Software Media Server for Advanced IP Media Processing

Virtualized MRF

Virtualized MRF is the software foundation for Radisys media processing products and solutions, including the MPX-12000 MRF and Virtualized MRF. Virtualized MRF supports real-time multimedia processing requirements for IMS MRF, OTT, cloud, and WebRTC communication services.

Features

- Carrier-class media processing features in a Software Product Offering
- Standards-based IMS MRF compliance for VoLTE and RCS
- Media Processing for OTT communications
- Virtualization support for cloud deployments
- Support for WebRTC services
- Based on MPX Operating Software (MPX-OS)

Benefits

- Scalability delivered through multiple COTS or ATCA platform options
- Optimized software media processing performance – even under high load
- Minimized total cost of ownership
- MPX-OS foundation supports common capabilities, codecs, management, and control interfaces across Radisys MPX product family

Revenue Generating Applications
Specifications & Datasheet Download

- VoLTE
- Rich Communication Services (RCS)
- Unified Collaboration and Multimedia Conferencing

- Virtualized MPaaS (Media Processing as a Service) for cloud communications
- WebRTC services
- WebRTC to SIP interworking
- Enterprise VoIP and UC
- Specialized conferencing applications, including financial trading
- VoiceXML-based IVR & Messaging
- IP Contact Centers
- Voice Quality Enhancement (VQE)
- Edge transcoding for FMC and LTE-nonLTE access

Capacity		Entry-level systems starting at 50 ports
		Scalable to thousands of ports (dependent on compute platform)
Control Interfaces		SIP (RFC 3261)
		SIP (RFC 4117) for 2-party transcoding
		Netann (RFC 4240)
		SIP with VoiceXML 2.0 (some VXML 2.1)
		SIP with Media Server Markup Language (MSML RFC 5707)
		Media Control (RFC 6230) with MSML Package
		H.248.1 v2
		RESTful APIs[1]
Co-Residency		User-configurable Linux processor affinity for co-resident applications
	VoLTE and RCS	MMtel / 3GPP compliant MRF
		Compliance with GSMA IR.92 and IR.94
	Multimedia Conferencing	Voice–activated video switching (video conferencing)
		Continuous presence video conferencing (4-way)
		N-way audio mixing across all supported codecs (including HD audio)
		Cascaded conference mixing
		Loudest N mixing and preferred speaker
		Automatic Gain Control (AGC), and programmable gain control
		Current speaker notification
		Whisper feature
		Personalized mixing for each participant (e.g. for complex call center mixing models, network gaming, voice chat, etc.)

	Multimedia Announcements and Tones	Audio and video announcements (supports multimedia ringback tone applications)
		Multiple languages (40+) for Sets and Variables - Set Announcement Features (e.g. same prompt in multiple languages) - Variable Announcement Features (e.g. date, time, currency, etc.)
		Caller-specific announcement volume control (AGC and programmable gain)
		DTMF detection and generation - Inband, RFC 2833, Redundant RFC 2833
	Multimedia Recording and Playback	Recording / playback – audio-only, video-only, audio/video
		VCR Control (pause/resume, skip forward, skip back)
		Internal and external storage (NFS/HTTP)
		RTSP 1.0 supported for video and audio playback
		Programmable Text and icon overlay (over video stream)
	Voice Quality Enhancements (VQE)	Acoustic Echo Cancellation (AEC)
		Noise Reduction, Noise Gating, Noisy Line Detection
		Packet Loss Concealment
		VQE Statistics
	IP-IP Transcoding	3rd party control of transcoding using SIP (RFC 4117), SIP with MSML (RFC 5707), or H.248[1]
		Inline Transcoding supported using SIP Back-to-Back User Agent (B2BUA)
		IP-IP Transcoding integrated with VQE, gain control, and DTMF transcoding
	Fax	Fax Detection & Notification
		Embedded Fax Server (Send/Receive)
		T.38 or G.711 (T.30 Passthrough)
		Fax over HTTP
	Speech	MRCP v1.0 and v2.0 support with 3rd party speech servers for: - Text-to-speech (TTS) - Automatic speech recognition (ASR)
Media Support	Video Codecs	H.263 (RFC 2190), H.264 (RFC 3984 – MPEG4 part 10) VP8 (for WebRTC) MPEG4 Part 2 H.265[1] VP9[1]

		— QCIF to 720p, 1080p[1] — Up to 2 Mbps per stream — Up to 30 fps
	Audio Codecs	HD codecs: G.722, AMR-WB, OPUS, SILK[1]
		baseband codecs: G.711, G.729AB, AMR-NB
		Mid-call audio codec changes between NB and WB modes
		Voice activity detection, silence suppression, comfort noise generation
		5ms packetization for minimized delay
		Advanced Jitter Buffer Configurability
	Stream Connection	Full transcoding, transrating, and rate matching
		Packet forking, switching, and media replication (fan out) in support of applications such as Lawful Intercept
	Media over IP	RTP, RTSP streaming, RTCP, RTCP-XR, SRTP, Secure RTCP (SRTCP), RTP Redundancy (RFC 2198)
		IPv4 and IPv6 dual stack support
	IP QoS	DiffServ/ToS Markings (RFC 2474)
		Adaptive or programmable jitter buffer
	Security	SSH v1 and v2, SFTP, IPSec, HTTPS
Media Storage		For announcements, recordings, ringback tones, fax, and other multimedia content
		Audio/Video Container Formats: WAV, QuickTime™, 3GP
		TIFF Fax Storage Format
		Internal storage: Dependent on storage space on compute platform
		External storage: unlimited (via NFS/HTTP)
Network Interfaces		100/1000 BaseT Gigabit Ethernet (RJ45)
		VLAN Tagging
Redundancy		Ethernet/NIC Bonding
Network Management		Full management, configuration, and provisioning supported via SNMP v2c, v3 and/or web-based element management tools
		Permission levels by user role, Audit trail of user actions, password aging
		RADIUS authentication for Web UI access
		Rich alarms, logs, and statistics

Operating System Required	Red Hat Enterprise Linux 5.4, 5.5, 5.7, 6.4 (64 bits), or Oracle Enterprise Linux 5 (64 bits)
Virtualization Support	KVM
	VMware (including vMotion support)
Platforms Supported	Radisys ATCA Compute Module
	Dell R620
	IBM BladeCenter HS22
	HP Proliant BL 460c G6
	HP Proliant DL 360 G8
	Cisco UCS B200 M3
	Professional Services available to certify Software MRF on new COTS platforms

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White paper:
Transition to Cloud Video Conferencing

Download Now
White Paper: Media Processing in NFV Architectures
Video: Highlights from WebRTC Conference
Press Release: Advances in Real-time Communications Expands Role for Media Processing; Radisys' MPX Operating Software Provides Foundation for Monetizing Interactive Services

Additional Resources