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ORACLE SERVICE DELIVERY PLATFORM

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KEY FEATURES

- Carrier-grade service layer infrastructure
- SOA for convergence
- IMS ready
- Hot pluggable architecture
- SIP and Parlay support
- Out-of-the-box services
- Unbreakable grid infrastructure

KEY COMPONENTS

- Oracle Communication and Mobility Server
- Oracle Network Connectivity Server
- Oracle Communicator
- Oracle Virtual PBX
- Oracle Residential VoIP

The Oracle Service Delivery Platform (SDP) is a standards-based software environment for the design, development, deployment, and management of services that lie at the heart of IT and network convergence. Services include messaging, rich multimedia and next generation services such as Virtual PBX, IPTV and fixed-mobile convergence voice calling. The Oracle SDP gives operators and ecosystem partners the ability to accelerate service innovation, consolidate application silos for reduced costs, and leverage widely-adopted IT practices.

Introduction

Over the last decade, the advent of IP and the evolution of circuit switched to packet switched networks have fundamentally changed the playing field for operators. The cost advantages of IP over circuit switched, combined with the maturity of IT infrastructure has created a new environment for operators that can be characterized as both the best and worst of times. On the one hand, new services and service bundles, such as triple-play (data + voice + video) can be deployed ever faster to customers for the possibility of generating additional ARPU (average revenue per user). On the other hand, new entrants such as Yahoo!, Google and Vonage are putting unprecedented pressure on the traditional revenue mainstay – voice.

In this environment, a service delivery platform based on IT standards will permit operators, content providers and service providers to quickly develop new, compelling, revenue-generating services that are both highly available and carrier grade – the telecom analogue of having one's cake, eating it and losing weight all at the same time.

Meanwhile, enterprises are anxious to capitalize on the reduced communication costs and advanced collaboration services made possible by these same advancements in IP networks. By migrating to a VoIP (Voice Over Internet Protocol) infrastructure for communication, enterprises can consolidate their networking operations and chooses from a variety of interoperable components based on open standards. In addition, this infrastructure enables rapid deployment of new tools to quickly reach customers and employees, such as click-to-dial and presence-enabled communication.

To retain their customers, operators and service providers will increasingly need to

differentiate themselves based on the bundle of services they provide and the price points for those services. In many instances, only the early providers of a service will achieve profitability; flexibility, speed of deployment and pricing will be crucial to drive early adoption. Service providers failing to deliver compelling new service offerings will be punished by fierce competition and consequently experience falling customer loyalty and reduced revenue.

Operators, content providers and industry pundits have all struggled to predict the next killer app or service, from underestimating the success of SMS to over promising on MMS. Instead, success depends on enabling a powerful service creation environment for content providers to rapidly develop, deploy and monetize a variety of exciting new services, letting the market choose the winners. Therefore, it will be crucial for service providers addressing next generation services to have efficient tools and technology enabling speedy development, deployment and execution of these demanding next generation services.

Learning From the Past

The revolution confronting communications today has similarities to the introduction of the Internet during the 1990s. At that time, the opportunity to open up previously closed systems to their customers and partners led many companies to invest in standards-based middleware technology such as J2EE application servers that provide a platform for the development, deployment and execution of Internet services. Today, there are thousands of solutions and millions of developers that imagine, build and deploy Internet services using the J2EE standard.

Likewise, the introduction of IP based networks and standards such as SIP (Session Initiation Protocol) set the stage for the next generation of communications. Service providers are looking to SIP servers to power their applications while a broad set of developers will be empowered by the simplicity of SIP based development.

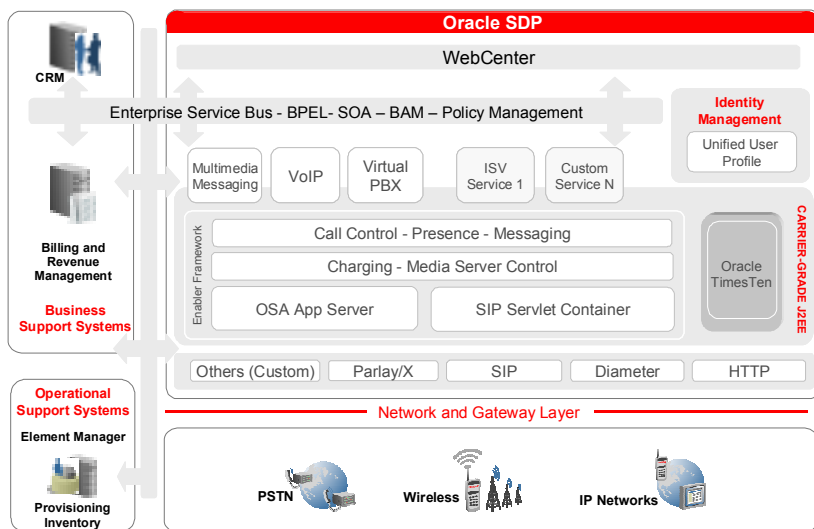


Figure 1. Oracle Service Delivery Platform components and interfaces

The Oracle Service Delivery Platform

The Oracle Service Delivery Platform (SDP) is a standards-based environment for the design, development, deployment, and management of services that lie at the heart of IT and network convergence. SDP is a natural extension of Oracle Fusion Middleware into the service delivery arena. In particular, the SDP has the following features:

- A future-proof carrier-grade execution environment for services that access next-generation, traditional networks and a combination of both. Carrier-grade features include latency optimization, geographic redundancy for failure protection, and in-flight upgrades.
- Components that bring SOA (Service Oriented Architecture) principles to a service delivery context by enabling orchestration, policy enforcement and composition.
- A service gateway that allows partners controlled access to critical network resources with SLA enforcements.
- Out-of-the-box services built on the standards-based platform that can be used to demonstrate immediate ROI.

