Oracle’s Over-the-Top Communications Solution

Real-Time Communications Delivery Over the Internet
Web 2.0–based social networks and the rapid rise of mobile apps have dramatically altered the communications industry. Concurrent with this disruption, service providers are also challenged with moving their service infrastructures to more modern, flexible, and cost-effective architectures.

OTT communications refer to the delivery of real-time communication services, applications, and features “over the top” of the internet. Service providers can leverage their core strengths while using OTT communications to become more competitive, generate new revenues, and increase their importance to customers—all while evolving their service delivery architectures to be weblike and future ready.

Historically, service provider customer access networks have been limited to local licensed geographic areas with tightly controlled and regulated services that take years to develop and deploy. Internet-based services, in contrast, are inherently global and not limited by geography. Although operators lose some control of their traffic over the public internet, they gain speed to market, agility, and a global footprint by expanding and developing new services to run OTT. With nearly 2 billion people accessing the internet—via more than 1.4 billion personal computers and 1.4 billion mobile internet devices—the internet user base presents an enormous opportunity for service providers to expand their global footprints, enhance existing subscriber services, and generate revenue from new services and applications.

Challenges

Although internet service delivery represents an enormous opportunity for service providers, it also presents many challenges, including the following:

- **Network cost.** The core session delivery platform must be cost effective to be competitive, even in early trial phases. It must able to cost-effectively scale from dozens to millions of users in a short time period.

- **Service quality.** Service providers need to deliver a consistent user experience across various devices and networks. They must also be able to reach users wherever they are—even if they are behind restrictive firewalls and switching between networks.
SOLUTION APPLICATIONS
- Remote web-based or app-based voice, video, and messaging
- Browser-based client extensions
- Click-to-call from within web browser
- Real-time communications features embedded in noncommunications apps
- Developer enablement, offering network hooks for the development of new OTT communications apps and services

FEATURES
- Proven, robust, secure border control
- Cost-effective, dynamic, weblike Core session management
- Robust firewall and NAT traversal including TSCF support for mobile apps
- WebRTC and Adobe Flash support

BENEFITS
- Revenues from new and expanded services
- Future-ready core session management
- Increased competitiveness and agility

Flexibility. The traditional model of static infrastructure for services deployed over years and used over decades is no longer applicable. Service needs can change rapidly, and the service delivery network must be open and extensible so that service providers can react just as quickly.

Security. Popular services inevitably become targets of attack. In contrast to closed-access networks, internet attacks can come from almost anywhere. Thus, the network should be designed to prevent both accidental overloads and malicious attacks such as denial of service (DoS), distributed denial of service (DDoS), message floods, topology reconnaissance, spoofing, and interception.

Regulatory compliance. Communications services have always been subject to regulations. Networks need to comply with regulations for the geographic markets they serve, including emergency services, lawful interception, and taxation. They also need to be nimble enough to handle new regulatory mandates without wholesale architectural changes.

OTT Communications Solution Overview
Oracle’s OTT communications solution consists of Oracle’s network session delivery and control infrastructure products that can be used independently or together to control the border, manage sessions, and interwork with web services.

- Oracle Communications Session Border Controller provides security, reliability, interoperability, and service reach at the internet access border. It can also be used to secure and interoperate Internet Protocol (IP) interconnects with other providers.
- Oracle Communications Unified Session Manager provides core session management, delivering user authentication, policy, and session orchestration between users and application servers.
- Oracle Communications Application Session Controller provides web service interworking, session management, and communication with browser-based real-time communications (RTC) clients and applications.
Solution Features and Benefits

Each of the products comprising Oracle’s OTT communications solution offers a number of unique features and benefits.

**Oracle Communications Session Border Controller**

Key benefits and features include the following:

- **Interoperability.** Oracle Communications Session Border Controller’s comprehensive signaling and media protocol interworking and extensible programmability mean you can work with the broadest variety of vendors and clients without requiring specialized interoperability development each time something changes. Oracle Communications Session Border Controller normalizes transport protocols, signaling, and media to provide quick, seamless interoperability.

- **Service quality.** Oracle Communications Session Border Controller’s policy and prioritization features ensure session quality is maintained—even during traffic spikes. This has the added benefit of maximizing the efficiency of the core, reducing overprovisioning costs while improving the user experience.

- **Service reach.** Features such as adaptive hosted network address translation (NAT) traversal, Session Traversal Utilities for NAT (STUN), Internet Protocol version 4 and version 6 interworking, and Tunneled Services Control Function (TSCF) support make it easy to consistently reach users—even those behind the most restrictive firewalls.

- **Security.** Oracle’s field-hardened NET-SAFE security framework protects the network against both malicious attacks and accidental overloads. Features include complete encryption support, DoS/DDoS attack mitigation, topology hiding, and fraud prevention.

- **Regulatory compliance.** Oracle Communications Session Border Controller’s many out-of-the-box regulatory compliance features simplify compliance with existing and emerging regulations.

**Oracle Communications Unified Session Manager**

Key benefits and features include the following:

- **Effective core session management.** Oracle Communications Unified Session Manager includes user registration and authentication features, and can use a local database or interface with external databases such as E.164 Number Mapping (ENUM) servers or Home Subscriber Servers (HSSs). Oracle Communications Unified Session Manager can also apply policies on sessions between infrastructure elements and federation partners. And because Oracle Communications Unified Session Manager runs on the same field-proven Acme Packet OS as Oracle...
Communications Session Border Controller, providers can use it to provide differentiating service reliability and security.

- **Lower total cost of ownership.** Oracle’s unique smart border design approach leads to dramatically more efficient signaling processing that can scale from hundreds to millions of users. This efficiency provides significant savings over traditional call session control approaches with significantly more robust support and rapid time to market than with open source soft switch implementations.

- **Programmability for flexibility.** The solution’s extensive programmability enables providers to quickly interwork with the broadest array of user and infrastructure devices without downtime or time-consuming interoperability development. Full Session Initiation Protocol (SIP) and Third Generation Partnership Project (3GPP) compliance allows for seamless interoperability with a variety of ecosystems.

**Oracle Communications Application Session Controller**

With Oracle Communications Application Session Controller, you can

- **Reach web-based users.** Reach existing and new users using popular web mechanisms. Oracle Communications Application Session Controller bridges SIP and H.323 infrastructure with browsers and apps enabled with Web Real-Time Communications (WebRTC) and Flash Real-Time Messaging Protocol (FRTMP).

- **Increase customer retention.** Web-based representational state transfer (REST) and Web Services Description Language (WSDL) API-to-SIP interworking, media server support, and advanced signaling orchestration enable new user applications and communications-enabled business processes (CEBPs).

- **Simplify development.** Oracle Communications Application Session Controller reduces the need for developers with mastery in both telecom and web programming. The robust signaling and media engine allows for flexible service changes in the field without time-consuming development and testing. And because the solution is designed to be a multivendor enabler, there is no risk of vendor lock-in.

**Conclusion**

Although internet service delivery represents an enormous opportunity for service providers, it also presents significant challenges in the areas of security, service quality, regulatory compliance, and more. Oracle’s OTT communications solution helps you address these challenges—controlling the border, managing sessions, and interworking with web services—so that you can reap the competitive advantage afforded by offering real-time communications services over the internet.