

Sonus WebRTC Services Solution

Web Real-Time Communications (WebRTC) enables web browsers to participate in audio, video and data communications, without any kind of additional plug-ins or application downloads. Using a WebRTC-enabled browser, users can place a call, participate in multi-party video and audio conferencing, and engage in screen sharing collaboration. Any device that supports a WebRTC-enabled browser or iOS or Android mobile device can be used to communicate with another WebRTC-enabled browser over the Internet.

Although WebRTC enables real-time communications directly from the browser, it does not natively provide the server side signaling infrastructure needed for discovery, interconnection and session management of WebRTC sessions. This is where Sonus' carrier-grade WebRTC Services Solution bridges disparate domains of WebRTC and traditional Internet Protocol (IP)-based networks, delivering real-time communications within mobile applications and on websites—accessible with any browser.



Sonus WebRTC Services Solution Components

Sonus' virtualized WebRTC Services Solution provides the infrastructure to build WebRTC-based communication services and the capability to scale communication between the WebRTC endpoints (browsers) and Session Initiation Protocol (SIP) endpoints. The Sonus WebRTC Services Solution brings together the Sonus WebRTC (WRTC) Gateway and the Sonus WebRTC Software Development Kit (WRTC SDK) with the Sonus Insight Element Management System (Insight EMS) and the Sonus SBC 5110, Sonus SBC 5210, Sonus SBC 7000 and SBC SWe (Software edition) Session Border Controllers (SBCs). Also included in the WebRTC Services Solution is a client prototype that can be reused by web developers to create customized web applications.

Sonus WebRTC (WRTC) Gateway

The WRTC Gateway is the core component of Sonus' WebRTC Services Solution. The WRTC Gateway interacts with the JavaScript SDK embedded in the web application running in the browser and is used to establish WebRTC sessions. The WRTC Gateway provides SIP interworking, maintains WebRTC user registration and routing, and performs user authentication as well as policy and session management for web-to-web and web-to-SIP sessions. The WRTC Gateway runs in a virtual machine (VM) on any commercial-off-the-shelf (COTS) hardware with Linux Intel processors. The WRTC Gateway is deployed as a single or multi-node cluster application that can support true elastic scaling, with high availability to avoid impacts from possible server failures and address multi-tenancy deployments.

Sonus WebRTC Software Development Kit (WRTC SDK)

The WRTC SDK—the toolkit for developers—is the second component of Sonus' WebRTC Services Solution. The WRTC SDK features JavaScript libraries and Application Program Interfaces (APIs), including media stream, peer connection and data channel support for voice, video, instant messaging (IM), desktop share, session management, presence and conferencing. Additionally, the WRTC SDK provides plug-ins for browsers that do not currently support WebRTC (including Apple Safari, Microsoft Internet Explorer) and APIs to support WebRTC across mobile applications (including both iOS and Android). The WRTC SDK—architected from Sonus' experience pioneering real-time voice and video communications—is designed to help simplify the deployment of reliable, robust and secure click-to-connect features.

Sonus Session Border Controllers (SBC)

The WebRTC Gateway operates in an environment that has already adopted, and continues to adopt, SIP both in the enterprise and service provider markets. In order for WebRTC to succeed—and avoid being a separate communication island—it is imperative that WebRTC interwork seamlessly and securely with existing SIP-based networks.

