ORACLE

Oracle Enterprise Communications Broker

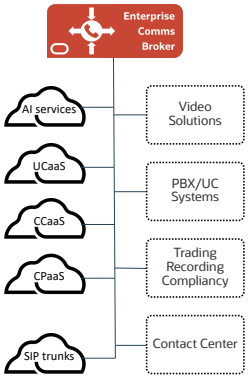
The Oracle Enterprise Communications Broker is a software-based core communications controller purpose-built to simplify complex, multivendor Unified Communications (UC) and Contact Center (CC) networks and to extend their services to mobile users. It abstracts key communications services, centralizes the management of session routing, dial-plans and SIP trunking pools for multivendor environments, providing a vendor-neutral infrastructure for the delivery of next-gen applications.

Overview

The Oracle Enterprise Communications Broker controls 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 developed over the last two decades and deployed in solutions worldwide, the Enterprise Communications Broker addresses the proprietary tweaks to SIP protocols that various UC/CC vendors have implemented over the years. The Enterprise Communications Broker cures the resulting incompatibilities between multivendor communications systems that can slow UC/CC projects and limit their success. It provides seamless interoperability between these communications systems, session managers and legacy infrastructure, thereby eliminating UC/CC vendor lock-in.

The Enterprise Communications Broker is deployed in the network core where UC, PBX and Contact Center systems interconnect with each other and with service provider trunk interfaces. It works together with the Oracle Enterprise Session Border Controller which connects, secures and controls access to service provider SIP trunks and cloud communications applications and services.



Oracle Enterprise Communications Broker functional architecture

Enterprise Communications Broker is available for running on either a commercial off the shelf-based server (COTS) appliance, in a virtual-machine environment and on Oracle Cloud Infrastructure.

Key features

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

Key business benefits

- Simplify multivendor Unified Communications networks
- Cure interoperability problems across a wide range of third-party UC systems and legacy PBXs
- Smoothly migrate from legacy telephony to Cloud Communication services
- 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
- Integrate AI services with communications

Features and functions

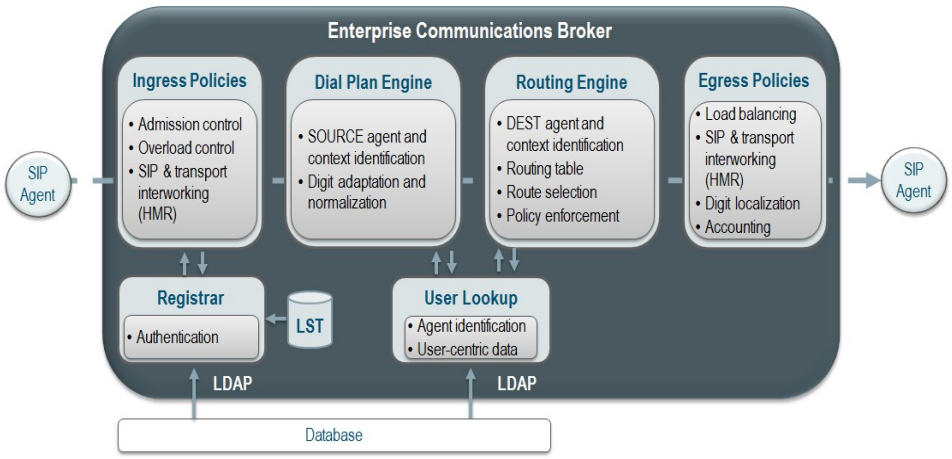
The Enterprise Communications Broker's architecture and rule-based policy control offers the flexibility and reliability which ensures the availability of services, applications and systems within an enterprise. Further, it simplifies network operations and abstracts key communication services for enterprises, enabling a best-of-breed communications strategy that delivers consistent experiences as users move between locations and devices.

Centralized dial-plan management

Oracle Enterprise Communications Broker offers industry-leading dial-plan management that enables location-specific administrative control while maintaining a uniform worldwide dial-plan and providing a consistent experience for users as they travel between geographic locations.

It centralizes the administration of company-wide dialing plans into 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 their company's network from 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.



