SBC SWe

Session Border Controller Software Edition (SBC SWe)

The Ribbon Session Border Controller Software Edition (SBC SWe) is the industry's only software-based, cloud native SBC architected to enable and secure real-time communications in the cloud without compromise. The SBC SWe features the same code base, resiliency, media transcoding, and security technology found in Ribbon's award-winning hardware-based SBC 5000 Series and SBC 7000 Session Border Controller - without the appliance. Customers can deploy the SBC SWe as a Virtual Machine (VM) on industry-standard servers in a data center environment using a hypervisor, as a Virtual Network Function (VNF) in an OpenStack cloud infrastructure, or as a VNF in a public cloud, such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP). The SBC SWe operates seamlessly with the existing Ribbon SBC product portfolio.

Ribbon's strategy capitalizes on its heritage of enabling secure, reliable, and scalable real-time communications, beginning with the transition from TDM to IP, and now into the cloud. Ribbon' SBC SWe is the only SBC in the marketplace architected to enable and secure real-time communications in the cloud without compromising on performance or scale. Starting at 25 sessions, and scaling to hundreds of thousands, the unique architecture of the SBC SWe allows customers to define where on the performance curve their network needs to reside. The SBC SWe uses a microservices design to separate signaling, media and transcoding to optimize virtual network resources. Designed to be simple but robust, and agile but predictable, the SBC SWe makes it easy for customers to reach new markets and new revenues with secure SIP and Unified Communications (UC) services:

- Unleash RTC performance with automated scale on demand in the cloud
- Be more responsive to your customers with optimized operations efficiency, turn up VNFs in minutes (auto configuration)
- Load-balance RTC traffic across the cloud for network efficiency
- Use the SIP Aware Load Balancer (SLB) to improve scaling in environments where network capacity is limited in a single VNF
- Deploy SBC services into new regions without a truck-roll, reducing the delivery costs of real-time communications
- Integrated analytics of network traffic to drive orchestration of SBC VNFs
- Network-wide licensing flexibility to deal with the varying traffic demands across the different interconnection points
- Independently scale in a microservices architecture and manage SBC signaling, media, and transcoding to optimize network investment

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Media Services
- Transcoding G.711, G.722, G.722.1, G.723, G.726, G.729A/B, AMR-NB, AMR-WB, EVRCB0, EVRC0, iLBC, Opus, T.38, SILK, EVS
- Support high density transcoding using Graphical Processing Unit (GPU)
- Wireline, wireless, clear channel codec and fax pass-through
- VAD, Silence Suppression, Dynamic Jitter Buffer, DTMF Tone Relay/ RFC2833/RFC4733 interworking
- NAT/NAPT on media
- DTMF Trigger Detection and Notification
- Tones & announcements
- Local Ring Back Tone (LRBT) support with centralized PSX Policy Server
- RTP inactivity monitoring
- Video codec pass-through: H.265, H.264 AVC, H.264 SVC, H.263+, H.263, H.261 and VP8, VP9
- Support up to 4 simultaneous SIPREC recordings per session
- Message Session Relay Protocol (MSRP) - MSRP B2BUA and MSRP-CEMA

Management Capabilities
- Graphical-based wizards for ease of configuration
- Virtual Network Function Manager (VNFM) for VNF life cycle management
- Integration with leading cloud orchestration vendors
- Secure embedded web-based management GUI
- Ribbon CLI, SSH
- Centralized support by Ribbon EMS
- SNMP V2/V3 status and statistics
- Local logging of events, alarms, traps, and call traces

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- Ribbon DSI Level 0 support for storing CDRs, RADIUS accounting records
- Live Software Update (LSWU)
- 1:1 High Availability for integrated SBC
- 4:1 High Availability for distributed SBC
- Lawful Intercept provisioning
- Flexible Licensing model for elastic scaling
- Real time streaming of RTCP statistics for Ribbon Analytics
- APIs for call notification event and call termination
- Support for automated SBC VNF upgrades

Signaling
- Back-to-Back User Agent (B2BUA)
- SIP, SIP-I/SIP-T, SIP/H.323
- SIP protocol normalization/protocol repair, SIP Message Manipulation
- NAT/NAPT on signaling
- Binary floor control protocol (BFCP)
- Far-end camera control (FECC)
- SIP aware load balancer

Protocol Support
- IPV4, IPV6, IPV4/IPV6 interworking
- SSH, SFTP
- SNMP, NETCONF, NTP
- HTTP/HTTPS
- RTP/RTCP
- UDP, TCP
- DNS, ENUM
- NTP per RFC-1708

Deployment Configurations
- Distributed SBC
- Integrated SBC
- Signaling only
- SIP Aware Load Balancer

Routing/Policy
- Embedded policy/routing engine
- Optional centralized policy/routing via Ribbon Centralized Policy Server (PSX Server) using Diameter+
- Screening, blocking, routing, presentation, call type filters
- Route prioritization
- Leading digit routing, international routing, URI based routing

- Digit/parameter manipulation
- E911 support, priority call handling
- Locally survivable session mode when registrar is not reachable
- Routing based on Active Directory lookup

Security
- Session aware firewall, topology hiding
- Line rate DoS/ DDoS and rogue RTP protection
- Line rate malformed packet protection
- TLS, IPSec (IKEv1) for signaling encryption
- Secure RTP/RTCP for media encryption
- Support for STIR/SHAKEN Caller ID Authentication and Verification

Quality of Service (QoS)
- Bandwidth management
- Call Admission Control (CAC) per trunk group, per zone
- Per-call statistics
- TOS/COS packet marking

Minimum Requirements
- 2 Intel-based virtual CPUs
- 10GB of RAM
- 4 virtual NICs (vNICs)
- 100GB hard disk space

Certifications
- Microsoft Skype for Business and Lync 2013
- MIcrosoft Teams Direct Routing including media bypass
- BroadSoft BroadWorks Platform

Software Platforms
- VMware 5.0 and higher
- KVM
- Amazon Web Services (AWS)
- Google Cloud Platform (GCP)
- OpenStack
- Microsoft Azure

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About Ribbon

Ribbon is a company with two decades of leadership in real-time communications. Built on world class technology and intellectual property, Ribbon delivers intelligent, secure, embedded real-time communications for today's world. The company transforms fixed, mobile and enterprise networks from legacy environments to secure IP and cloud-based architectures, enabling highly productive communications for consumers and businesses. With locations in 28 countries around the globe, Ribbon's innovative, market-leading portfolio empowers service providers and enterprises with rapid service creation in a fully virtualized environment. The company's Kandy Communications Platform as a Service (CPaaS) delivers a comprehensive set of advanced embedded communications capabilities that enables this transformation.

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