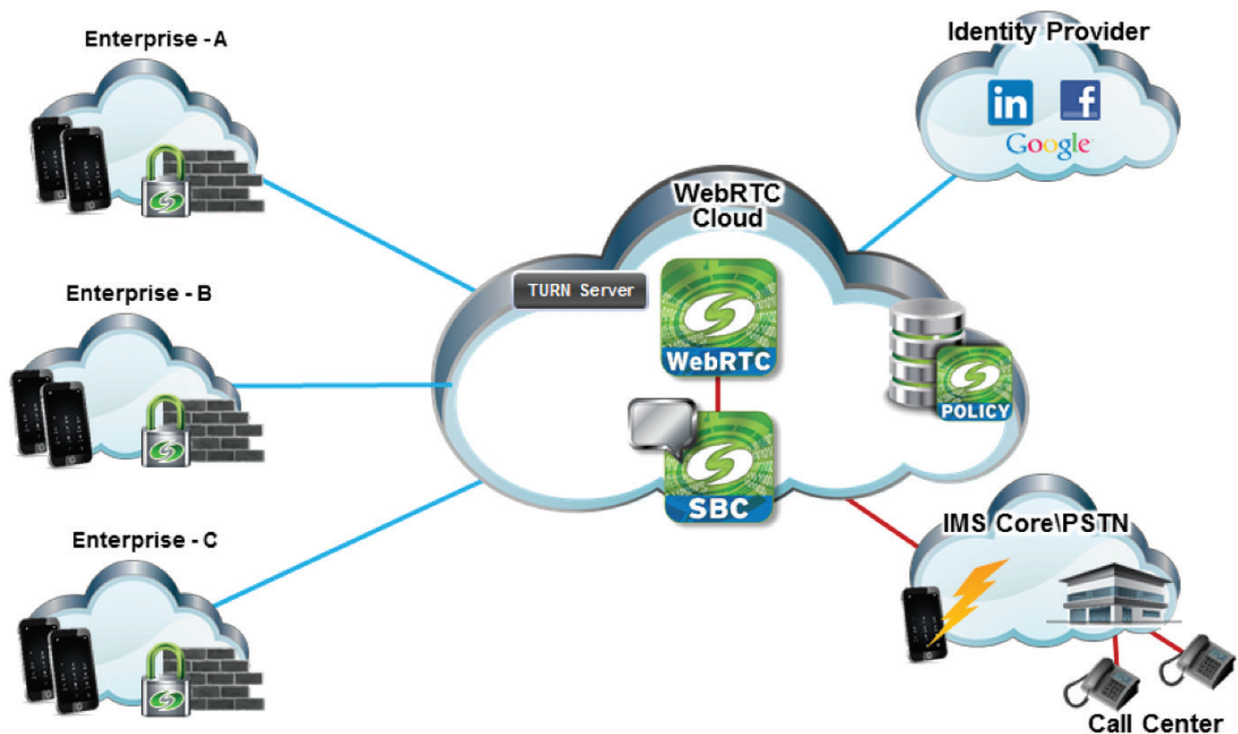
SBCs provide media service functionality in WebRTC deployments when WebRTC endpoints are behind Network Address Translation (NAT), acting as a WebRTC-to-SIP media gateway. The SBC enables WebRTC users to communicate to any backend SIP system and Public Switched Telephone Network (PSTN). The SBC provides routing, security, transcoding and interworking, in addition to supporting the following functions:

- Flexible deployment options— premises, private cloud, AWS or Google Cloud
- Translation between WebRTC audio/video codecs
- Conversion between DTLS-SRTP, to and from RTCP/RTP
- ICE-lite and STUN connectivity procedures to establish connection between peers when behind NAT
- Audio and video media exchange between SBC and web browsers using SRTP-DTLS (for Chrome and Firefox browsers) or SRTP (for Chrome) protocols
- Media interworking between SBC and web browsers via TURN server when endpoints are in front of the firewall by converting WebRTC media RTP/TCP into regular RTP/UDP media streams
- Relay media between WebRTC endpoints (direct-media or anti-trombone for WebRTC media)
- Transcoding for Opus into G7xx codecs
- Ability to relay VP8/VP9 and H.264 codecs

Sonus Element Management System (EMS)

The Sonus Insight Element Management System (Insight EMS) is a centralized solution for the efficient management of every Sonus element in a customer's network. Insight EMS provides a complete FCAPS (Fault, Configuration, Accounting, Performance, and Security) solution with a robust portfolio of management and provisioning tools including the WebRTC Gateway.

Sonus WebRTC Solution Diagram



About Sonus Networks

Sonus enables and secures real-time communications so the world's leading service providers and enterprises can embrace the next generation of SIP and 4G/LTE solutions including VoIP, video, instant messaging, and online collaboration. With customers in more than 50 countries and nearly two decades of experience, Sonus offers a complete portfolio of hardware-based and virtualized Session Border Controllers (SBCs), Diameter Signaling Controllers (DSCs), Cloud Exchange Networking Platform, policy/routing servers, and media and signaling gateways. For more information, visit www.sonus.net or call 1-855-GO-SONUS. Sonus is a registered trademark of Sonus Networks, Inc. All other company and product names may be trademarks of the respective companies with which they are associated.

Sonus Networks North American Headquarters

4 Technology Park Drive
Westford, MA 01886
U.S.A.
Tel: +1-855-GO-SONUS

Sonus Networks APAC Headquarters

1 Fullerton Road #02-01
One Fullerton
Singapore 049213
Singapore
Tel: +65-68325589

Sonus Networks EMEA Headquarters

Edison House
Edison Road
Dorcan, Swindon
Wiltshire
SN3 5JX
Tel: +44-14-0378-8114

Sonus Networks CALA Headquarters

Homero No. 1933-902
Col. Los Morales, C.P. 11510
Mexico City, Mexico
Distrito Federal
Mexico Tel: +52-55-1950-3036
Int'l Tel: +1-978-614-8741

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or visit us online at www.sonus.net

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