Oracle Enterprise Communications Broker System Architecture

SIP interoperability

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

The Enterprise Communications Broker 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 both on-premises and in the cloud. It uses dynamic RegEx based

Related products

- Oracle Enterprise Session Border Controller
- Oracle Enterprise Operations Monitor
- Oracle Communications Session Delivery Manager
- Oracle Session Delivery Management Cloud

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 Enterprise Communications Broker. Dynamic manipulation provides IT staffs 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 Enterprise Communications Broker 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.

Accounting

The Enterprise Communications Broker 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.

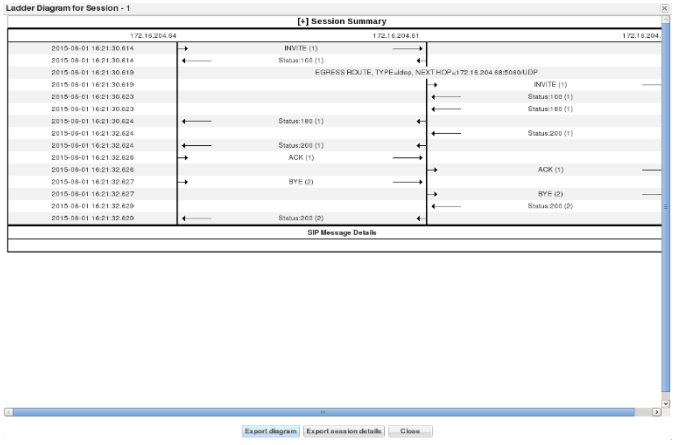
Carrier-class high availability

Optional active/standby high availability (HA) configurations are supported. 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.

Graphical User Interface

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

Network visibility



Onboard GUI

The Enterprise Communications Broker 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 session information from all of the Enterprise Communications Broker 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 Enterprise Communications Broker 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 an easy-to-read ladder diagram format.

KEY FEATURES & FUNCTIONALITIES OF ENTERPRISE COMMUNICATIONS BROKER

FEATURE	FUNCTIONALITIES
Centralized Session Routing	• Controls and optimizes session routing based on identity, costs and other parameters
Session Forking	• Forks sessions to multiple endpoints, sequentially and/or in parallel, based on LDAP
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, and presence/absence of codecs in SDP • Modifies SIP headers based on user look-up
SIP Registrar	• Enables registration of SIP clients for specific devices in cloud commuication environments as fax machines, ATA's • Enables BYOD access to unified communications applications using standard SIP clients
Call Admission Control	• Provides granular control of access to resources and services
Normalize SIP Implementations	• Protects investments in legacy IP-PBXs and other communications systems • Enables best-of-breed communications strategies
Call Detail Records	• Enables departmental charge-back
Alternate Routing	• Routes sessions over alternate paths if primary route fails
Load-Balancing Services	• Optimizes utilization across multiple session agents and/or registration servers
Multi-Node Synchronization	• Dynamically synchronizes user database and routing information across up to 10 Enterprise Communications Broker 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 • Syslog and SNMP interfaces • Fault management via Oracle Session Delivery Manager Cloud • Fault and configuration management via Oracle Session Delivery Manager • Administrative Security feature to enhance password, login and logging security
REST API support	• Support to provision and configure via REST API, including LST files and dial plan
Security	• Support of advanced password strength and password complexity policies • Support for 2048 bit DH key size • Support for TLS1.3

KEY ENTERPRISE COMMUNICATIONS BROKER SPECIFICATIONS

REQUIREMENT	DESCRIPTION
Capacity (per node)	• 100,000 Concurrent sessions per node • 400,000 Max. registrations per node • 15,000 Max. routing entries • 1,000,000 Max userDB entries • 15,000 Max Context/Policy patterns per context
Performance	• Up to 170 cps, depending on configuration and call flows

PLATFORMS

HARDWARE BASED	VIRTUALIZATION/.PRIVATE CLOUD	PUBLIC CLOUD
COTS based appliance, including Oracle X9-2 server	VMware ESXi	Oracle Cloud Infrastructure
	Oracle OVM	Microsoft Azure
		Amazon AWS