

Network Policy as a Service

The surge of data traffic, largely driven by Over-the-Top (OTT) providers, has put the Communications Service Providers (CSPs) in an unenviable position of needing to spend more in OPEX and CAPEX to receive less revenue. OTT providers are gaining increasing mind and wallet share with the customer base even though they have a limited ability to control the quality of experience. CSPs have network assets that could be used in collaboration with the OTT's to enrich the customers' experience but often these assets are inaccessible to outside parties. The Network Policy as a Service (NPaaS) solution securely exposes QoS and data session charging to enrich the customer experience and enables the CSP to participate in the OTT revenue stream.

CSP DECLINING REVENUE

For many Communications Service Providers (CSPs), revenue is flat or decreasing while at the same time they are faced with increasing operational expenses driven by the need to support the explosion of data traffic that flows through their network. Data has created a disruption in the CSP's network with some operator's reporting that while data accounts for 90% of the traffic it only contributes 30% of the revenue. With much of the data originating from Over-the-Top (OTT) provider's, who have gain significant mind-share and wallet-share with the customer, the CSP's opportunity to participate in this revenue steam is limited and their value as a data transport provider is diminished as the price per megabit of data continues to fall.

With voice revenue continuing to fall and data traffic growing at a 66% CAGR¹, this trend will continue to weigh on CSP's revenues. However, as data traffic continues to grow, we are also seeing a shift in the type of traffic being transported, with video accounting for up to 78%¹ of all mobile traffic by 2021 according to industry projections. Video for entertainment purposes and critical business purposes such as surveillance and video conferencing often require managed bandwidth and differential data session charging to ensure that a quality customer experience is delivered.

CSP's possess network assets that have the ability to enrich CSP, as well as, OTT data services through managed bandwidth and differential data session charging, however, these assets are often difficult to access for internal services and they are totally inaccessible to partner services. The inability to make these valuable CSP assets available prevents the CSP from monetizing network

Key Features

- Expose network policy and data session charging via a web services API
- 3GPP interface support for wireless networks
- PCMM interface support for cable networks
- Automated partner on-boarding and management
- Comprehensive service level agreement enforcement

Key Benefits

- Fast time to market and increased revenue by leveraging a productized, telco-grade solution
- Control the quality of experience for bandwidth sensitive services
- Enable per data session differential charging
- Accelerate internal service development
- Leverage partners to expand the breadth of service offerings
- Monetize network assets

¹ Cisco VNI Mobile Forecast, 2017

assets and participating in the OTT revenue stream while at the same time missing an opportunity to enrich the customer's quality of experience.

NETWORK POLICY AS A SERVICE

In a recent survey by Telecoms.com of 2,100 industry professionals, QoS (e.g. premium bandwidth and latency) and creating special data tariffs for OTT apps and services were ranked as the two highest value CSP capabilities for OTT services². The Oracle Communications Network Policy as a Service (NPaaS) solution is designed to safely and securely expose network policy assets to enable CSP, as well as, partner services to manage QoS and create differential charging for data sessions. NPaaS enables the CSP to monetize their network assets by allowing partners to enrich their customer's quality of experience in exchange for participation in the OTT revenue stream.

The NPaaS solution allows the CSPs and OTT partners to easily control the customer's experience from a securely exposed web services interface, enabling a variety of bandwidth sensitive and mission critical data service on telco and cable network including:

- Video entertainment
- Telemedicine
- Video conferencing, and
- Surveillance

In addition, with NPaaS' ability to control data session charging, the CSP and OTT partners have the ability to apply specific rating on a per data session basis to either; 1) offer a specific rate plan for a service, or 2) charge the producer of the data instead of the customer. Charging the producer of the data for the delivery instead of the customer, or "sponsoring" the data can increase utilization of a service and increase brand value. Surveys have indicated that 80% of mobile users avoided using an app due to data limit concerns and 71% of men and 62% of women would use more mobile data if it was sponsored³.

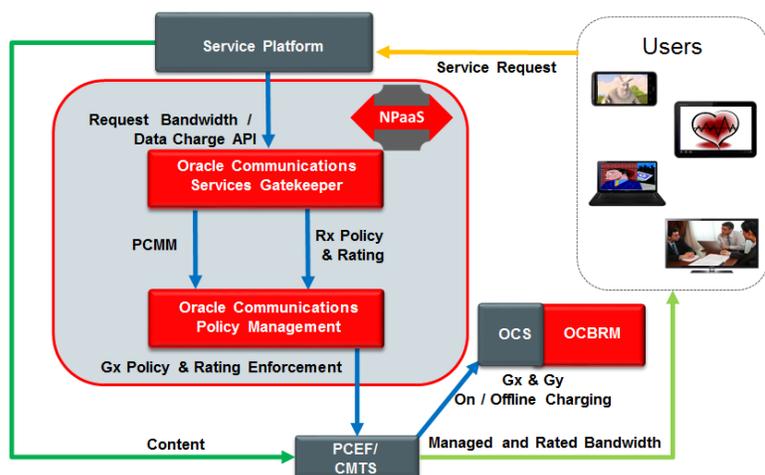


Figure 1. Network Policy as a Service

RELATED ORACLE PRODUCTS

Oracle Communications offers a large portfolio of proven carrier grade products that improve the customer experience and accelerate revenue return. A few of the products related to the Network Policy as a Service solution include:

