MediaPro® VoIP Gateway Software Library Specifications

Overview

Voiceboard Voice over IP (VoIP) Gateway software library is a set of downloadable modules for MediaPro embedded DSP resource board products. The Gateway library implements a standalone VoIP Trunking Gateway by providing call control, call switching, DSP resource management and embedded H.323, MGCP/MEGACO or SIP protocols.

The VoIP Gateway software library is a member of the MediaPro product line, a modular series of cPCI and VMEbus telecommunications boards and embedded software.

VoIP Gateway Functionality

- Implements H.323/H.245, MGCP/MEGACO and SIP protocol call control functions
- MediaPro VoIP DSP software library included
- Management and configuration of DSP resources during call negotiation and teardown
- Supports multi-host TCP-UDP/IP protocol and failover operation
- Integrated CAS, R2 and ISDN signaling
- Management and configuration of local TDM connections
- Management of IP to PSTN address translation

VoIP DSP Library

The VoIP DSP library contains the following modules:

- G.711 μ/a-law PCM
- G.726 40/32/24/16 Kbps ADPCM
- G.729 A/B 8 Khz toll quality CS-ACELP
- G.723.1 IMTC Compliant - 5.3/6.3 Kbps
- DTMF, MFR1, MFR2 Detecton and Generation
- Caller ID, V.25 Answer Tone, V.21 CNG, SS7 COT, SF Signaling and V.18 Text Telephone Detection
- Call Progress Detection and Generation, AGC
- G.168-2000 Echo Cancellation, 128 ms tail
- Voice activity detection and comfort noise generation
- Jitter Buffering and lost packet recovery
- μ-Law/a-Law to Linear Conversion and Gain Control
- Play/Record of Audio Files
- RTP Packetization
- 3 Party Conferencing for TDM and IP Network sides

MediaPro DSP Resource Hardware

MediaPro DSP resource hardware is available as a PMC mezzanine to other MediaPro network interface boards, or as high-density 6U cPCI and VME boards.

Both cPCI or VME hardware implementations provide multiple DSP resources with H.110 or SCSA bus support, respectively.

MediaPro DSP resource hardware offers the following features:

- Supports "5-Nines" HA configurations
- Non-blocking access to H.110 or SCSA TDM bus
- Media streaming over system bus or dual 10/100 base-T Ethernet ports
- A variety of VoIP port capacity options
- PowerPC Executive Controller

