NUERA®

IPM-3K

Media Server Platform

- Meet the need for enhanced voice services in VoIP/VoATM wireline, cable and wireless markets with a right-sized and cost-effective media server
- Enable enhanced voice services such as Network Announcements, Conferencing, Interactive Voice Response (IVR) and Messaging
- Deliver a cost-optimized solution for high capacity deployments that demand full-featured server functionality

The **IPM-3K** Media Server enables Network Equipment Providers (NEPs), Application Developers and System Integrators (SIs) to offer Service Providers a compact media server solution targeted towards the carrier environment. Supporting from 480 up to 2,016 voice channels with OC-3/STM-1 or T3(DS3) PSTN interfaces, the IPM-3K addresses mid-density applications deployed in IP, ATM or mixed IP/ATM networks. Building on Nuera's experience in the VoP market, the IPM-3K supports a rich variety of VoIP vocoders, standards-compliant signaling and call control. The IPM-3K is based on VoIPerfect™ architecture, Nuera's core technology. At a height of only 2U, the IPM-3K platform requires only minimal rack space. The IPM-3K media server joins Nuera family of voice network products for enhanced voice services (including the IPM-2K).

Deliver Enhance Voice Services

The IPM-3K enables NEPs to significantly enhance their network solutions. Media processing technologies, such as voice record/playback, announcements, echo cancellation, voice mixing and DTMF (detection/generation) and transcoding ensure delivery of advanced services beyond the scope of basic dial tone service. These include conferencing, network announcements, voicemail, auto-attendant and Interactive Voice Response (IVR).

Deploy Best-of-Breed Right-Sized Solutions

The IPM-3K matches the density requirements for mid-sized locations in the network while meeting the requirements for a market-ready full-featured media-processing server. The IPM-3K is specifically fine-tuned to meet demand, with a density of up 2016-ports that provides high capacity for the entire gamut of interactive voice services. The small footprint of the IPM-3K Media Server is especially attractive for central office locations where space is at a premium.

Improve Infrastructure Interoperability

Application partners can port and integrate applications directly on the open-platform IPM-3K (using an optional available slot for an application blade). This alleviates traditionally slow interoperability processes and delivers superior manageability, a smaller footprint and minimal maintenance costs.

Leverage Legacy Investments

The IPM-3K consists of PSTN, VoIP and VoATM interfaces, allowing NEPs and Application Partners to deliver enhanced voice services on legacy PSTN networks as well as on new packet-based networks. This enables easy migration to new deployments of packet infrastructure.

Features

- Extensive media processing functions
- Flexible deployment options
- Small footprint
- Designed for NEBS Level 3
- VoIP, VoATM and PSTN support
- Multiple density options
- Optimal, cost effective channel density
- Up to 2016 voice/fax independent multiple LBR channels (including UMTS, GSM and CDMA vocoders)
- Open architecture

IPM 3K

Specifications

Capacity	
	Up to 2,016 channels in 1+0 configuration Up to 2,016 channels in 1+1 configuration
Media Processing	
Audio Processing	Call progress tones Voice Activity Detection (VAD), Comfort noise generation DTMF detection and generation in-band/out-band (RFC 2833) T.38 compliant (real-time fax) Echo Cancellation: G.168 30, 64, 128[1] msec Gain Control: Automatic (AGC) or Programmable
Voice Coders	G.711 PCM 64 kbps (µ-law/A-law) G.726/G.727 ADPCM/E-ADPCM (16 to 40 kbps) G.729AB CS-ACELP, 8.0 kbps G.723.1 MP-MLQ, 6.3 kbps ACELP, 5.3 kbps Multiple UMTS, GSM, CDMA vocoders
Conferencing	Maximum number of conferencing ports: 2016 Maximum half-duplex parties per conference bridge: 2016 Maximum full-duplex parties per conference bridge: 64 participants Conferencing Control: moderator mode, passive listener, mute, drop, coaching, volume up/down
Enhanced Services	Announcement playback –Advanced audio package per H.248.9, PacketCable BAU package Voice recording/playback Local announcement storage ASR[2], TTS[2] CALEA support Trunk testing per GR-822, tests: TL 100, 102 and 105 Multiple Vocoder Transcoding
Control and Management	
Control Protocols	H.248, MGCP, SIP
Management	SNMP v2, user-friendly GUI via Embedded Web Server, Centralized Element Management System
Redundancy Scheme	Power supply, fans: N+1 load shared Media Gateway blades (including PSTN interfaces): 1+1 Optical Interfaces (PSTN): 1+1, APS protected
Signaling and Transport	
IP Transport	IETF RFC 1889, RFC 1890 RTP/RTCP Transport, TCP, UDP
ATM Protocols	Bearer transport over AAL1, AAL2. ILMI & UNI 4.0 for SVC signaling RFC 3108- Use SDP for ATM Bearer Connection
Interfaces	
Ethernet	Dual redundant 10/100/1000 Base T Ethernet ports via 2 x RJ-45 connectors or 155 Mbs fiber optic OC-3 interfaces
ATM	3+3 redundant (APS) 155 Mbs fiber optic STM1/OC-3c interfaces
PSTN	OC-3 or STM-1 APS optical links, 1-3 T3 (DS3) Electrical link
Hardware	
Physical	2U high, 19-inch wide rack mount
Enclosure	cPCI chassis PICMG 2.0 R2.1 cPCI
Mechanical	PICMG 2.0 R2.1 cPCI
Hot Swap	Full cPCI hot swap supported for media processing blade
Power Supply	Subsystem features a "1+1" architecture with load sharing on the secondary voltages. Each power supply has a separate feeding path -48 V DC Dual Feed with up to 2 DC Power modules
Regulatory Environment	
Telecommunication Standards	FCC part 68, TBR4 and TBR13
Safety and EMC Standards	UL60950, FCC part 15 class A CE mark (EN55022 Class B, EN60950, EN55024, EN300 386)
Environmental	NEBS Level 3: GR-63-Core (DC-powered model), GR-1089-Core, Type 1&3, ETS300 019

1 May affect density
2 Planned via integration with Partner technologies

Applications

- **Basic services** including conferencing and announcements for wireless networks, Media Resource Function, VoIP consumer and business IP Centrex services, and packet toll offices
- **Enhanced services** including Voicemail, Messaging, Conference bridge and Interactive Voice Response in voice networks
- **Speech-enabled services** for wireless networks
- **Transcoding server**
- **CALEA server**

About Nuera Communications

Nuera Communications, designs, manufactures & sells packet voice gateways to communication service providers worldwide. These products work over any medium (cable, wireless, copper and fiber). Nuera's ORCA (Open Reliable Communications Architecture) product portfolio of VoIP gateways, softswitches, and management systems provide telephony solutions for cable and DSL networks, international long distance networks and enterprise networks. Nuera is a leader in the broadband telephony market.

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