- Oracle Communications Services Gatekeeper
- Oracle Communications Policy Management
- Oracle Communications Billing and Revenue Management

² Telecoms.com Intelligence Industry Survey 2014

³ "Sponsored data model gets consumer backing, according to survey", European Communications, April 16, 2014

Built on proven carrier grade technology the NPaaS solution combines the industry-leading API exposure and policy management platforms – the Oracle Communications Services Gatekeeper and the Oracle Communications Policy Management - for unmatched capabilities and performance in telco and cable networks.

EXPOSING POLICY WITH ORACLE COMMUNICATIONS SERVICES GATEKEEPER

Oracle Communications Services Gatekeeper allows CSPs to provide internal application developers, partners and third-party developers access to its key value-added capabilities as well as third party APIs in a controlled, secure, optimized, and automated fashion, while providing robust customization and extensibility. Oracle Communications Services Gatekeeper delivers a converged service exposure layer, providing CSPs the choice and flexibility of using Web, Service Oriented Architecture (SOA) or telecom interfaces to expose their network capabilities to third party partners. This proven, telco-grade service exposure platform is based on IT, Web and telecom industry standards such as Java Platform, Enterprise Edition (Java EE), SOA, Parlay X, Session Initiation Protocol (SIP), Diameter, OAuth, Simple Object Access Protocol (SOAP), and Representational State Transfer (REST)-ful Web Services.

Oracle Communications Services Gatekeeper provides CSPs with the powerful ability to control any third-party partner's access and usage of its network capabilities using a centralized access control, policy and SLA enforcement mechanism. By providing a common authentication, authorization and access control mechanism across all internal and external applications, Oracle Communications Services Gatekeeper enables CSPs to implement a single point of access to the underlying telecom network capabilities for any type of Service Façade. Once authorized, all requests are processed by the Resource Manager and Service Interceptors, which provides the centralized policy and SLA enforcement, and traffic management mechanism, including support for composite service SLAs. CSPs can also control how subscribers customize and personalize their interactions with third party partners and developers using subscriber-centric policies.

CSPs are rapidly expanding their third-party partner ecosystems to include Web and IT developers, in addition to traditionally telecom and mobile content developers. Within many CSPs, the management of these partners is performed in a non-scalable, manpower-intensive, and time-consuming fashion leading to high operational costs. To solve this problem, Oracle Communications Services Gatekeeper provides a dedicated portal and a web services-based Partner Relationship Management interface to enable CSPs to automate a wide-range of partner on-boarding and management tasks. It supports the handling of partner registration, service activation and provisioning, and easy access to partner account and SLA-specific information. In addition, Oracle Communications Services Gatekeeper provides a SLA editor allowing CSPs to quickly and easily create and modify SLAs. These capabilities enable CSPs to reduce the operational costs of managing multiple ecosystems of third party developers and partners.

MANAGING POLICY WITH ORACLE COMMUNICATIONS POLICY MANAGEMENT

Oracle Communications Policy Management is a sophisticated policy and charging rules function (PCRF) designed to shape detailed policies that determine how and under what conditions subscribers and applications use network resources. It is designed so that operators can easily add and re-configure the triggers, conditions and actions governed by policies, such as subscriber tiers and entitlements, bandwidth and data volumes, etc. Service providers become empowered to control Quality of Service (QoS), charging, quota, optimization, and admission control. They also more readily manage policy rules between applications and policy enforcement points such as 3G/long term evolution (LTE) access gateways, deep packet inspection (DPI) systems, on-line charging systems, content optimization solutions, and operations support systems (OSS)/business support systems (BSS). The product's unique natural-language approach means more business people in an organization can manage what can become hundreds of policies across multifarious networks,

whether fixed, mobile, or cable. Additionally, the product can act as a Third Generation Partnership Project (3GPP) PCRF or a resource and admission control subsystem / policy decision function (RACS/PDF). It can also be deployed with a 3GPP-compliant Subscriber Profile Repository (SPR) to allow storage of subscriber information, such as rate plans, and it can also be deployed with a 3GPP-compliant Diameter routing agent to load balance across multiple policy servers.

As part of Oracle's Network Policy as a Service Solution or as a stand-alone PCRF the Oracle Communications Policy Management enables the CSP to:

- Align revenue and network costs with network usage patterns
- Create application-specific services tailored to customer segments
- Deliver engaging broadband communications services
- Generate new revenue with special service packages
- Hands-off calls and data transmission seamlessly between fixed and mobile networks
- Support for all access network types and devices with a single platform

ORACLE'S NETWORK POLICY AS A SERVICE SOLUTION

Oracle's Network Policy as a Service (NPaaS) solution brings together proven carrier grade technology to enable the CSP to not only enrich the customer experience but to also reduce churn and participate in the OTT revenue stream.

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