TelcoBridges' ProSBC is a carrier-grade session border controller software package, designed for Network-to-network interface (NNI SBC) peering and access functions (access SBC). Scalable up to 60,000 sessions. ProSBC 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. With integrated analytics and network troubleshooting tools and a field-proven SIP stack deployed in more than 100 countries, ProSBC 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 60,000 simultaneous signaling and media sessions
- Encryption support with SIP/TLS and SRTP
- High Availability with 1+1 redundancy
- 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**
- SIP/TLS and SRTP support
- 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**
- 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
- NSR and VBD conversion
- Transcoding unit IPs invisible from WAN/LAN
- Media transcoding:

**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
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 servers
OpenStack with KVM hypervisor
Native KVM hypervisor
VMware 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 & GEO-REDUNDANCY
1+1 redundancy support (active/standby)
No loss of service
Ethernet port bonding support
Fault-tolerant software
Seamless software upgrade
Emergency routing*

PERFORMANCE

<table>
<thead>
<tr>
<th>METRICS</th>
<th>VMWARE 6.5¹</th>
<th>OPENSTACK KVM²</th>
<th>BARE-METAL³</th>
<th>AZURE ⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. concurrent sessions (no transcoding)</td>
<td>26,000</td>
<td>32,000</td>
<td>60,000</td>
<td>4000</td>
</tr>
<tr>
<td>Max. concurrent sessions (with 100% transcoding)</td>
<td>13,000</td>
<td>16,000</td>
<td>30,000</td>
<td>0</td>
</tr>
<tr>
<td>Max. completed sessions per seconds (CPS/CSPS)</td>
<td>600</td>
<td>600</td>
<td>1,100</td>
<td>200</td>
</tr>
<tr>
<td>Max. sessions attempts per seconds (CAPS/SAPS) when refused by routed destination endpoint</td>
<td>1,250</td>
<td>1,250</td>
<td>1,400</td>
<td>740</td>
</tr>
<tr>
<td>when refused by routing engine</td>
<td>1,920</td>
<td>1,920</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>when refused while in congestion</td>
<td>4,000</td>
<td>4,000</td>
<td>6,000</td>
<td>6,500</td>
</tr>
<tr>
<td>Max. registration per seconds (RPS)</td>
<td>3,400</td>
<td>3,400</td>
<td>4,700</td>
<td>2,200</td>
</tr>
<tr>
<td>Max. registration refresh per seconds (RRPS)</td>
<td>13,000</td>
<td>13,000</td>
<td>19,800</td>
<td>6,100</td>
</tr>
<tr>
<td>Max. registered devices ⁵</td>
<td>350,000</td>
<td>350,000</td>
<td>350,000</td>
<td>350,000</td>
</tr>
</tbody>
</table>

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
⁵ With one contact per address-of-record (AOR)

* = Roadmap capabilities – check with TelcoBridges Sales for current status

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