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Oracle Communications Offline Mediation Controller

The rapid evolution of complex multiservice networks makes it imperative for communications and digital service providers to find efficient ways to collect raw data from their network and transform it into useful information. The efficient mediation of data is critical for accurate billing, rapid data movement, reporting and analytics.

Rich offline mediation and data processing

As a key component within Oracle's Cloud Scale Billing and Cloud Scale Charging and Billing solutions, Oracle Communications Offline Mediation Controller (OCOMC) is a carrier-class convergent charging mediation solution designed for wireless and wireline network types including 5G and hybrid 4G/LTE/IMS/5G networks as well as non-telco applications. It provides comprehensive network data collection, aggregation, and correlation and can also be deployed with third party billing and charging solutions.

Deployed by service providers around the world, OCOMC supports multiple services, protocols, and formats. It enables rapid time to market with carrier grade scalability and reliability.

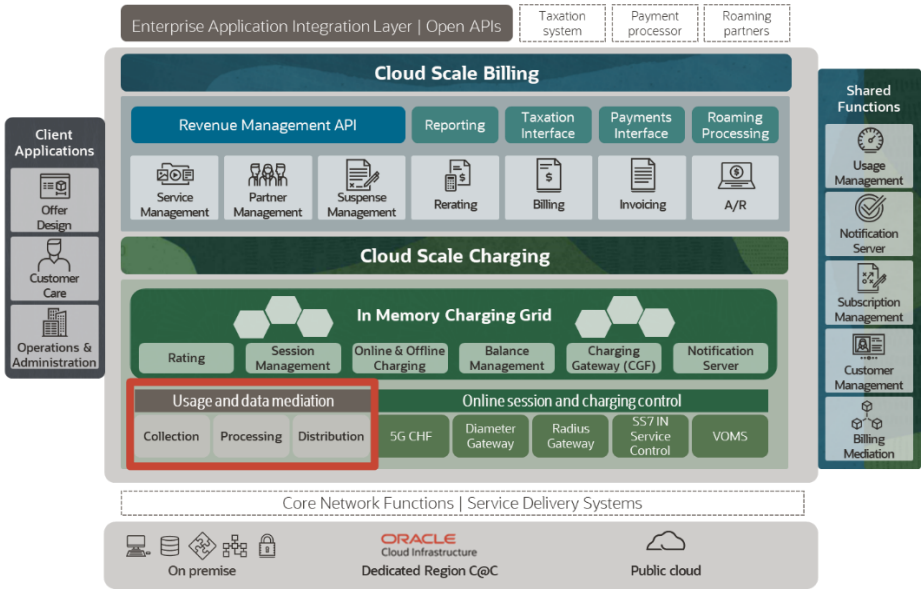

Image 1. OCOMC provides the functions circled in red within Oracle's Cloud Scale Charging & Billing solution.

Key benefits

Oracle Communications Offline Mediation Controller is a carrier-class convergent charging mediation solution designed for wireless and wireline network types including 5G and hybrid 4G/LTE/IMS/5G networks as well as non-telco applications. It provides the following key business benefits:

- Rapid time to market for all new services.
- Convergent support for multitude of services
- Easily configured and managed, highly extensible
- Carrier grade scalability and reliability
- Advanced functionality to meet the challenges of today and tomorrow

"Oracle is a global player, known for scalable solutions. Like us, it has a very large business footprint and long relationships with customers in almost every industry. It's also a pioneer in data and databases. It makes sense to use Oracle to support billing and revenue management, which depends on information that is timely and transparent".

Erik Brenneis
Internet of Things Director
Vodafone Business

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A flexible cartridge-based design

OCOMC provides a cartridge-based architecture that enables service providers to modify rules and support flexible pricing and packaging options for different services.

