# FreeSBC™

## DATA SHEET
Version 3.1

by TelcoBridges

# FreeSBC SESSION BORDER CONTROLLER

TelcoBridges' **FreeSBC** is a carrier-grade session border controller software package, designed for Network-to-network interface (NNI SBC) peering and access functions (access SBC). Available up to 1,000 sessions.  FreeSBC is a flexible pure-software solution that can be installed seamlessly onto general purpose servers, popular virtualization platforms and TelcoBridges' certified servers giving access to an extensive set of call routing, network adaptation and policing functions. Using TelcoBridges' field-proven SIP stack deployed in more than 100 countries, FreeSBC is the ideal choice for VoIP service providers and enterprises.

## PRODUCT CHARACTERISTICS
- Back-to-back user agent (B2BUA) and topology hiding
- Line rate DOS/DDOS protection (64 bytes packets)
- Up to 1,000 simultaneous signaling and media sessions
- Flexible and extensive call routing capabilities
- TB Analytics network troubleshooting tools (traces, media/signaling recording, test call generation, etc)**
- Versions for installation on bare-metal servers and popular virtualized environments
- Easy installation and upgrades with no down time

## NETWORK FUNCTION
Back-to-back user agent (B2BUA)
Overlapping IP realms
SIP registration pass-through/forwarding and throttling

## IP NETWORK SECURITY
Topology hiding
Line-rate DOS/DDOS protection (64 bytes packets)
Rogue RTP detection
Dynamic blacklisting
Access control list (ACL)
Session admission control
Session bandwidth control (per trunk group)
Call access based on successful registration

## INTEROPERABILITY FUNCTIONS
Extensive SIP header manipulation
Error/cause code adaptation
Local and remote NAT traversal adaptation
SIP to SIP-I interworking
SIP UDP/TCP interworking

## TRANSCODING AND MEDIA ADAPTATION
(Using external TSBC-HW-TRANS)
DTMF transcoding (inband, INFO, RFC2833/4733)
T.38 V.17 & V.34 fax conversion to pass-through
NSE and VBD conversion
Transcoding unit IPs invisible from WAN/LAN
Media transcoding:
G.711, G.723.1, G.726, G.729ab, G.729eg, Clear mode (RFC 4040), G.728, iLBC,
G.722, AMR-NB, G.722.2 (AMR-WB), GSM FR/EFR, T.38

## VOICE SERVICES
(Using external TSBC-HW-TRANS)
Call progress tone generation
Announcement prompts playback
Call recording

## ROUTING
Built-in Class 4 routing engine
Least cost routing
Scheduled routing
Load-balancing and percentage routing
Routing customization through scripts
SIP REFER/3xx based routing
RADIUS based routing**
Routing alternate retry routes
Digit/From/To matching and manipulation
Call blocking
Loop detection and prevention

## QUALITY OF SERVICE
Per session network quality analysis and MOS scoring**
Per session statistics
DSCP/TOS marking
Network quality indicator**

# FreeSBC SESSION BORDER CONTROLLER

## MANAGEMENT CAPABILITIES

Provisioning and status graphical interface (GUI)
HTTPS secured transport
CLI interface for local and remote management
RESTful northbound provisioning and status API**
Level-based user access
Configuration change audit logging
SSH, sFTP, NTP, DNS, DHCP
SNMP v2, v3 GET, TRAPs (alarms)**
Extensive SNMP call statistics MIBs**
Configurable Call detail records (CDRs)**
Customizable text-based CDRs**
Customizable RADIUS accounting**

## TB ANALYTICS (NETWORK ANALYTICS)**

Live session trace with protocol information (ladder)
Raw signaling protocol capture (pcap format)
Live test call

## SUPPORTED PLATFORMS

Bare-metal DPDK capable servers
OpenStack with KVM hypervisor
Native KVM hypervisor
Vmware 5/6 with vSphere hypervisor
Amazon Web Services (AWS)
Microsoft Azure**
Universal CPE (uCPE)
See docs.telcobridges.com for more platforms

## REGULATORY

Lawful interception (ETSI 201 671)**

## HIGH AVAILABILITY & REDUNDANCY

1+1 redundancy support (active/standby)**
Ethernet port bonding support
Fault-tolerant software
Seamless software upgrade
Emergency routing*

## METRICS

| (see freesbc.com/performance for more detail) | HARDWARE PLATFORMS | | |
|---|---|---|---|
| | VMWARE 6.5 [1] | OPENSTACK KVM [2] | BARE-METAL[3] |
| Max. concurrent sessions (no transcoding) | 1,000 | 1,000 | 1,000 |
| Max. concurrent sessions (with 100% transcoding) | 1,000 | 1,000 | 1,000 |
| Max. completed sessions per seconds (CPS/CSPS) | 600 | 600 | 1,100 |
| Max. sessions attempts per seconds (CAPS/SAPS) when refused by routed destination endpoint | 1,250 | 1,250 | 1,400 |
| when refused by routing engine | 1,920 | 1,920 | 2,000 |
| when refused while in congestion | 4,000 | 4,000 | 6,000 |
| Max. registered devices [4] | 25 | 25 | 25 |

**(1)** As tested on TelcoBridges-installed Vmware 6.5.0 executing on Dell R610 (3.07GHz), VM with 6 vCPUs, 8GB RAM and PCI-Passthrough access to one Intel X540-AT2 (10GE) copper interface.
**(2)** As tested on TelcoBridges-installed 'OpenStack Newton' executing on Dell R610 (2.93GHz), Instance with 6 vCPUs (directly pinned to pCPUs), 16GB RAM and SR-IOV access to one Intel X710DA-2 (10GE) SFP+ optical interface.
**(3)** As tested on Dell R630 (3.4 Ghz), 24GB RAM
**(4)** On D16s_v3

**\* =** Roadmap capabilities – check with TelcoBridges Sales for current status
**\*\* =** Available with ProSBC upgrade

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