ORACLE

Oracle Cloud Scale Charging and Billing

Communications service providers (CSP) are striving to pivot from telco to "techco" (technology company). Technology-centric CSPs offer more than just connectivity, they are moving up the value chain to provide guaranteed connectivity experiences as a foundation for cross-industry business offerings while diversifying revenue streams and becoming more competitive and efficient.

Monetize anything at any scale

As part of this transition, techco CSPs realize the need for scalable, converged charging and billing systems that enable them to monetize services or usage experiences. There is a focus on creating value for customers and businesses by incorporating new 5G pricing levers, such as speed, latency, and quality of experience (QoE). They need to be able to experiment and "fail fast" while scaling out successful offers using cloud infrastructure; all with accurate revenue accountability across increasingly complex value chains and business models.

To address these challenges, many tier 1 CSPs are investing in Oracle's Cloud Scale Charging and Billing – a proven, pre-integrated solution spanning mediation, 2G to 5G converged charging, billing, and end-to-end revenue management. The solution enables techco CSPs to monetize any network, service, experience, or business model, at any scale, using cloud infrastructure.
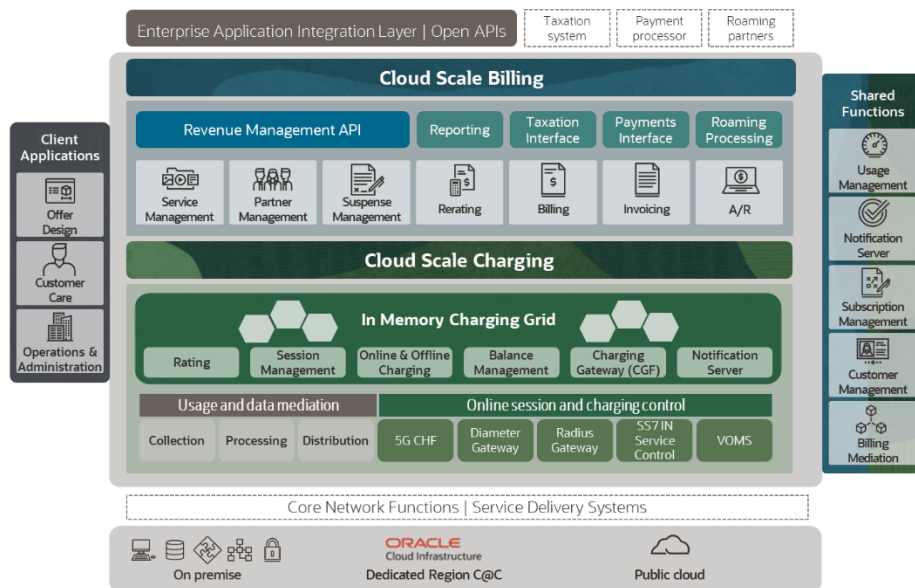

Image 1. The logical Architecture / IT view of Oracle's Cloud Scale Charging and Billing solution.

Key Business Benefits

Monetize anything at any scale with Oracle's Cloud Scale Charging and Billing:

- **Ready for 5G charging demands.** In-memory charging grid providing ultra-low latency, elastic scalability and unrivalled service continuity.

- **Harness IT agility and efficiency.** Cloud native deployment option takes advantage of modern compute and infrastructure environments.

- **Monetize value-based digital offers.** Combine charging models for the 5G multi-slice future with real-time experiences.

- **Accelerate the full revenue lifecycle.** Converged charging pre-integrated with revenue management and interoperation with 5G ecosystems using open APIs

"Oracle Billing and Revenue Management with converged charging and policies helps us better control deployment costs and enable continuous upgrades without disruption. The open architecture of Billing and Revenue Management also allows us to integrate other solutions without limitations as our business models and requirements evolve."

