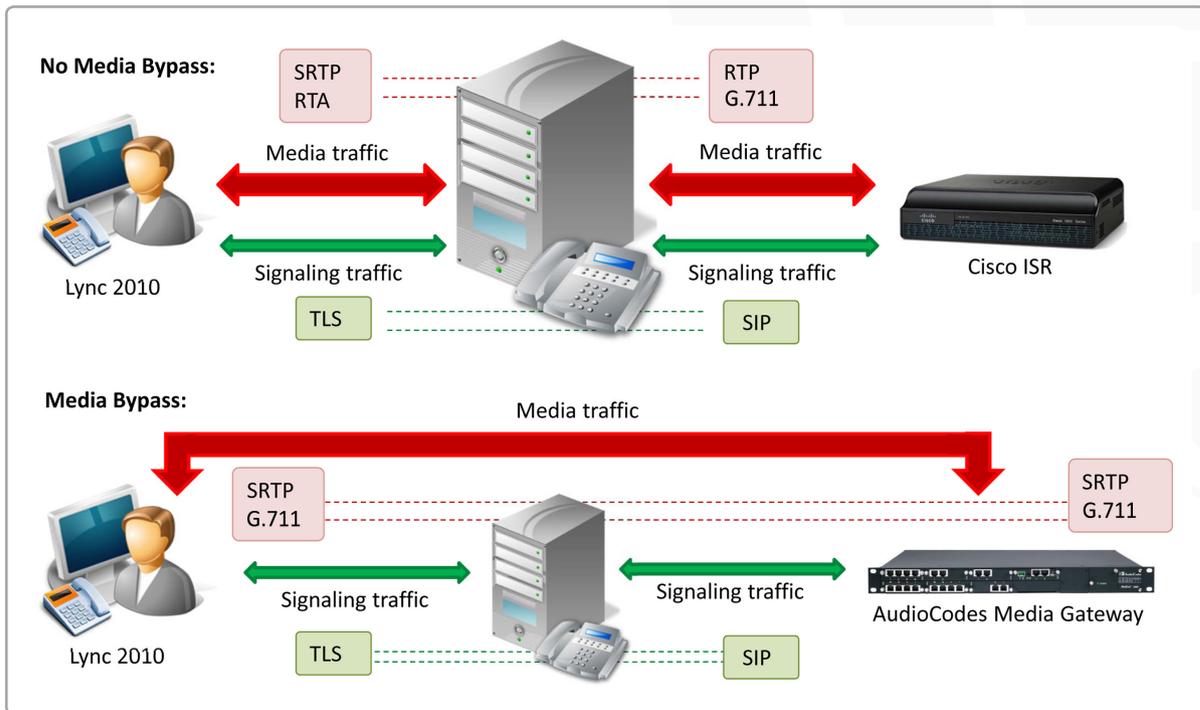
Features and functions	AudioCodes Mediant	Cisco ISR
Lync certified Basic Gateway	√	√
Lync certified Enhanced Gateway	√	–
Media bypass	√	–
Survivable Branch Appliance (SBA)	√	–
Lync certified Session Border Controller (SBC)	√	–
Lync certified emergency calling (E911)	√	–
Multi-core architecture for predictable voice and data performance	√	–
Analog devices support	√	Partial
Certified Lync call recording	√	–

Enhanced Gateways and Media Bypass

AudioCodes Mediant 800/1000/2000/3000 media gateways are certified by Microsoft as “**Enhanced Gateways**”, whereas Cisco ISRs are certified by Microsoft only as “**Basic Gateways**”.

The most important impact of this difference in certification relates to the **media bypass** capability, which is supported by the Mediant gateways but not supported by Cisco ISRs. As described in the diagram, Media bypass refers to the removal of the Mediation Server from the media path whenever possible for calls whose signaling traverses the Mediation Server.





According to Microsoft, media bypass improves voice quality by reducing latency, needless translation, possibility of packet loss, and the number of points of potential failure. Scalability can be improved, because elimination of media processing for bypassed calls reduces the load on the Mediation Server. This reduction in load complements the ability of the Mediation Server to control multiple gateways.

Unlike AudioCodes Mediant gateways, Cisco ISRs do not support TLS (signaling encryption) and SRTP (media encryption), and therefore cannot provide media bypass. As a result the Cisco implementation forces the Mediation Server to not only anchor the media but perform both encryption (SRTP/RTP) and transcoding (RTA/G.711), incurring higher server costs, reduced voice quality and increased delay.

