

TSBC-HW-TRANS

External hardware transcoding unit for TelcoBridges' FreeSBC



The TelcoBridges **TSBC-HW-TRANS** is a carrier-grade hardware platform to transcode sessions processed by the FreeSBC session border controller.

Supporting up to 2,744 transcoding sessions per enclosure, multiple TSBC-HW-TRANS units can be stacked to reach a total of 30,000 transcoding sessions with a single instance of FreeSBC. Each unit is managed independently by the FreeSBC and does not require a public IP address to any VoIP peers connected to the SBC on the WAN/LAN networks. The unit also allows for voice services such as prompt playback, call progress tones and call recording to be inserted into a session's call flow.

Product Characteristics:

- ✓ 1U slim form factor
- ✓ Telco-grade hardware with either AC or DC redundant power supplies
- ✓ Transcoding for G711, G723, G729, AMR-NB, AMR-WB, T.38, DTMF and more
- ✓ Add voice services to the SBC call flows

Please refer to the FreeSBC datasheet for a detailed description of supported SBC functionalities.

TSBC-HW-TRANS

Data Sheet

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Transcoding and Media Adaptation

DTMF transcoding (inband, INFO, RFC2833/4733)
 T.38 fax and video relay
 T.38 V.17 & V.34 fax conversion to pass-through
 NSE and VBD conversion

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

Voice services

Call progress tones
 Announcement prompts playback
 Call recording

Interfaces

Up to 4 ports for media or management
 1 dedicated management port for local access
 All Ethernet ports are 100/1000 Base-T (RJ45)
 Ethernet bonding and 802.1Q VLAN support
 1 RS232 serial port (RJ45)
 1 USB serial port (USB type B)

High Availability & Redundancy

Power supply redundancy
 Ethernet port bonding support

Electrical Characteristics

90 to 260 VAC, 47 to 63 Hz or -36 to -72 VDC
 Hot-swap redundant power supplies (AC or DC)
 Maximum 138W power consumption

Dimensions & Weight

1U, 19" rackmount
 1.75" (44.5 mm)H x 16.9" (429 mm)W x 16" (406 mm)D
 14 lbs (6.35 kg)

Environmental

Operating temperature:
 0 to +70 °C, 95% rel. hum. non-condensing
 Storage temperature:
 -10 to +85 °C, 95% rel. hum. non-condensing
 Designed to meet NEBS Level 3
 RoHS compliant

Regulatory Compliance

Safety

CAN.CSA C22.2
 EN 60950-1:2005
 EN 60950-1:2006

EMC

FCC Part 15:2013, Subpart B,
 CE Mark (EN55022:2010, Class A, EN61000, ETSI
 EN 300 386)

Performance

Metrics	Model	
	TSBC-HW-TRANS-1372	TSBC-HW-TRANS-2744
Max. nb. of transcoding sessions	1,372	2,744
Max. nb. of transcoding sessions per seconds per unit (TSPS)	80	80
Max. nb. of TSBC-HW-TRANS attached to a single FreeSBC	16	16

Transcoding session density (TSBC-HW-TRANS-1372)

Input codec	Output codec											
	G.711	G.723	G.729A/AB	G.726	G.722	RFC4040	T.38	G.728	AMR_NB	AMR_WB	FR	EFR
G.711 ¹	1372	744	848	532	406	1372	744	400	576	406	708	654
G.723	744	--	556	580	322	744	--	318	424	322	490	464
G.729A/AB	848	556	--	644	340	848	--	336	456	340	536	556
G.726	532	580	644	--	370	532	--	364	512	370	614	572
G.722	406	322	340	370	--	406	--	234	288	236	316	306
RFC4040	1372	744	848	532	406	1372	744	400	576	406	708	654
T.38	744	--	--	--	--	744	--	--	--	--	--	--
G.728	400	318	336	364	234	400	--	--	284	234	312	302
AMR_NB ²	576	424	456	512	288	576	--	284	--	286	412	392
AMR_WB ²	406	322	340	370	236	406	--	234	286	--	316	306
FR	708	490	536	614	316	708	--	312	412	316	--	450
EFR	654	464	556	572	306	654	--	302	392	306	450	--

Transcoding session density (TSBC-HW-TRANS-2744)

Input codec	Output codec											
	G.711	G.723	G.729A/AB	G.726	G.722	RFC4040	T.38	G.728	AMR_NB	AMR_WB	FR	EFR
G.711 ¹	2744	1488	1696	1064	812	2744	1488	800	1152	812	1416	1308
G.723	1488	--	1112	1160	644	1488	--	636	848	644	980	928
G.729A/AB	1696	1112	--	1288	680	1696	--	672	912	680	1072	1112
G.726	1064	1160	1288	--	740	1064	--	728	1024	740	1228	1144
G.722	812	644	680	740	--	812	--	468	576	472	632	612
RFC4040	2744	1488	1696	1064	812	2744	1488	800	1152	812	1416	1308
T.38	1488	--	--	--	--	1488	--	--	--	--	--	--
G.728	800	636	672	728	468	800	--	--	568	468	624	604
AMR_NB ²	1152	848	912	1024	576	1152	--	568	--	572	824	784
AMR_WB ²	812	644	680	740	472	812	--	468	572	--	632	612
FR	1416	980	1072	1228	632	1416	--	624	824	632	--	900
EFR	1308	928	1112	1144	612	1308	--	604	784	612	900	--

(1) G.711 to G.711 inband DTMF to RFC4733 transcoding

(2) Requires external licensing

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