Yiannos Michaelides
Chief Information Officer
Cablenet

ORACLE

Converged charging system

Multigeneration offline and online charging system. Consolidate, protect, and grow revenue with a single offline and online charging system. Cloud Scale Charging is compatible with any fixed or 2G-5G mobile network for any service, payment type and business model. It is aligned with 3GPP standards and supports converged charging architecture in both standalone (SA) and non-standalone (NSA) 5G core networks using an HTTP/2 and Diameter gateway. SIGTRAN-CAMEL (circuit-switched voice and SMS) is also supported.
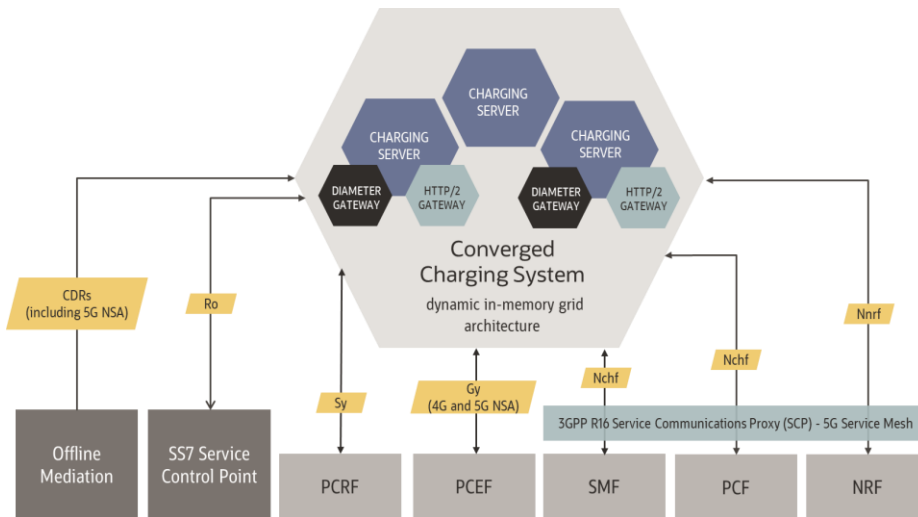

Image 2. Total convergence that supports core network integration with 2G-5G networks

Flexible pricing and offer schemas. Move beyond connectivity with pricing models that incorporate any unit or attribute combined with new 5G pricing levers in any account structure. Enhance customer experience with advanced data session charging that utilizes flexible quota allocation.

Distributed in-memory charging grid. Cloud Scale Charging is powered by industry-leading, in-memory data grid technology enabling low latency charging to be accurately processed with complete transactional consistency regardless of pricing or account model complexity.

Active-active mode. If there is a node, machine, or site failure, avoid disruption to business continuity. Federate the charging grid across a distributed dual-site deployment without dropping sessions or losing revenue/data.

Billing and Revenue Management

Flexible billing models. Support new services and business models including subscription billing, white label billing, and billing-on-behalf-of models. Includes flexible contract management to handle the complexities of revenue recognition.

Comprehensive billing operations. Ensure customer satisfaction with an accurate billing experience. Includes comprehensive management of payments, collections, invoicing, account receivables, taxation, general ledger integration, and reporting.

Key Product Features

- 3GPP compliant CCS supportive of both SA and NSA 5G core networks
- In-memory charging grid enabling extreme scalability with cutting-edge resiliency
- TM Forum certified pricing UI designed for the business user with intuitive, web-based navigation workflows
- Rate any metric or attribute
- Support any payment option
- Authorize all transactions in real-time
- Consumer, enterprise, and partner support with full partner settlement across complex value chains and network slices
- Modern architecture with cloud native foundations supporting DevOps agility and efficiency
- Comprehensive billing, revenue collection and revenue analytics
- Modern, secure web-based Billing Care and Business Operations Center applications
- Productized software that can be extended by developers with a fully documented and supported software development kit
- API framework to integrate with external applications such as self-service web apps, notification platforms, order provisioning, customer care and policy management
- Active-active dual-site disaster recovery (ECE)
- Kafka notification framework, Prometheus and Grafana metrics monitoring support

ORACLE

Support complex hierarchical structures. A central, unified solution for B2C, B2B, and B2B2X models. Easily launch offers with flexible group account plans, bill-time discounting, adjustments, recurring, usage and purchase charges.

Partner revenue settlement. Monetize any revenue stream while ensuring accurate accountability at every stage of the revenue lifecycle. Supports partner settlements for B2B2X business models.

Unified charging and billing

Single product catalog. Create centralized price plans for charging and billing components. Faster time to market with lower costs.

Single solution provisioning. Alleviate duplicated data, complex provisioning, and potential for issues across otherwise decoupled charging and billing systems. Open APIs do not require customization.

Single hierarchical structuring. Easily and rapidly create complex charging and billing structures. Eliminate creating identical structures across otherwise decoupled charging and billing systems.

