ORACLE DATA SHEET

# ORACLE ENTERPRISE COMMUNICATIONS BROKER

ORACLE COMMUNICATIONS

The Oracle Enterprise Communications Broker is a core communications controller purpose-built to simplify complex, multivendor Unified Communications (UC) networks and extend services to mobile users. It abstracts key communications services and centralizes session management, providing a vendor-neutral infrastructure for delivery of next generation UC applications.

## KEY FEATURES

- Centralized dial plan management
- Centralized session routing and forking
- Multivendor UC protocol normalization and interoperability verified by TekVizion
- SIP registrar
- Call admission control
- Carrier-class high availability

## KEY BENEFITS

- Simplify multivendor voice, video, and UC networks
- Cure interoperability problems across a wide range of third-party UC systems and legacy PBXs
- Smoothly migrate from legacy telephony to Microsoft Lync Enterprise Voice
- Enable users to access UC applications with their mobile devices
- Optimize utilization of on-net resources
- Improve visibility and simplify troubleshooting
- Integrate business automation applications with communications

## Overview

The Oracle Enterprise Communications Broker forms the core layer in the Oracle enterprise communications architecture, controlling the routing of SIP sessions across disparate access and application layer network elements. It dramatically simplifies network operations, optimizes use of on-net resources, enforces enterprise policies and ensures compliance.

Featuring SIP protocol normalization capabilities built over 14 years and hundreds of enterprise network deployments, the Enterprise Communications Broker (ECB) cures incompatibilities between multivendor communications systems that can slow UC projects and limit their success. It provides seamless interoperability between communications systems, session managers and legacy infrastructure.

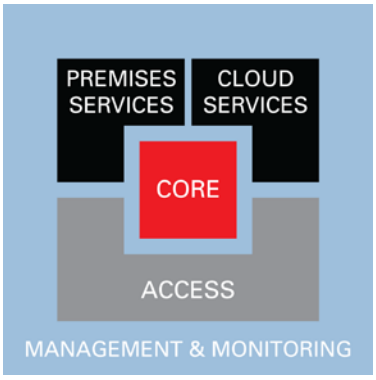


*Figure 1: Oracle enterprise communications architecture*

ECB is deployed in the network core where UC, PBX and contact center systems must be interconnected with each other and with service provider trunk interfaces. It works together with the Oracle Enterprise Session Border Controller (E-SBC) which connects, secures and controls access to service provider SIP trunks and hosted communications applications and services.

ECB is available either in a commercial off the shelf-based server appliance or software for virtual-machine environments.

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## Features and Functions

ECB offers unsurpassed features and functions:

### Centralized Dial Plan Management

ECB offers industry-leading dial plan management that enables location-specific administrative control while maintaining a uniform world-wide dial plan and providing a consistent experience for users as they travel between geographic locations.

ECB centralizes administration of company-wide dialing plans in a single element, reducing tedious and error-prone administrative tasks. It features a unique context-aware dial plan engine that enables users to maintain dialing habits even when connecting to the network in a foreign location. Using an onboard user database, the dial plan engine automatically identifies user context and maps dialed digits to the dialing conventions established for communication in the user's current location.

The dial plan engine enables IT administrators to define a single hierarchical, worldwide dial plan and gives regional administrators the flexibility to define local dialing conventions. It transforms locally dialed digits to the global convention.

### Centralized Session Routing

Organizations often encounter difficulty optimizing and troubleshooting their networks when disparate routing elements are deployed. The ECB centralizes all routing decisions, applies policies and provides visibility into network operations. It can optimize the use of private network resources and reduce toll costs.

Using ECB, enterprises can streamline implementation of advanced routing algorithms, including tail-end hop-off, simultaneous ring and load-balancing. They can apply policies to prevent fraud, enforce compliance and leverage network resources. IT managers can offer flexible routing to one or more user-designated endpoints by using the ECB's LDAP interface to query an external database.

ECB monitors the availability of SIP agents and ENUM servers and re-routes traffic over alternate paths to maintain service availability in case of network failure.

