Oracle Converged Communications Solution

Simplify and reduce the cost of operating multivendor communications networks

The Oracle Converged Communications Solution dramatically simplifies multivendor communications networks and reduces operating costs. It enables enterprise IT staff to deliver a wide range of highly secure, reliable, and flexible unified communications and contact center services while reducing mean time to repair, optimizing use of on-net resources, slashing service provider network access fees and improving over-all network agility.

High Cost and Complexity Hobble IT Staff

Most enterprise IT managers operate a complex web of contact center systems, video conferencing equipment, PBX and UC systems sourced from multiple vendors. These disparate systems are interconnected with each other and with PSTN and toll-free services provided by one or more communications service providers. It's not uncommon for IT staff to manage dozens of trunks connecting systems and services supplied by ten or more vendors.

This complexity drives high operating costs, reduces reliability and handcuffs your ability to make changes and innovate. Valuable personnel are consumed isolating and troubleshooting problems, administering dial plans and resolving interoperability issues.

Moreover, each communications vendor system operates as an independent island and you don't have the central control you need to route calls to the UC client, hard phone or mobile device that each user prefers. Incompatibilities prevent the delivery of critical services, such as presence indicators, to users on different systems.

Finally, many organizations continue to operate inefficient and costly TDM interfaces in their networks. They haven't fully realized the efficiencies of end-to-end IP communications.

A New Architecture for Modern IP Communications

To successfully manage and optimize this complex environment, you need a new architectural approach that makes disparate on-premise systems and carrier services operate in harmony.

The Oracle Converged Communications Solution establishes a vendor-neutral layered architecture that dramatically simplifies operations, strengthens security and enables rapid

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SOLUTION BENEFITS

- **Slash costs and improve QoS** by routing every session over least cost available networks
- **Reduce MTTR up to 65%** using powerful tools to isolate and troubleshoot problems anywhere in the network in real time
- **Future-proof the network** with an architecture designed to integrate multivendor VoIP, UC and contact center systems
- **Simplify operations** by centrally normalizing disparate dial plans
- **Protect the organization** by mitigating denial of service and other threats that specifically target UC services
- **Improve user services** by routing calls to each user's preferred endpoint and delivering presence indicators across incompatible UC systems
- **Extend services to mobile users** with registration and authentication for third party SIP clients
- **Accelerate adoption of SIP trunk services** with an E-SBC that cures service provider interoperability problems and protects against threats

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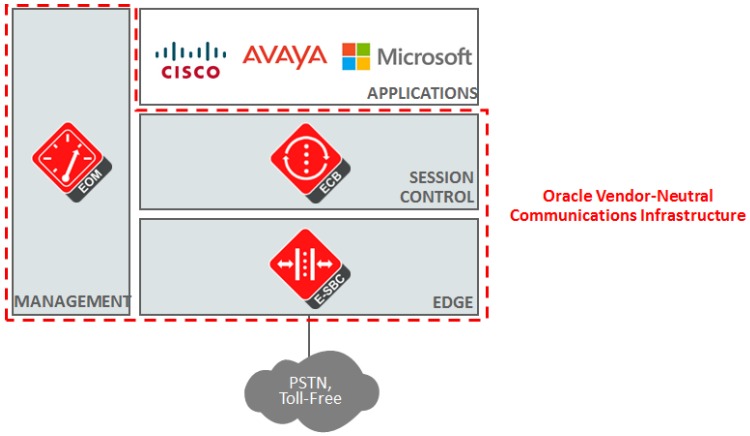
troubleshooting. It enables enterprises to centralize control of their network and easily scale and add best-of-breed capabilities without fear of obsolescence.



A layered architecture simplifies operations for multivendor communications networks

Edge layer controls network access and security. It provides interoperability between on-premise systems and service provider PSTN and toll-free services.

Session Control layer centrally controls the flow of sessions between edge and application as well as between different applications. It enforces enterprise policies for any session traversing the network and provides interoperability between diverse multivendor UC applications.

Application layer is composed of multivendor UC systems, contact center applications and business applications. These applications don't interact directly with each other; instead they communicate through the session control layer, which normalizes and provides interoperability services for the applications.

Management layer includes a rich set of management tools, including monitoring and troubleshooting for the real-time session delivery network and systems for network element management. It uses probes embedded in each layer to provide end-to-end visibility into sessions traversing the network.

"Oracle Communications' vendor-agnostic UC solution made our network easier to manage and gave us the flexibility to migrate to Skype for Business and SIP trunking at our own pace."

SENIOR DIRECTOR OF IT
MULTINATIONAL PHARMACEUTICAL CONCERN

The Oracle Converged Communications Solution

The Oracle Converged Communications Solution combines all the elements you need to implement a layered communications infrastructure. It enables you to reduce costs, avoid vendor lock-in and provide a consistent user experience across locations and devices. It combines tightly coupled session management, border control and service management functions, making it easy to deploy and operate.