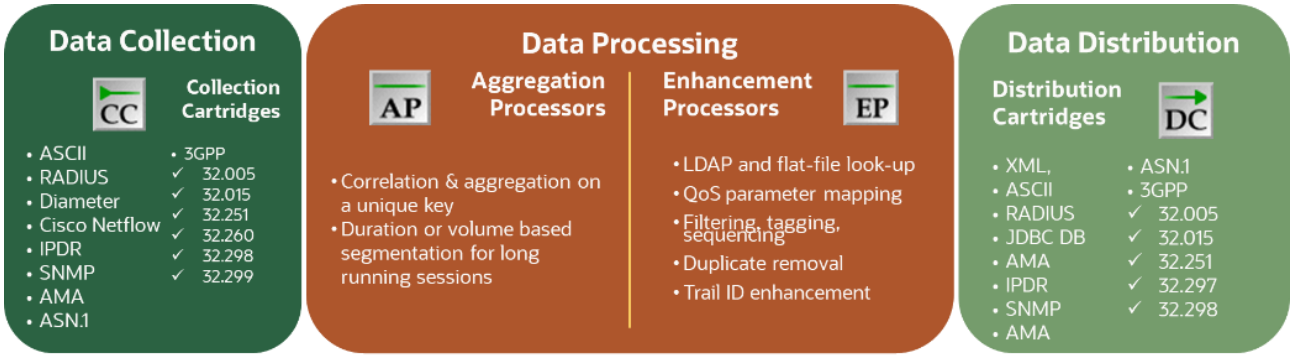

Image 2. Supported formats, protocols, and functions of OCOMC.

OCOMC provides the following types of cartridges:

- Five technology cartridge bundles supporting network technologies like IMS with Diameter, Packet Core with GTP' and Radius protocols
- Fifteen collection cartridges to collect and normalize data
- Five aggregation processor cartridges to correlate records from multiple sources and manage aggregation for long-running sessions
- Seven enhancement processor cartridges to add useful data to records and perform functions such as sequencing, tagging, filtering, validation, duplication removal and record analysis
- Sixteen distribution cartridges to distribute records to downstream operations support systems

OCOMC further provides:

- A record editor utility to edit records for the attribute values and reprocess the corrected records
- A cartridge development kit to develop cartridges in case the required functionality is not available as out of the box cartridges

Key features

- Native mediation with Oracle Cloud Scale Monetization solutions
- Highly flexible, configurable, extensible
- Intuitive GUI
- Record correction and editing
- Mediation assurance features
- Collect any usage type and source
- Rich mediation processing
- Distributed architecture for extreme robustness and scalability
- 64-bit processing
- Secured deployments with role-based access control and SSL support

Architectural agility

Designed with a distributed architecture with centralized administration and management, OCOMC can handle extreme scalability requirements. The product is architected to collect once – for any source, any format, and any protocol – and distribute many times. OCOMC provides role-based access control through its GUI and the mediation processes communicate using Secured Socket Layer (SSL) to ensure secured deployments.

Carrier-grade reliability

Reliability is mission-critical in collecting and transmitting the records that are tied to a company's revenue. OCOMC has many mediation assurance features

such as alarms which trigger after a configurable time period with no records or record counts collected throughout the entire mediation chain. No records are lost with fail-safe mediation and a record editor supports manual correction of failed records with a full audit trail and the ability to lock fields.

Cloud native agility

Service providers and enterprises are increasingly looking to deploy cloud native architectures to modernize and automate their IT operations. OCOMC provides a cloud native deployment option, supporting a Kubernetes-orchestrated containerized multi-service architecture to facilitate continuous integration / continuous delivery and DevOps practices. This allows increased agility and automation, higher availability, and lower operating costs. OCOMC can also be deployed as a non-containerized application if required.

Easily configured and managed, highly extensible

OCOMC is a GUI-based solution (image 3) which includes a cartridge development kit to facilitate ease of use, rapid configuration and building custom deployment specific cartridges. Users can easily configure functionality to create end-to-end mediation chains from collection-correlation to aggregation to validation to enhancement and other forms of pre-processing to distribution.

