MRFP

In today's world of disparate IP networks, operators need a highly scalable media processing and trans-coding platform that reduces operating costs and simplifies operations. The Ribbon Communications Media Resource Function Processor (MRFP) software is the industry's only software-based, cloud-native media processing and transcoding solution enabling interworking between an extensive set of networks and codecs.

Ribbon's MRFP provides high-density media processing and transcoding support in wireless and wireline, access and core, all- IP environments maximizing investment protection as networks migrate. The MRFP supports a comprehensive list of codecs including the mobile Enhanced Voice Services (EVS) and Adaptive Multi Rate-Wide Band (AMR- WB) codecs, and offers high density, transcoding and media interworking.

MRFP Key Attributes

- Offers high quality VoLTE Media Processing & Transcoding Solutions at scale and lowest TCO

- EVS codec support optimizes Radio Access Network capacity and provides enhanced voice quality beyond the AMR-WB codec-based HD Voice

- Deployable as "integrated" virtualized MRFP on industry-standard servers in a data center environment, or as "distributed" Virtual Network Functions (VNFs) in an OpenStack cloud infrastructure

- Deployable with Graphical Processing Unit (GPU) or Central Processing Unit (CPU) based transcoding

- Seamless interworking of appliance, software and NFV based Ribbon media and control elements

C3 Call Controller (MRFC) Highlights:

- Controls the MRFP
- Acts as SIP 4117 based Media Resource Broker Function
- Weighted average media node selection
- Codec Re-Ordering/Prioritization

Working in conjunction with MRFP, the virtualized C3 Call Session Controller, is a media resource controller/IMS MRFC that enables direct IP to IP transcoding between networks. Its extensive wireless and wireline codec support and SIP interfaces enable the C3 to be a centralized transcoding control platform for all networks, physically separating or decoupling media resource control from the media processing elements. This centralization allows transcoding resources to be efficiently sized and scaled according to network needs.

The MRFP also operates seamlessly with Ribbon Session Border Controllers (SBC), PSX (Centralized Routing Engine) and G9 media gateways.

Solutions Supported

- IMS Media Resource Function
- VoLTE Transcoding
- Enhanced Voice Services (EVS)
- IP eXchange (IPX)
- NFV

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Transcoding Services
- CPU/ GPU and CPU+GPU based high density codec transcode deployments
- Extensive codec support for wireline, wireless and OTT deployments:
  - Wireless:
    - EVRC, EVRC-B, AMR, AMR-WB, EVS, GSM-EFR
  - Wireline:
    - G.711 A-law/u-law, G.722, G.729, iLBC, G.723.1, G.726
  - OTT:
    - OPUS, SILK
- DTMF/ DTMF-HD interworking
- T.140 support
- Per device codec profiles
- Trans-rating / bitrate adaptation

FAX
- FAX Tone detection
- FAX interworking T.38 V0/V3, inband

Announcements and Tones
- Support for Progress and Treatment Tones

Voice Quality:
- Noise Cancellation
- VAD/ Silence suppression
- Echo Cancellation
- Adaptive Jitter control
- R-Factor / MOS Score
- RTCP RR/SR

Protocol Support
- Standard H.248 IP control protocol
- IPV4, IPV6
- SSH; SFTP
- SNMP; NETCONF; NTP
- HTTP/HTTPS
- RTP/RTCP
- UDP, TCP
- NTP per RFC-1708

Deployment Configurations
- Integrated with C3 for Media Resource Control Function (MRFC)
- Virtualized MRFP
- NFV OpenStack MRFP

Media/Network Services
- Rogue RTP detection
- RTP/RTCP inactivity detection
- Video Passthrough w Audio transcoding
- VLAN
- RTP/RTCP Scaling
- RTCP termination

Quality of Service (QoS)
- QOS and SLA Assurance
- Line-rate DOS/DDOS and malformed packet protection
- Comprehensive SLA management
- Bandwidth call admission control
- Per session network quality analytics: jitter, packet loss, latency, R-factor
- Per session network quality statistics
- DSCP packet marking for TOS / COS

Platform
- Debian (Guest OS), CentOS (Host OS)
- OpenStack
- AWS
- Hypervisors (KVM/ Xen)

Minimum Platform Requirement
- 20 vCPU, RAM 16GB and 80GB disk

Performance & Capacities
- Upto 30K simultaneous media sessions per MRFP VNF with elastically scalable Media processing VMs

Element Management
- Centralized quality and performance management
- Intuitive web based graphical User Interface (GUI) management with full FCAPS capability using Ribbon Element Management
- Command Line Interface (CLI) for local and SSH access
- Secure RADIUS based user authentication
- Role-based user access via secure HTTPS access
- SNMP V2 & V3 status and statistics
- Northbound REST API's

Contact Us We are here to help. Let us know if you are interested in a quote or if you have any questions.

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