Oracle Converged Communications Solution for Microsoft Skype for Business

Accelerate user adoption, reduce costs and ensure security

The Oracle Converged Communications Solution for Microsoft Skype for Business tightly integrates Microsoft's market-leading unified communications system with legacy IP communications systems and SIP trunk services to help accelerate user adoption, reduce operating costs, strengthen network security and protect investments. It enables you to apply policies and route sessions across a multi-vendor UC network on a per-user basis to improve productivity.

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Migration Challenges

Deploying any new UC system can be fraught with integration and operational challenges. Most enterprises don't have the flexibility to flash cut all their users to the new system overnight. Instead you must carefully migrate users from their familiar VoIP or UC system to Skype for Business one group at a time, while maintaining seamless interoperability across the disparate systems. This complex process is complicated by the incompatible dial plans and protocols often used by each vendor's system.

Because, each communications vendor's system operates as an independent island, 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.

In addition, the incremental complexity of a multi-vendor communications network can increase operating costs, reduce reliability and slow the introduction of new UC services. Valuable personnel are consumed isolating and troubleshooting problems and administering dial plans.

Finally, Skype for Business presents the opportunity to dramatically reduce telecommunications costs by leveraging a carrier's SIP trunk service for connectivity to the PSTN. However, SIP trunk services can introduce security vulnerabilities and reliability issues not present with legacy TDM services.

New Architecture Simplifies Skype for Business Deployment

To successfully manage and optimize this complex environment, you need a new architectural approach that makes Skype for Business work together with disparate on-premise systems and carrier services in harmony.

The Oracle Converged Communications Solution establishes a vendor-neutral layered architecture that dramatically simplifies operations, strengthens security and enables rapid troubleshooting. It enables you to centralize control of the network and easily roll-

SOLUTION BENEFITS

- **Slash telecommunication costs** by connecting to low-cost SIP trunk services and routing sessions over least cost paths

- **Improve user services** by routing calls to each user's preferred endpoint and delivering presence indicators across incompatible UC systems

- **Reduce MTTR up to 65%** using powerful tools to isolate and troubleshoot problems anywhere in the network in real time

- **Simplify operations and protect user experiences** by normalizing E.164 and legacy PBX dial plans

- **Protect the network** by mitigating fraud, telephony denial of service and other threats that target UC services

- **Simplify migration from Skype for Business to Office 365** with a flexible solution that is Microsoft UCOIP qualified and certified by TekVizion for every deployment model

- **Future-proof the network** with an architecture designed to integrate multivendor VoIP, UC and contact center systems

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out Skype for Business on-premise, or in the Microsoft Office 365 cloud, without fear of obsolescence.
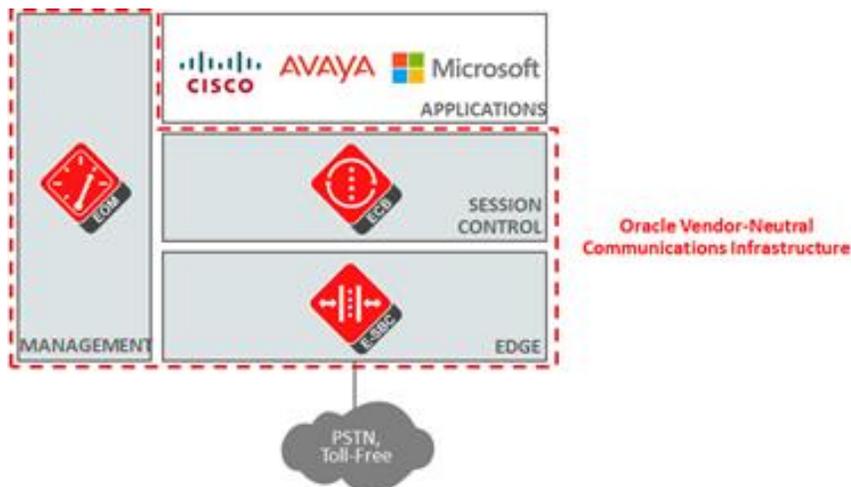
A layered architecture simplifies operations for multivendor communications networks

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 Skype for Business and legacy VoIP/UC applications.