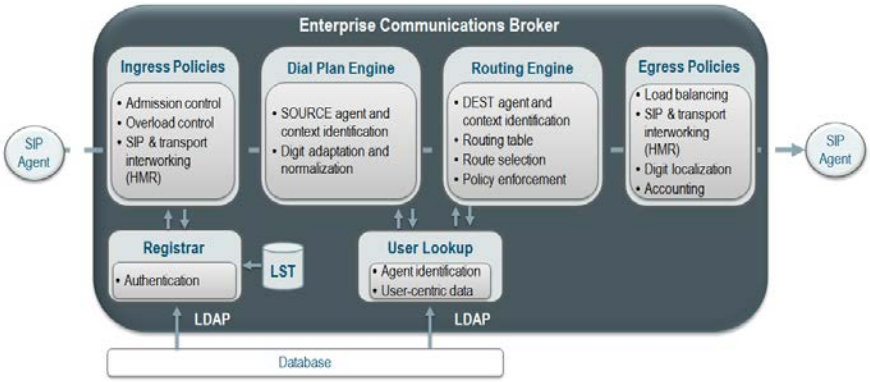


*Figure 2: Oracle Enterprise Communications Broker system architecture*

## SIP Interoperability

Enterprises often face interoperability problems when connecting the trunk interfaces of UC systems made by different vendors. These problems can delay deployments, increase costs and reduce functionality while waiting for the vendors to resolve problems through feature enhancements or software updates.

The ECB interoperates with the industry's widest range of third-party SIP communications systems, enabling enterprises to rapidly integrate multivendor telephony, UC, contact center, and business automation applications. It uses dynamic manipulation to normalize disparate SIP protocol implementations. SIP message headers can be modified, added, or removed based on specified criteria as they flow through the ECB.

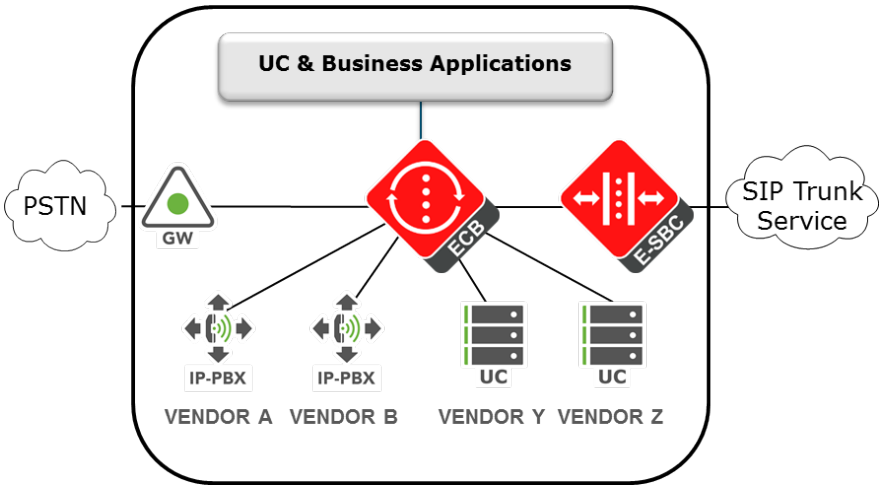


*Figure 3: Oracle Enterprise Communications Broker normalizes SIP protocol differences and provides seamless interoperability across multivendor communications systems*

Dynamic manipulation provides enterprise IT staff a powerful interoperability tool they can use to accelerate deployment of new systems and upgrades, and consolidate communications systems added through mergers and acquisitions. They can future-proof their networks and simplify deployment of business automation applications.

## Registrar

An onboard SIP registrar enables 3rd party SIP clients to access UC applications, extending collaboration capabilities to the mobile workforce. The registrar can authenticate users via local or external user databases.

## Call Admission Control

The ECB features powerful, granular call admission control functions to protect itself and all interconnected UC systems from non-malicious overloads. Its dynamic signaling rate limiting feature rejects incoming messages that exceed configured maximums for each SIP proxy.

## Network Visibility

The ECB is designed to simplify troubleshooting and monitoring of the entire UC network.

An onboard probe captures and forwards signaling information to the Oracle Enterprise Operations Monitor, which provides real-time dashboards and statistics for network equipment, user groups and trunks. The solution correlates end-to-end call information from all Oracle

Enterprise Operations Monitor probes, enabling rapid identification and localization of problems, including call set-up and tear-down errors, registration problems and call quality. It also enables easy-to-use drill-down troubleshooting for analysis of any reported problem related to a user, user group, trunk, network device or an IP address.

The ECB includes an onboard SIP Monitoring and Tracing panel that provides a searchable list of sessions, registrations, subscriptions and other device-specific events. Complete detail for each event can be displayed in easy-to-read ladder diagram format.