SDP opens up the network to a vast community of services and developers without sacrificing the management, security and control necessary to deliver the quality of service the telecom industry demands.

Full Life-Cycle Support

Customers will be able to use SDP for the full life cycle enablement of their services – starting from design and development all the way to deployment, application upgrade, management and SLA enforcement.

Standards-Based Architecture

Open standards defined by the JCP, IETF, 3GPP, OMA, W3C and Oasis are at the heart of the SDP. From a network interface perspective, SDP will provide extensive support for Next Generation Networks (NGN) via SIP and for traditional networks through Parlay and Parlay X.

The Open Mobile Alliance (OMA) has specified an architecture, the OMA Service Environment (OSE), which defines the necessary enablers for service creation and deployment as well as the interactions between the enablers. Overall, the SDP can be viewed as the J2EE realization of the OMA Service Environment (OSE) as defined by the Open Mobile Alliance. The SDP will also support:

- SIP Servlet programming model
- Generic adapter framework for supporting connectivity to network elements
- Out-of-the-box enablers that comply with the OMA specifications
- Standards-based framework for developing additional enablers
- Standards-based rules environment for policy enforcement

Enabler Framework and Enablers

Enablers in the telecom world are similar to components in the IT environment – standardized, re-usable building blocks that provide a level of abstraction for service developers. For example, a call control enabler would provide the ability to set up a call across PSTN and NGN. An SMS enabler would provide the ability to send an SMS while supporting a number of different delivery mechanisms and protocols. A charging enabler would provide the ability to develop custom charging capabilities for an application. The SDP will provide both out-of-the-box enablers and a standards-based, general-purpose framework for building additional enablers that are specific to an operator's needs.

Integrated User Profile

By leveraging Oracle Identity Management, the SDP can provide a unified view of the user by consolidating user data from a variety of disparate systems at runtime. As service providers deploy triple-play and quad-play packages, being able to access unified subscriber data and profiles will enable highly-personalized services and simplify the complexity of maintaining the consistency of this data. A unified user profile (UUP) is the only way to ensure that as networks converge, a single, consistent view of subscriber preference and profile is available. UUP is therefore key to convergence and Oracle's Identity management offerings provide a firm basis for providing access to a unified user profile at the service layer while aggregating the profile and subscriber information from multiple, fragmented data sources. The Oracle SDP also includes interfaces into partner solutions for Home Subscriber Systems (HSS), the database of all subscriber and service data in an IMS (IP Multimedia Subsystem) based network.

SOA for Telecom

IMS (IP Multimedia Subsystem) can be described as bringing SOA methodologies and technologies to the service delivery environment. The SDP leverages the Oracle SOA Suite and industry-leading components such as Oracle BPEL Process Manager for process orchestration, a high-performance rules engine, and Oracle Web Services Manager. In addition, SDP provides an out-of-the-box service gateway solution to manage access from external content providers who want to deliver content through the services provider's network. Pre-built policies will be available for authentication, authorization, charging, etc., in addition to a declarative framework for developing custom policies.

OSS and BSS Integration

Inevitably, every service deployed requires integration to BSS or OSS systems, for example: access to CRM for customer care and management, the HSS for customer profile information, balance management for credit authorization and core financials for revenue clearing. Based on Oracle's extensive experience providing both BSS and OSS solutions as well as middleware integration technologies, the SDP offers a comprehensive integration platform that can be used to connect to any existing system, be it a third party packaged solution or a custom-developed application.

ORACLE SERVICE DELIVERY PLATFORM

RELATED PRODUCTS AND SERVICES:

Oracle Fusion Middleware is a portfolio of leading, standards-based, and customer-proven software products that spans a range of tools and services including J2EE and developer tools, integration services, business intelligence, collaboration, and content management. These products provide the core infrastructure for the development, deployment and execution of today's demanding services.

Oracle Carrier-Grade Framework is an end-to-end suite of Oracle data management products, from large-scale Oracle Database 10g and Real Application Clusters (RAC) to the Oracle TimesTen In-Memory Database for real-time data management.

RELATED SERVICES

Oracle and our partners can offer a complete end-to-end implementation of the Oracle Service Delivery Platform.

- Applications built on the Oracle Service Delivery Platform
- Integration into existing and future networks
- Integration with OSS/BSS systems
- Analysis of possible service offerings including ROI assessment

Out-of-the-Box Services

The SDP includes a set of basic next generation services and applications that Service Providers can use to demonstrate immediate ROI:

- Oracle Presence
- Oracle Communicator PC Softphone
- Oracle Virtual PBX
- Oracle Residential VoIP

Hot Pluggable

Many operators have already made significant investments in components that make up a complete SDP or IMS architecture. As a standards-based platform, components of the SDP can be deployed on existing infrastructure, such as application servers.

Summary

In conclusion, the Oracle Service Delivery Platform (SDP) enables the rapid development, deployment and management of lucrative next generation IP-based services. Built on standards and leveraging Oracle's industry-leading Fusion Middleware technology and Unbreakable Grid infrastructure, the Oracle SDP brings SOA technologies and methodologies to the service delivery environment. The rich set of out-of-the-box enablers combined with a comprehensive framework for service creation allow service providers to generate revenue today while preparing for the content and services of tomorrow.

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