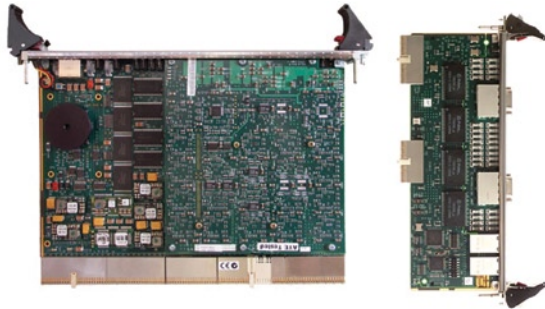


PB4500/PB5000 UNIVERSAL MEDIA CARD



THE METASWITCH PB4500/PB5000 UNIVERSAL MEDIA CARDS COMBINE ALL THE MEDIA PROCESSING OF AN “ANY-TO-ANY” VOIP/TDM GATEWAY IN A SINGLE SLOT. THE PB4500 AND PB5000 CARDS SUPPORT UP TO 3 X DS3 / 2016 CALLS ON ANY COMBINATION OF VOIP AND TDM INTERFACES. THE PB4500 IS INTENDED FOR APPLICATIONS THAT REQUIRE ONLY LIMITED USE OF VOICE COMPRESSION FOR VOIP, WHILE THE PB5000 SUPPORTS VOICE COMPRESSION ON ALL CALLS UP TO ITS CAPACITY OF 2016 CALLS.

Up to fourteen PB4500 / PB5000 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 PB4500 / PB5000 support 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 also optimizes system capacity by enabling the combination of functions that previously required several line card slots.

MIDPLANE ARCHITECTURE

The PB4500 / PB5000 are fully integrated with Metaswitch's midplane architecture. Simplifying installation and visual inspection, Metaswitch's platforms feature front slots for plugin 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

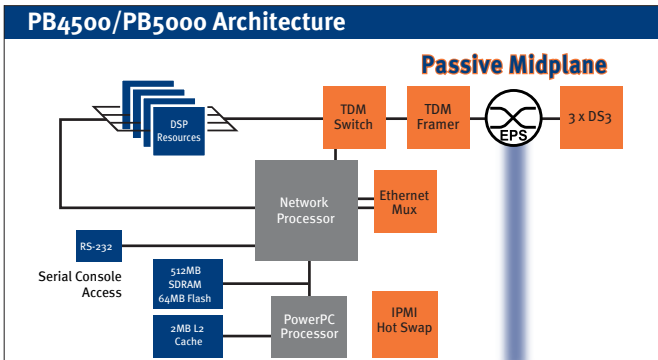
A carrier class network means that when issues arise, they don't affect your subscribers' service. To ensure fault tolerance, PB4500 / PB5000 cards can be deployed in an N+1 configuration in the Metaswitch VP3510 / MG3510, which supports equipment protection switching for these cards.

In the event of a fault on a card, all TDM traffic to and from the DS3 ports on the failed card is re-routed across the midplane to the backup card. All established calls are maintained during the switch. You can then perform maintenance on or replace 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.

FIELD PROGRAMMABLE

The PB4500 / PB5000 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.



PB4500/PB5000 SPECIFICATIONS

CAPACITY

- PB4500: Up to 2016 DS0s uncompressed, 1008 compressed
- PB5000: Up to 2016 DS0s either compressed or uncompressed

FORM FACTOR

- 6U CompactPCI compatible

CONTROL PROCESSOR

- Embedded PowerPC microprocessor

INTERFACES

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

POWER

- Maximum power dissipation 45W (PB4500); 55W (PB5000)

MTBF

- PB4500: 143,000 hours
- PB5000: 130,000 hours

VOICE PROCESSING FUNCTIONALITY

- Encapsulation – 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)

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

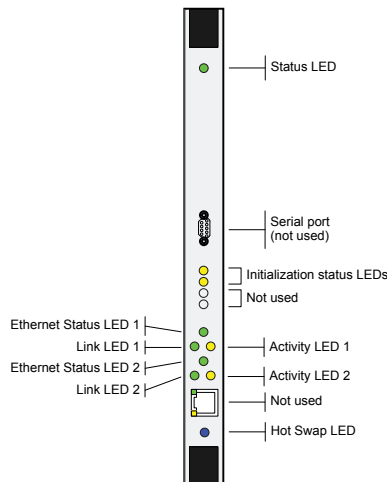
- Status indicator
- 2 Initialization status indicators
- Hot Swap indicator
- 2 Ethernet status, 2 Activity and 2 Link LEDs

RTM INDICATORS

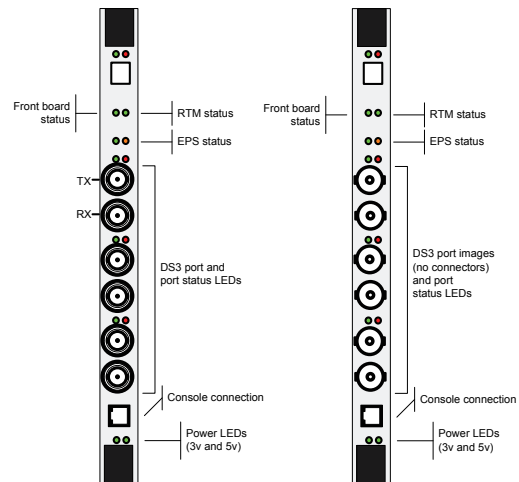
- Status indicator

RPS4000 AND RPS4010 RTM INDICATORS

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



PB4500/PB5000



RPS4000

RPS4010 (Backup RTM)