**RELATED PRODUCTS**

- Oracle Enterprise Session Border Controller
- Oracle Enterprise Communications Broker
- Oracle Enterprise Operations Monitor
- Oracle Communications Interactive Session Recorder
- Oracle Communications WebRTC Session Controller

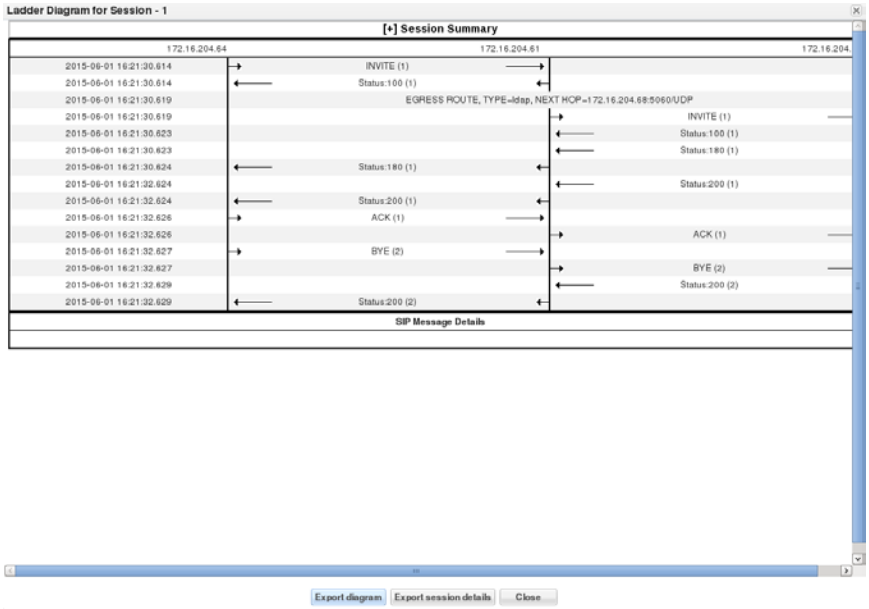


*Figure 4: Onboard GUI displays ladder diagrams for easy network troubleshooting*

## Accounting

The ECB captures comprehensive call detail records (CDRs) that can be used for compliance reporting, internal billing and service provider invoice reconciliation. CDRs can be stored in external servers using the Remote Authentication Dial-In User Service (RADIUS) protocol, or they can be saved locally and pushed to external servers. CDRs also enable traffic planning and performance management.

## Carrier-Class High Availability

Optional active/standby high availability (HA) configurations are supported on both the COTS-based appliance and software models. SIP signaling and peer state are check-pointed between active and standby units to ensure seamless business continuity in the event of a system or network failure.

## Platforms and Management

The ECB is available in several form factors, allowing enterprises to match performance and price points to their environments. It is delivered either as a fully integrated COTS-based appliance or as software-only for virtual machine environments.

It can be managed through an easy-to-use onboard graphical user interface. A comma separated value (CSV) utility enables easy import of dial plans, routes and users from other systems, simplifying provisioning.

## Features

| Feature | Description |
|---|---|
| Centralized session routing | • *Controls and optimizes session routing based on identity, costs and other parameters* |
| Session forking | • *Fork sessions to multiple endpoints, sequentially and/or in parallel, based on LDAP query* |
| Centralized dial plan management | • *Reduces operating costs and simplifies consolidation of disparate dial plans* |
| Policy engine | • *Modifies or denies routing based on criteria, including time of day, day of week, address pairs, presence/absence of codecs in SDP*<br>• *Modifies SIP headers based on user look-up* |
| SIP registrar | • *Enable BYOD access to unified communications applications using standard SIP clients* |
| Call admission control | • *Provides granular control of access to resources and services* |
| Normalize multivendor protocol implementations | • *Protect investments in legacy IP-PBXs and other communications systems*<br>• *Enable best-of-breed communications strategies* |
| Call detail records | • *Comply with government regulations*<br>• *Enable departmental charge-back* |
| Alternate routing | • *Route calls over alternate paths if primary route fails* |
| Load-balance communications services | • *Optimize utilization across multiple session agent and/or registration servers* |
| Multi-node synchronization | • *User database and routing information dynamically synchronized across up to ten ECB nodes per network* |
| Stateful high availability | • *Rapid automatic failure detection and stateful failover to standby unit* |
| LDAP interface | • *User authentication and routing based on enterprise policies* |
| Management | • *RADIUS accounting records*<br>• *Syslog and SNMP interfaces* |

## Specifications

| Feature | Description |
|---|---|
| Capacities | 32,000 concurrent sessions per node<br>250,000 registrations per node |
| Performance | 170 cps |

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