Delivering Multimedia Communication Services with OCCAS and Radisys Media Resource Function (MRF)

A Partner Brief
The explosive growth of IP-enabled mobile devices is offering exciting new opportunities for generating revenues from interactive communications services, such as VoLTE, WebRTC, Video Value-added Services (VAS), and multimedia conferencing. Diversity in mobile devices and access technologies are introducing new HD audio and HD video codecs into modern communications. With the combined solution set of the Oracle Communications Converged Application Server and Radisys Media Resource Function (MRF), network operators and service providers can rapidly introduce and generate revenues from value-added multimedia communication services.

A Powerful Service Delivery Framework
The Oracle Communications Converged Application Server (OCCAS) is considered by many to be the premier converged Java EE-SIP-IMS application server, delivering a carrier-grade, open, standards-based development and deployment platform for next-generation communications applications. Over 125 network operators and service providers depend on OCCAS today to develop, deploy, and generate revenues from consumers and enterprise customers. However the shift from web and voice services to WebRTC and multimedia services is driving the need for specialized media processing capabilities, extending OCCAS capabilities to support HD audio and HD video across a broad range of media rich services.

Real-time communications needs IP media processing
Underlying the ability to develop and deploy interactive communication services is the requirement for real-time IP media processing of audio and video packet streams. Radisys is the industry leader in media resource function (MRF) technology and transcoding solutions for the telecommunications industry. The Radisys MRF family provides economical, feature-rich media processing solutions suitable for IMS, telecom cloud, or OTT communication services. Radisys offers a variety of MRF platforms, from virtualized solutions on KVM or VMware, installed on dedicated multi-core Intel servers, or delivered using carrier-grade hardware platforms optimized for central office environments.
Radisys WebConnect™ JAVA adapter for OCCAS

Radisys WebConnect™ JAVA is a JSR-309 compliant adapter that exposes the feature-rich media processing capabilities of the Radisys Virtualized MRF and MPX-12000 platforms to OCCAS developers. During runtime, Radisys WebConnect will translate JSR-309 media processing requests into SIP and RFC 5707 control commands compatible with any Radisys MRF. The result is a powerful optimized solution to support IP multimedia packet processing for a wide variety of interactive services and network transcoding use cases.

Media Processing Feature Summary

- Audio and video greetings, ring back tones, and announcements
- Audio and video recording and playback
- Audio and video conference mixing
- Audio and video transcoding
- Voice Quality Enhancements (VQE)
- Dual Tone Multi Frequency (DTMF)
- Multi-Language IVR (>45 languages)
- Audio/video forking and tapping for lawful intercept
- Active/standby MRF support
- Support for OCCAS cluster High Availability
Oracle OCCAS with Radisys MRF in an IMS Architecture

Amongst wireline networks, the migration of voice services from circuit-switched TDM architectures to next-generation IP networks is largely complete. In mobile networks, industry investment in LTE will accelerate the migration of 3G mobile circuit voice to IP-based VoLTE. An IMS architecture provides the flexibility to support legacy PSTN and 3G mobile circuit access (via gateways), with mobile and broadband IP access, along with enterprise IP VPNs through SIP trunking and interworking.

Radisys MRF platforms, controlled by the Oracle Communications Converged Application Server in an IMS services architecture, provides service providers and mobile network operators the infrastructure to offer differentiated, revenue-generating multimedia services, while leveraging network- and service-aware IMS policy control to offer subscribers a differentiated experience with high QoS.

Oracle OCCAS with Radisys MRF for OTT and WebRTC

OTT Interactive Communication Services, while not typically requiring an IMS architecture, can be deployed on the same principles. Oracle OCCAS with Radisys MRFs can be virtualized in a centralized data center, to support subscribers using a variety of OTT clients including iOS or Android devices. Similarly, Oracle OCCAS with Radisys MRF can easily support WebRTC clients running in HTML5 browsers on desktop or mobile devices.
Benefits of Radisys MRF for OCCAS media processing

Oracle OCCAS with Radisys WebConnect installed, and then combined with Radisys MPX-12000 and virtualized MRF platforms delivers the following benefits for Oracle OCCAS customers:

- **Multi-Service** – Radisys MRF delivers media processing support for a broad range of interactive multimedia services. Radisys calls this our OneMRF strategy – one MRF platform for all IMS, WebRTC and OTT communications services – delivering operational and economic benefits for service providers offering a broad range of services and helping to future proof their service infrastructure investments.

- **Multi-Codec** – OCCAS service developers can ignore the issue of incompatible endpoint codec technology. Radisys MRF supports a broad list of industry standard codecs, including AMR-WB for HD audio/VoLTE services, and VP8 video codecs for WebRTC.

- **Voice Quality Enhancements** – Radisys’s VQE capabilities encompass an integrated set of features designed to overcome common audio quality problems in VoIP/VoLTE services, including noise, packet loss and echo. Radisys MRF with VQE eliminates the need for stand-alone voice conditioning equipment, delivering additional savings for the service provider.

- **Multimedia Transcoding** – When an audio codec mismatch is identified during session setup, Radisys MRF will automatically apply audio transcoding. For video endpoints using different codecs, Radisys MRF applies video transcoding with transrating, including picture size, framerate, and bitrate adaptation. Transcoding is applied either automatically within a service context (like multi-point video conferencing for example), or for point-to-point network transcoding use cases.

- **VoLTE** – Radisys is a leader in VoLTE deployments around the globe. Our MRF products are compliant with VoLTE and Video over LTE service requirements, as defined in 3GPP IR.92 and IR.94 standards.

- **WebRTC** – Radisys' MRF is equally at home supporting WebRTC services as it is OTT and IMS services and when used in conjunction with Oracle’s OCWSC can be used to provide seamless interworking between all three subscriber bases and technologies.
Radisys MRF offers reliable scalability for OCCAS deployments

Radisys is unique in the industry by offering the industry’s most comprehensive range of media processing solutions, from entry-level single-server deployments, to virtualized media processing solutions, through to the DSP-based MPX-12000 Broadband MRF with industry-leading densities and capacities. Deploying OCCAS with a Radisys MRF platform ensures that the service provider can start small, yet scale very large. Radisys WebConnect JAVA for OCCAS is compatible with any Radisys MRF platform approach or solution.

World Class Technical Support

Radisys is a recognized leader in IP media server and IMS MRF technology. With over 10 years’ experience and 6 million ports deployed globally, Radisys has the experience and expertise to offer 24/7 support coverage for OCCAS installations around the globe.

Summary

Network operators and service providers have deployed OCCAS to support a growing variety of IMS, OTT, and web-based communication services, using an increasing number of modern HD codecs in the underlying IP media packet streams for these interactive services. Radisys is a leader in multimedia packet processing and transcoding services for the telecommunications industry. The combination of Oracle’s OCCAS, with Radisys MRF, integrated using Radisys WebConnect JAVA, offers OCCAS customers a proven media processing solution and technology partner whether you are migrating IN services to IMS, developing the next great OTT service, or bringing WebRTC-based visual communication services to your customer base.