Full revenue lifecycle management. Rapidly explore new business models with accurate revenue accountability from network authorization through to charging and billing across B2C, B2B and B2B2X offerings.

Image 3. Oracle's Cloud Scale Charging and Billing is a unified solution with unique benefits.

TM Forum alignment

Low code platform aligned with ODA. A productized platform that allows IT, network, and business units to work closely together. Low code configuration and pricing tools for non-technical business specialists enable rapid innovation.

Alignment with Open APIs. An Open API approach facilitates ease of integration with a modern digital experience and increasingly complex value chains, while offsetting any risk of vendor lock-in.

TM Forum SID certified pricing design. TM Forum certified pricing design enables business users to rapidly configure new offers using intuitive, web-based navigation workflows.

Integrate with existing product catalogs. Preserve investment in an existing TMF 620 product catalog and simplify operations with an integration framework that can accept state change notifications and provide data model support.

Solution Components

Oracle's Cloud Scale Charging solution is comprised of the following pre-integrated products:

- **Oracle Communications Elastic Charging Engine.** A digital experience engine that provides 3GPP aligned, real-time converged data and communications session charging and balance management. Natively integrates into Oracle's full suite of billing and revenue management capabilities, and designed in accordance with TM Forum principles.

- **Oracle Communications Offline Mediation Controller.** A carrier-class convergent charging mediation solution designed for multiple network types including 5G and hybrid 4G/LTE/5G networks as well as non-telco applications. It provides comprehensive network data collection, aggregation, and correlation.

- **Oracle Communications Convergent Charging Controller.** A highly scalable online charging control platform for SS7-based voice and messaging services, enhanced IN services and voucher management. Consolidate traditional silos onto a single cost-efficient platform with continued support while pivoting to 5G.

- **Oracle Communications Billing and Revenue Management.** A functionally rich product to support the ongoing process of analyzing, evaluating, and optimizing each phase of the revenue lifecycle required by service providers across industries. Provides complete insight and intelligence into the revenue relationships that customers have with their service provider and partners.

ORACLE

Operating at cloud scale

Cloud native. Deploy in a containerized and orchestrated environment to harness cloud infrastructure and DevOps CI/CD tooling. Accelerate innovation, operate more efficiently, and scale as business needs grow.

Harness industry standard observability. The entire solution uses a Kafka notification framework and Prometheus metrics monitoring that can be visualized in Grafana or any similar metrics visualizer of choice. This enables simplified operations and a real-time operational view.

Flexible deployment models. Includes comprehensive dual-site deployment options engineered to meet disaster recovery and business continuity needs. Deploy on private clouds behind a firewall or public cloud infrastructure.

Verified cloud scale performance. Cloud native performance tests demonstrate low latency, high transaction throughput and efficient resource utilization while supporting linear scalability.

Summary

Monetize anything at any scale with Oracle's Cloud Scale Charging and Billing:

- **Ready for 5G charging demands.** In-memory charging grid providing ultra-low latency, elastic scalability, and unrivalled service continuity.

- **Harness IT agility and efficiency.** Cloud native deployment option takes advantage of modern compute and infrastructure environments.

- **Monetize value-based digital offers.** Combine charging models for the 5G multi-slice future with real-time experiences.

- **Accelerate the full revenue lifecycle.** Rapidly explore new business models with unified converged charging and billing. Facilitate interoperation with 5G ecosystems using open APIs.

Recommended Deployment Modes for Core Components

Engineered to meet your business continuity needs:

- Elastic Charging Engine: active-active

- Billing and Revenue Management: active-hot standby

- Pricing Design Center: active hot standby

Verified Cloud Scale Performance

In a cloud native performance test* for 100 million subscribers using Oracle Cloud Infrastructure, Oracle Cloud Scale Charging demonstrated wide area active-active deployment with extremely high performance across two sites. This gold standard business continuity architecture was deployed across two data centers located in the West and East coast of the USA with 50 million subscribers on each site with bi-directional charging grid data federation. The test used realistic traffic profiles and demonstrated large scale rated event generation with low single digit charging latency.

[Read the full report](#)

Connect with us

Call +**1.800.ORACLE1** or visit **oracle.com**. Outside North America, find your local office at: **oracle.com/contact**.

- blogs.oracle.com
- facebook.com/oracle
- twitter.com/oracle

ORACLE