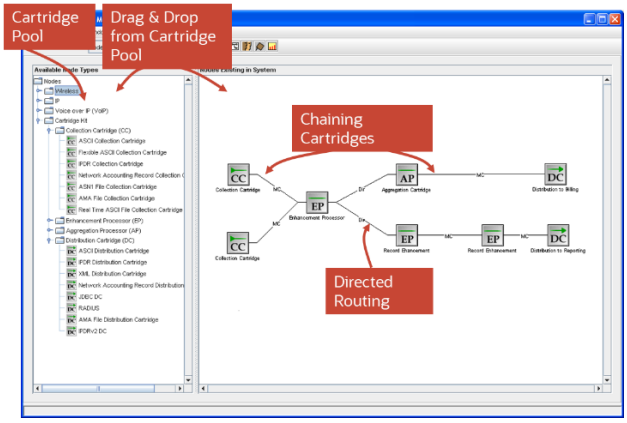

Image 3. OCOMCs graphical user interface provides ease of configuration

Each cartridge is rule driven and chained together using drag & drop configuration (image 3). Cartridges further have an inbuilt routing technique allowing data to be sent in one of the following modes – multicast, round robin, directed or modulus.

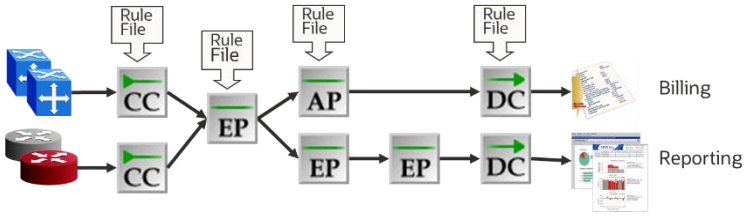

Image 4. OCOMCs provides flexible configuration where each cartridge is rule driven

Key cloud native features

- Kubernetes-orchestrated containerized multi-service architecture
- Choice of Open Container Initiative based Kubernetes runtime
- Helm charts simplify installation of OCOMC and its dependencies into a Kubernetes cluster
- Observability and logging framework support
- Choice of Oracle database: physical or containerized
- Utilize any CI/CD pipeline to support the rapid launch of differentiating services
- Incorporate OCOMC configuration and extension support
- Deployable on private clouds behind a firewall or public cloud infrastructure
- Supports industry standard cloud native technologies for volume / cluster networking and logging and monitoring
- Kubernetes services and deployments to enable simpler upgrades and configuration changes
- Efficient scaling utilizing Kubernetes inbuilt horizontal scaling

Rapid customization

OCOMC ships cartridges with many pre-built rule files that can be used as-is or modified according to the service providers custom set of requirements. Rule files are defined with Node Programming Language (NPL) – a simple programming language, similar to Java – and can also call Java methods or hook requests. Rules can be configured from the GUI or by using a text editor without needing to compile or re-build which increases speed to market while decreasing costs.

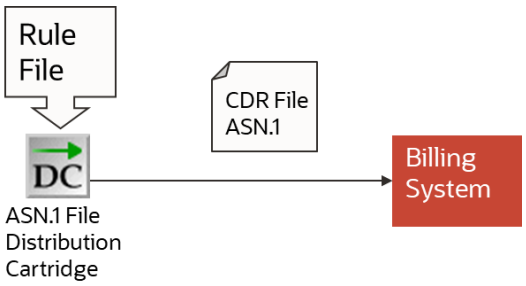

Image 5. OCOMCs supports rapid customization of rules without having to compile or re-build cartridges

Offline Mediation Controller REST Services Manager

Cloud native OCOMC can now be integrated with external client applications using the new REST Services Manager. It can perform the same operations as the NMShell application using REST APIs. This allows mediation processes to be automated and integrated with external client apps.

Summary

OCOMC is a carrier-class convergent charging mediation solution designed for wireless and wireline network types including 5G and hybrid 4G/LTE/5G/IMS networks as well as non-telco applications. It enables rapid time to market with carrier grade scalability and reliability.

Related Solutions

OCOM provides an integrated component of the following solutions:

- **Cloud Scale Billing.** Bill for anything at any scale with a cloud native mediation, billing, and revenue management system to invoice payments and manage subscriptions, collections, receivables, and settlements.
- **Cloud Scale Charging.** Charge for anything at any scale with a cloud native, network agnostic mediation and converged charging system powered by an in-memory grid. Interoperates with third party billing systems.
- **Cloud Scale Charging and Billing.** Monetize anything at any scale using pre-integrated charging, offer design, billing, revenue, and account management for accelerated time to cash and accountability across the entire revenue lifecycle for any service and business model.

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