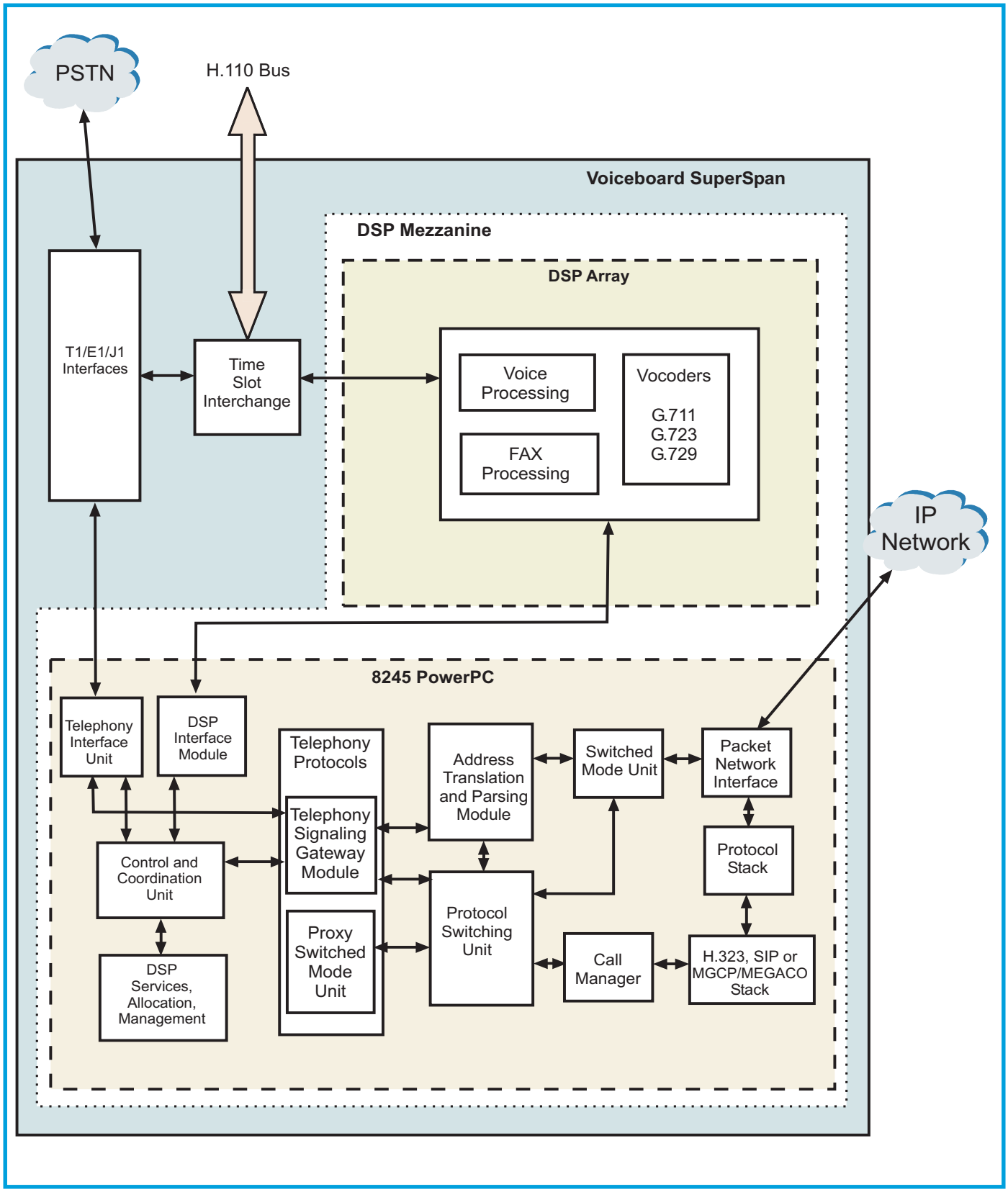
PMC750 PowerPC

A PowerPC 750 PMC module is used in conjunction with the DSP Resource to implement customer provided applications software, configuration and QoS modules, thus providing a fully functional VoIP Gateway in a single card slot.

The PMC750 may be configured as a system or Gateway host. The PMC750 may be ordered with LINUX or VxWorks OS BSP including embedded TCP-UDP/IP stacks.

473 Post Street • Camarillo, California 93010 • Telephone 805/389-3100 • FAX 805/389-1611
E-mail: marketing@voiceboard.com • URL: http://www.voiceboard.com

