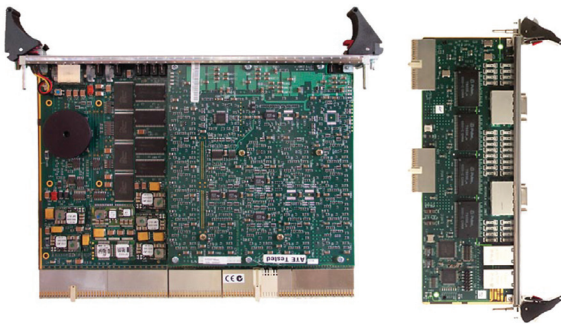


PB4000 UNIVERSAL MEDIA CARD



THE METASWITCH PB4000 UNIVERSAL MEDIA CARD COMBINES ALL THE MEDIA PROCESSING OF AN “ANY-TO-ANY” VOIP/TDM GATEWAY IN A SINGLE SLOT. SUPPORTING UP TO 28XDS1 / 672 CALLS ON ANY COMBINATION OF VOIP AND TDM INTERFACES, THE PB4000 IS THE ONLY CARD YOU NEED TO EFFECTIVELY DEPLOY SERVICES FROM YOUR VP3510 INTEGRATED SOFTSWITCH OR MG3510 UNIVERSAL MEDIA GATEWAY.

Up to fourteen PB4000 Universal Media Cards can be installed in a VP3510 Integrated Softswitch or MG3510 Universal Media Gateway. If you require equipment protection switching, up to two of these are reserved for backup.



OPTIMIZED SYSTEM CAPACITY

Because the PB4000 supports all the media interfaces and media processing functions on one card, you'll enjoy simplified capacity planning and spares policy. Metaswitch's unique architecture combines IP, TDM and DSPs on a single card. This further optimizes system capacity by enabling the combination of functions that previously required several line card slots. Because it shares a common interface module (RTM) with higher density PB4500 / PB5000 cards, the PB4000 can also allow swap-out for capacity upgrades with no system down time or rewiring.

MIDPLANE ARCHITECTURE

The PB4000 is fully integrated with Metaswitch's midplane architecture. Simplifying installation and visual inspection, Metaswitch's platforms feature front slots for plug-in components (Adaptors), and rear slots for I/O modules (Rear Transition Modules). The midplane is completely passive, and contains routing for redundant power rails, control buses and other control interconnects, TDM buses and packet buses.

To ensure redundancy, the packet bus is wired in a dual redundant star, with each board connected to both Ethernet switch cards.

CARRIER CLASS FAULT TOLERANCE

A carrier class network means that when issues arise, they don't affect your subscribers' service. To ensure fault tolerance, PB4000 cards can be deployed in an N+1 configuration in the Metaswitch VP3510 / MG3510, which supports equipment protection switching for this card.

In the event of a fault on a card, all TDM traffic to and from the DS3 port on the failed card is re-routed across the midplane to the backup card. All established calls are maintained during the switch, allowing maintenance on the failed card without loss of service.

One backup card provides protection for up to six other cards of the same type. The backup card and the cards that it protects form a protection group, and the VP3510 / MG3510 supports up to two protection groups.

FIELD PROGRAMMABLE

The PB4000 makes use of field programmable devices in order to avoid obsolescence as standards continue to evolve, for instance allowing support for additional codecs through a simple firmware upgrade. By contrast, an ASIC based design would risk fixing a carrier to an outdated encoding standard.

PB4000 SPECIFICATIONS

CAPACITY

- Up to 28 DS1s (T1 channelized DS3)
- DSPs for up to 672 concurrent calls

FORM FACTOR

- 6U CompactPCI compatible

CONTROL PROCESSOR

- Embedded PowerPC microprocessor

INTERFACES

- DS3 TDM trunk interface to the PSTN (75 Ohm BNC)
- Dual 1000BaseT Ethernet ports for connection to internal switches

POWER

- Maximum power dissipation 36W

MTBF

- 166,000 hours

VOICE PROCESSING FUNCTIONALITY

- VoIP encoding using RTP/UDP/IP
- Transcoding between G.711, G.726 and G.729AB
- Echo Cancellation: compliant with G.165 and G.168-2000, with an echo tail of up to 128ms
- Adaptive jitter buffer
- Voice activity detection (VAD)
- Adaptive comfort noise generation (CNG)
- Discrete and continuous tone detection and generation including DTMF, MF and call progress
- Fax relay – T.38
- Audio mixing for three-way calling and conferencing options
- Announcement playback

SIGNALING

- Line Encoding: DS3 (B3ZS)
- Framing: T1 (D4 or ESF)
- Q.931 / Q.921 support for ISDN NI-2 Primary Rate Interfaces to PBXs or RAS banks
- GR-303 signaling and TDM voice media over T1 trunks to GR-303 DLCs, for termination of POTS lines
- MF signaling over one-way or two-way T1 trunks to emergency and operator services systems or other PSTN switches
- CAS – T1 robbed bit FXS and FXO (loop start, ground start) E&M (wink, delay and immediate)
- ISDN – PRI selectable to Lucent 5ESS, National 2, ETSI, Nortel DMS
- SigTran (IUA and M2UA over SCTP and M2UA over SCTP)

CLOCKING

- Supports SG1200 internal holdover clock source

QUALITY OF SERVICE (QOS)

- Diffserv DSCP marking and 802.1p queuing to prioritize voice media

FRONT PANEL INDICATORS

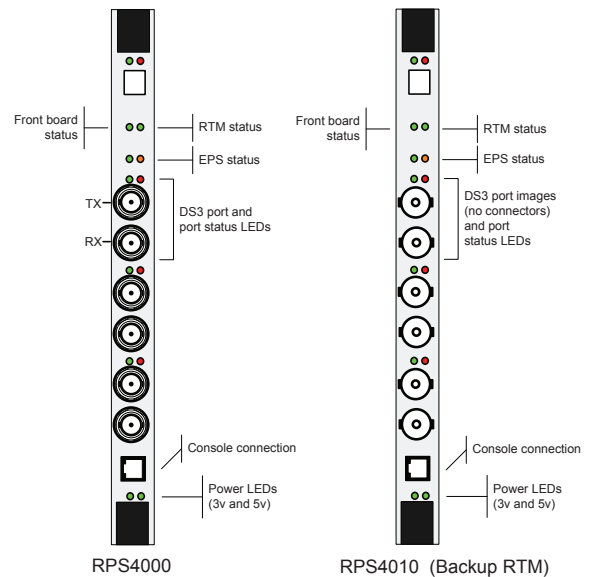
- Status indicator
- 2 Initialization status indicators
- Hot Swap indicator
- 2 Ethernet status, 2 Activity and 2 Link LEDs

RTM INDICATORS

- Status indicator

RPS4000 AND RPS4010 RTM INDICATORS

- Status indicators
- EPS status indicators
- 6 DS3 port status indicators (2 per port)
- Power LEDs (3v and 5v)



PB4000 ARCHITECTURE