Application layer is composed of Skype for Business and other VoIP/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.

The Oracle Converged Communications Solution

The Oracle Converged Communications Solution for Microsoft Skype for Business 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

"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

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.
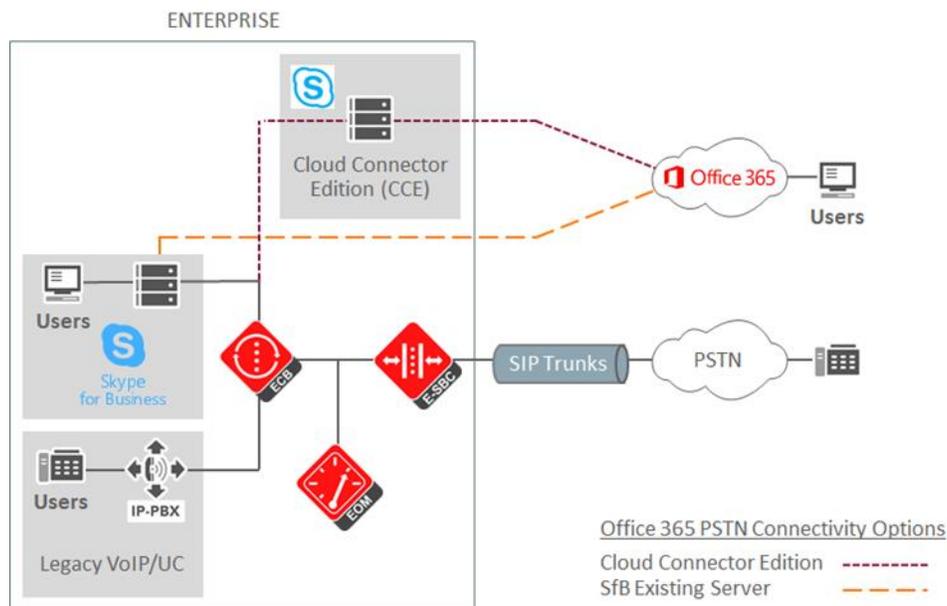
Oracle Enterprise Communications Broker

The Oracle Enterprise Communications Broker (ECB) composes the Session Control layer, connecting Skype for Business with 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 for Microsoft Skype for Business reference architecture

Enterprise-Class Communications Infrastructure

Oracle's Converged Communications Solution for Microsoft Skype for Business provides comprehensive, enterprise-class features to address the challenges associated with integrating Skype for Business with diverse VoIP and UC systems and connecting to carrier SIP trunk services.

The Oracle ECB provides a central control point for all sessions traversing the network, enabling you to consistently control session routing and enforce policies, Using an LDAP interface, the ECB applies policies to routing decisions and implements simultaneous ring functions that deliver calls to each user's preferred endpoints.

The solution normalizes incompatibilities between E.164 addressing used by Skype for Business and schemes used by legacy systems, enabling enterprises to manage network growth while preserving existing dialing conventions. Powerful header manipulation rules can add, modify, or delete parameters in SIP messages, including replacement of ANI fields. It enables you to solve more complex interoperability challenges between Skype for Business, legacy VoIP/UC systems and SIP trunk services.

The Oracle E-SBC provides extensive media resource and transcoding functions. It can convert sessions between the G.711 format used by Skype for Business and a variety of compressed formats. An optional hardware assist enables large-scale media transcoding without impacting service quality or performance.

The solution is designed to protect the enterprise IP telephony infrastructure 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	• Microsoft UCOIP qualified for all on-premises PSTN deployment models and TekVizion certified interoperability between Avaya Aura, Cisco Unified Communications Manager and Microsoft Skype for Business • Certified for interoperability with trunking services offered by major telecommunications service providers, worldwide • SIMPLE/XMPP presence interworking
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 • Supports Skype for Business E911 and ELIN gateway functions
Performance	• Load balancing across multiple mediation servers • Media bypass offloads mediation server encryption functions to E-SBC
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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