

A Cloud Native Converged Policy Solution for 4G & 5G

Operators have long sought a revenue stream beyond connectivity to offset subscriber saturation and competitive pricing pressures. To this end, policy management will become increasingly more important as operators strive to monetize customized and differentiated services while making the most of cloud native technologies and what 5G has to offer.

CONVERGED POLICY MANAGEMENT PLATFORM

Policy management in the 5G control plane will grow in importance as organizations strive to customize use cases and rapidly deploy new services that make the most of what 5G has to offer. Oracle Communication converged policy management cloud native platform takes the policy designing experience to the next level by providing ultimate flexibility, extensibility, modularization to rapidly and securely deploy new policies supporting different and existing use cases. The converged policy solution supports both 4G and 5G networks, thereby helping operators to manage their heterogeneous network in an intuitive and consistent manner, while enabling seamless interworking and migration between 4G and 5G.

EVOLVING TO 5G AND ITS IMPLICATIONS ON POLICY MANAGEMENT

The 5G policy framework has expanded its functionality with a more coherent and unified policy across the network with the Policy Control Function (PCF) as its brain, providing all types of policies from the ones it traditionally provided in 4G (e.g. QoS, charging) to mobility management, network access and UE route selection. It also helps to dynamically route low latency applications to edge data networks all the while taking network data analytics and slice information into account to provide the most adequate policies to minimize network resource utilization while maximizing the user's quality of experience. A 5G policy solution will need to flexibly manage different domain specific policies; be granular enough to manage individual services and be capable of managing diverse services across slices. By logically separating virtualized network resources into specific slices, doors open to new services like network-as-a-service (NaaS) and ultimately more differentiated, personalized customer offerings. With custom-fit network slices, new use cases will capitalize on

“In trials, the Oracle 5G PCF solution performed beyond expectations and met our discerning metrics for driving the success of our upcoming 5G deployment. After six years of successful partnership with Oracle in the 4G realm, we look forward to continuing the partnership with Oracle in the 5G domain and as we move to deliver new, innovative offerings to our customers.”

Gwangwook Lee
VP Core Network Strategy & Planning
Department
KT Corp.

5G's high bandwidth, massive connectivity and ultra-low latency (i.e., Augmented Reality and Virtual Reality, Connected Cars, Smart Factories, and Smart Cities).

The Oracle Communications Policy Management solution is a cloud native policy solution encompassing both, a 4G Policy and Charging Rules Function (PCRF) and a 5G Policy Control Function (PCF) as a unified solution enabling an operator to design, test and deploy services in an intuitive, user friendly fashion, significantly shortening service delivery time. It helps operators determine how and under what conditions subscribers and applications use network resources thereby minimizing network utilization while maximizing the user's quality of experience. It is designed so that operators can add and re-configure the triggers, conditions and actions governed by policies, such as subscriber tiers and entitlements, and bandwidth and data volumes. Oracle's cloud native policy solution supports deployments into any cloud, including containers on bare metal managed by Kubernetes or containers on VMs managed by OpenStack or the like. Oracle's 5G offering includes 5G Non-Standalone (NSA) and Standalone (SA) deployments enabling 5G use cases such as enhanced Mobile Broadband (eMBB), ultra-Reliable Low Latency Communication (uRLLC), Mobile Internet of Things (mIoT) and User Equipment (UE) policies.

WHY A CLOUD NATIVE UNIFIED POLICY FRAMEWORK

The evolution to a new 5G Core is different from previous mobile network generations, since 5G introduces a number of innovative and disruptive networking paradigms, many of which had not been applied to mobile networks in the past. Deployment of 5G NSA extends LTE network beyond 2025. In fact by 2025 the percentage of 4G connections is projected to hit ~59% with 5G accounting for 15% of total connection¹. A Cloud native policy solution helps to avoid multiple platform migrations and leapfrogs the policy solution directly to the industry defined target Service Based Architecture (SBA). The Oracle converged policy solution allows operators to support their current LTE and 5G NSA (option 3x) deployments and be ready to support 5G core and additional 5G services with a modest runtime update, as simple as a configuration change. This approach will allow communications service providers to focus on investing in 5G business cases that will yield results in the near term, with plans to evolve as 5G technology proves itself in global deployments.

ORACLE COMMUNICATIONS CONVERGED POLICY SOLUTION

Oracle Communications Converged Policy platform is a one stop solution for managing policies in a 4G/4G+*/5G network. Designed and built as microservices on cloud native principles, Oracle Communications Converged Policy Management Platform uses network, subscriber and service information to help service providers create policies. With more than 60 global deployments with Tier 1 Operators for the past 10 years, the solution supports both 4G PCRF and 5G PCF with a consistent, intuitive policy design, testing, and deployment environment for a smooth and seamless evolution to the 5G core network. It also provides Operators with a subscriber database and a highly available, redundant and horizontally scalable data tier for storing stateful information.

For more information on the Oracle Communications Converged Policy Solution along with the rest of Oracle Cloud Native 5G Core Network Functions visit: <https://www.oracle.com/industries/communications/solutions/5g-next-generation-core/>

*4G+ reference to a cloud native microservices based architecture for 4G network functions

Key Business Benefits

- Intuitive, extensible and flexible policy design and testing framework to enable rapid operator defined policies and service delivery across 4G/5G
- Seamless support for both 4G EPC and 5G Core network
- Event based policy management independent of the subscriber session based in 4G EPC or 5G Core.
- Deployment flexibility, containers or bare metal in Oracle or any other Cloud.
- Reduces the cost of managing 4G/4G Cloud Native/5G networks

“By delivering a solution that addresses 5G policy requirements and underpins KT Corp's leading 5G transformation, Oracle is staking a claim to leadership in the 5G core.”

Andy Hicks
Principal Analyst
GlobalData

Key Features

- Compliant with the latest 3GPP Release
- Leverages a common Oracle Communications Cloud Native Environment
- Packaged to support VM-based and container-based cloud infrastructure
- Integrated with DevOps workflows, supporting CI/CD
- Integrated with Kubernetes and 5G cloud native environment
- Supports all legacy DIAMETER interfaces
- Easy integration with operators existing systems by flexibly connecting with operator's various data sources simultaneously
- Packaged to support VM-based and container-based cloud infrastructure

¹ Global Mobile Trends 2020, GSMAintelligence.com

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