The fully virtualized solution can be deployed in centralized, distributed, and hybrid network topologies. All critical components are available in carrier-class 1-to-1 high availability (HA) configurations that protect against network and interface failures.

Oracle Enterprise Communications Broker

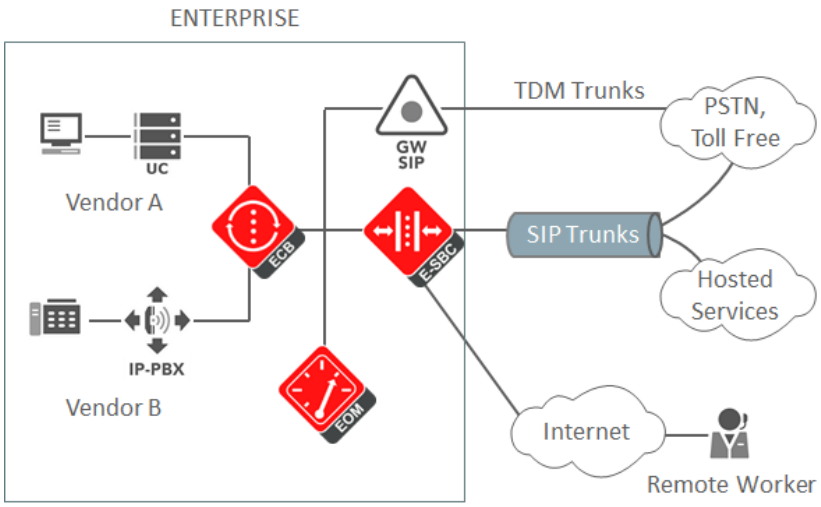
The Oracle Enterprise Communications Broker (ECB) composes the Session Control layer, connecting disparate UC systems and network applications. It normalizes dial plans, applies policies and dynamically routes communications sessions.

Oracle Enterprise Session Border Controller

The Oracle Enterprise Session Border Controller (E-SBC) is a real-time communications services platform that secures access to wide area network services, including SIP trunks and the public internet. The platform protects against security threats, normalizes protocol differences between network services, adapts to variations in media encoding, and ensures compliance.

Oracle Enterprise Operations Monitor

The Oracle Enterprise Operations Monitor (EOM) provides powerful end-to-end analysis and troubleshooting capabilities that simplify multivendor network operations.



Oracle Converged Communications Solution reference architecture

Enterprise-Class Communications Infrastructure

Oracle's Converged Communications Solution provides comprehensive, enterprise-class features to address the challenges associated with integrating diverse IP telephony and UC systems and extending SIP sessions across IP network borders.

The Oracle ECB centralizes session routing, policy enforcement and endpoint registration services, enabling you to apply them to communications platforms, mobile devices, and business applications. Using an LDAP interface, the solution applies policies to routing decisions and implements simultaneous ring functions that deliver calls to user's preferred endpoints. The solution also provides extensive dial plan and protocol normalization functions that mitigate connectivity issues across multivendor UC systems and SIP trunking services.

Powerful header manipulation rules (HMRs) help IT teams solve more complex interoperability challenges by adding, modifying, or deleting headers or parameters in SIP

messages. Oracle Enterprise Communications Broker resolves overlapping dial plans and incompatible addressing schemes, enabling enterprises to manage network growth while preserving existing dialing conventions.

The Oracle E-SBC provides extensive media resource and transcoding functions to enable compatibility between disparate UC systems, SIP trunking services, and remote/mobile SIP endpoints. Oracle Enterprise Session Border Controller can convert sessions between a variety of compressed and uncompressed formats. An optional hardware assist enables large-scale media transcoding without impacting service quality or performance.

The solution is designed to protect IP telephony and UC infrastructures, services, and applications from external threats, ensuring session confidentiality and integrity in addition to service availability. It prevents fraud and service theft and guards against malicious attacks, system overloads, and other service-impacting events.

Using probes embedded in the E-SBC and ECB, plus standalone probes placed in critical network segments, the Oracle EOM monitors key performance indicators, metrics, and alerts on every session flowing through the network—in real time and at great scale. As a result, it is able to identify problems before they become visible to users. The solution provides deep drill-down capabilities to isolate problems across multivendor networks, provide root cause analysis, and resolve problems quickly.

Key Features

Feature	Description
Interoperability	• Interoperable with Avaya Aura, Cisco Unified Communications Manager, Microsoft Skype for Business, Broadsoft Broadworks, Genesys SIP Communication and many other leading UC applications • Certified for interoperability with trunking services offered by major telecommunications service providers, worldwide
Reliability	• 1:1 high availability configurations with stateful failover available for all in-band elements • Re-routes sessions around link or interface failures
Security	• Advanced DoS/DDoS/TDoS protection, fraud prevention and overload protection • Signaling and media encryption for communications privacy
Ease of use	• Graphical user interfaces simplify deployment and ongoing operations
Session forking	• Forks sessions to multiple endpoints, sequentially and/or in parallel, based on LDAP query

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