VoIP Gateway
Logical Diagram



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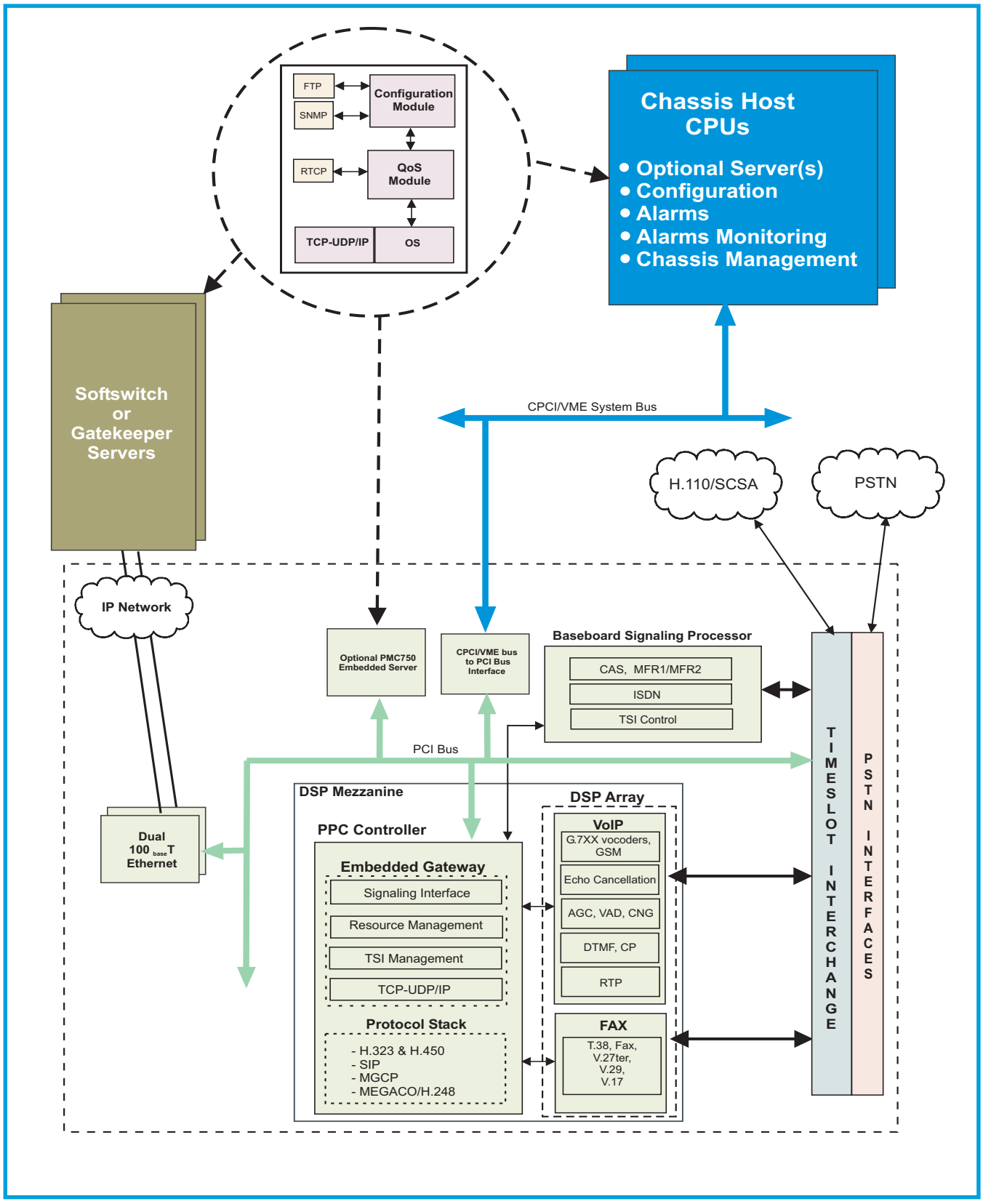
VoIP Gateway
Functional Architecture



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Hardware Ordering Information

cPCI Boards:

CS30 ..... Dual PMC Carrier Board
CS32 ..... 60 port Dual T1/J1/E1 Superspan
CS34 ..... 120 port Quad T1/J1/E1 Superspan
CS38 ..... 240 port Octal T1/J1/E1 Superspan

VME Boards:

VS30 ..... Dual PMC Carrier Board
VS32 ..... 60 port Dual T1/J1/E1 Superspan
VS34 ..... 120 port Quad T1/J1/E1 Superspan

C5441 DSP PMC Mezzanines for cPCI and VME:

PMC41DSP/3 ..... PMC with 3 DSP & 8245 Controller
PMC41DSP/6 ..... PMC with 6 DSP & 8245 Controller
PMC41DSP/12 ..... PMC with 12 DSP & 8245 controller

PowerPC PMC Mezzanines:

PMC750 ..... PowerPC 750 PMC

DSP Mezzanine Port Capacity

Service	PMC41 /3	PMC41 /6	PMC41 /12
G.711 VoIP	120	240	240
LBR VoIP G.723, G.726, G.729 , T.38	60	120	240
G3 FAX	60	120	240
IVR, Universal Messaging	120	240	240

Software Options

G.711 VoIP ..... Voice over IP with G.711 *
LBR VoIP ..... Voice over IP library with T.38 FAX *
G3 FAX ..... Terminating G3 FAX add-on to LBR VoIP Library
VB-H323/xx ..... Embedded H.323 for xx Ports
VB-SIP/xx ..... Embedded SIP for xx Ports
VB-MGCP/xx ..... Embedded MGCP for xx Ports
VB-MEGACO/xx ..... Embedded MEGACO for xx Ports
VoIP-GW/xx ..... Gateway for xx Ports

* - includes Telephony Functions Library

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