Branch survivability

One of the key elements in multi-site deployments of Microsoft Lync is the Survivable Branch Appliance (SBA), a hardware device that includes a set of services, among them are media gateway and the Microsoft SBA application. During a WAN failure, the SBA enables employees in a remote branch to continue making and receiving phone calls and keep on using several other Lync features until the WAN connection is restored.

AudioCodes Mediant 800/1000/2000 are qualified by Microsoft as SBAs, and available as an appliance. Audiocodes SBAs use a single interface and a step-by-step installation wizard to configure the SBA and the gateway. Every cumulative update of Microsoft Lync and SBA is tested and validated by AudioCodes.

Cisco ISRs are not qualified as SBAs. Instead, the Cisco ISR option of delivering separate Media Gateways and Survivable Branch Servers (SBS) involves additional capital charges and ongoing server maintenance fees. The SBS uses Windows 2008 Standard Edition, which is very expensive. In addition the SBS does not have an installation wizard, and can only be installed on a specific Cisco ISR model.

Session Border Controller

Most of the enterprises that deploy Lync Voice also need a way to connect the Lync Server to SIP Trunking services. In many cases there is a demand for a gradual migration from PSTN to SIP Trunking. AudioCodes' hybrid model of a media gateway platform that can be upgraded to an Enterprise SBC by purchasing E-SBC software licenses provides the answer to this need. It enables a gradual migration from the PSTN to SIP Trunking and also from the TDM PBX to Lync.

E-SBC is another category where the AudioCodes products are certified with Microsoft Lync. Besides the support for gradual migration, the E-SBC provides the security, the interoperability and the voice quality that are required for a good IP to IP voice connectivity.

In contrast, Cisco ISRs are not qualified as Session Border Controllers (SBC) with Microsoft Lync.

E911 Functionality

When it comes to emergency calling, the Enhanced 9-1-1 (E911) service is becoming the mandatory emergency service in many countries around the world. E911 enables emergency operators to pinpoint the phone number and the geographical location of callers who dial the emergency telephone number.

AudioCodes Mediant gateways and SBAs are qualified by Microsoft as ELIN Gateways for E-911. Cisco ISRs do not support the E911 ELIN functionality. As a result Cisco customers are forced to buy costly next generation E-911 services.

When the emergency call is initiated, Lync is using ELIN – Emergency Line Identification Number – which is a dedicated number that was assigned to each zone within the enterprise premises. The AudioCodes gateway then sends the ELIN as if it was the caller number, allowing the emergency service provider to dispatch the relevant services to the specific caller's place.

Unlike AudioCodes ELIN gateways, with Cisco ISRs the customer is forced to either register and provision every DID in the company or not to report the specific geographic location of the caller. Choosing the latter option creates a problem with VoIP end points or when mobile devices such as laptops or smartphones are being used.

Predictable performance

Many integrated gateways and routers run all services - including Voice and Data - on the same processing infrastructure, essentially sharing capacity between services and degrading the data throughput when running applications and voice loads in parallel.

AudioCodes Mediant MSBRs (Multi-Service Business Routers) use separate processing units for Data processing, Voice and Device Control, Media, and Applications. Using this kind of architecture keeps voice and data performance independent.

Support for analog devices

AudioCodes Mediant 800 and 1000 (Enhanced Gateway and SBA) have various configurations of analog FXS and FXO interface to enable connectivity of analog devices as Lync end-points with full calling functionality. Microsoft clearly states that analog devices connected to a Cisco ISR's FXS ports do not support hold and resume functionalities. In a Cisco environment, to support hold/resume, the FXS port needs to be controlled by a Cisco PBX.

Recording Lync calls

Along with the growing popularity of Lync installations, there is an increase in the demand for recording calls on Lync environment for all sorts of reasons, particularly compliance, liability and quality control of customer service.

Cisco does not have a Lync certified recording solution.

AudioCodes Mediant 800 and Mediant 1000 gateways can host SmartTAP, the only Lync certified call recording solution. SmartTAP is one of the very few solutions that can record Lync calls out of the box with many useful capabilities and features. The solution can be easily configured using a web-based interface, which simplifies the deployments and support requirements.

About AudioCodes

AudioCodes Ltd. (NasdaqGS: 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 Routers, Session Border Controllers (SBC), Residential Gateways, IP Phones, Media Servers and Value Added Applications. AudioCodes' underlying technology, VolPerfectHD™, 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.

International Headquarters

1 Hayarden Street, Airport City
Lod 70151, Israel
Tel: +972-3-976-4000
Fax: +972-3-976-4040

AudioCodes Inc.

27 World's Fair Drive,
Somerset, NJ 08873
Tel:+1-732-469-0880
Fax:+1-732-496-2298

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Contact us: www.audiocodes.com/info
Website: www.audiocodes.com

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