

# Oracle Communications Cloud Native Session Border Controller/ Oracle Enterprise Cloud Native Session Border Controller

Oracle's cloud native session border controller (SBC) is a transformative product designed to revolutionize session delivery and edge protection for real-time communications networks, with expanded scalability and availability, automated lifecycle management, and enhanced observability, that enables service providers and enterprises to streamline operations and speed up time to market for their products and services.

## Overview

In an era marked by the rapid development of automation and artificial intelligence, communications service providers (CSPs) and enterprises are eager to transform their organizations into agile, flexible, and adaptable businesses. Oracle's cloud native SBC with its two product versions — *Oracle Communications Cloud Native Session Border Controller* for service providers and *Oracle Enterprise Cloud Native Session Border Controller* for enterprises is a cutting-edge solution for delivering end-to-end IP real-time communications in containerized cloud environments. Oracle's cloud native, microservices-based SBC enhances automation, reliability, and scaling potential, enabling service providers and enterprises to reduce operational costs and accelerate time to market for new features and solutions. Leveraging a container-orchestrated architecture, it offers autohealing and plans for automated lifecycle management, delivering increased agility and scalability. By focusing on automation and flexibility enabled by cloud native architectures, Oracle's cloud native SBC intends to future-proof the SBC to support evolving communications technology.

## Unlocking new possibilities

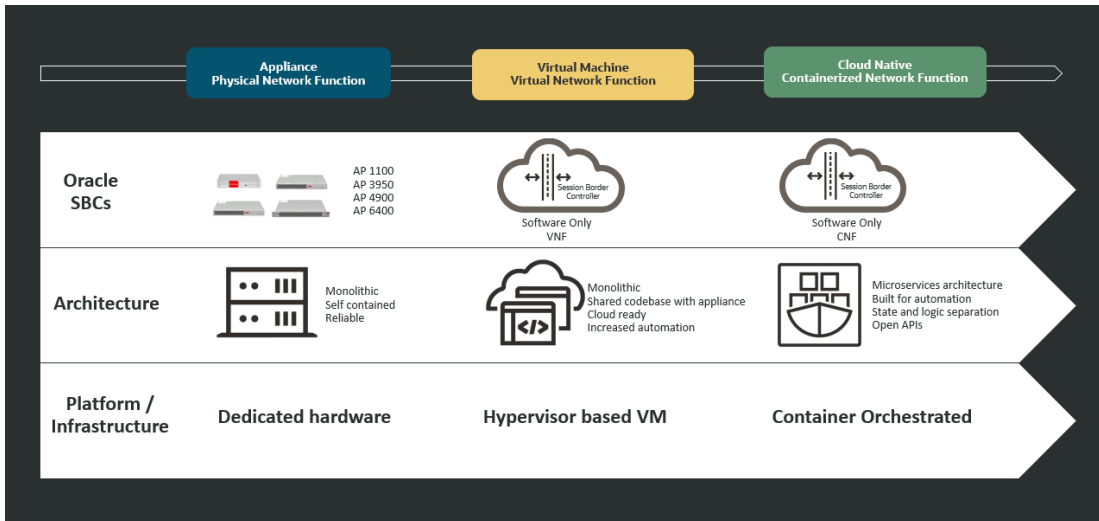
Cloud native technology is essential for communications service providers (CSPs) and enterprises to thrive in a fast-changing digital landscape, enabling them to meet the increasing demands for speed, scalability, and flexibility while helping reduce operational costs and time to market for new services. A shift to cloud native environments is the path to unlock the full potential of the cloud.

- ✓ **Increased agility and innovation:** Cloud native architecture facilitates faster time to market for new features and services, allowing service providers and enterprises to keep pace with rapidly evolving customer demands.
- ✓ **Enhanced scalability and elasticity:** The microservices architecture enables on-demand scaling of individual services, helping ensure resources are optimally utilized and peak traffic demands are met efficiently.
- ✓ **Improved observability and troubleshooting:** Open-source tools for logging, metrics, and tracing provide deep insights into network performance, simplifying troubleshooting and helping accelerate issue resolution.
- ✓ **Reduced Operational Costs (OpEx) and Capital Expenditures (CapEx):** Cloud native deployments may offer significant cost savings by using shared infrastructure and leveraging automation to streamline operations.

## SBC solutions for wherever you are in your cloud journey

Virtualization was an initial step towards greater flexibility, orchestration automation, onboarding, and simplified configuration. Cloud native improves on virtualization concepts by changing the methodology, architecture and platform infrastructure options with containerized network functions using shared cloud native environment tools. Oracle's cloud native SBC is an entirely Kubernetes controlled containerized network function solution. This includes a transition to decomposed signaling and media to support an independently scalable microservices-based approach.

Figure 1.SBC solutions for wherever you are in your cloud journey



## Why Oracle's cloud native SBC?

### Voice networks and cloud native experience

Oracle has a long-standing track record of addressing complex voice networking challenges in leading carriers and enterprises' networks around the globe. Oracle's broad portfolio of cloud native applications reflects years of real-world deployments and optimization, directly benefiting the cloud native SBC, helping ensure development aligns with the same principals and operational insights that power Oracle's most demanding enterprise and carrier solutions.

### Embracing microservices

Oracle has rearchitected the SBC to embrace microservices and cloud native automation principals. Microservices enable lightweight, dedicated services separation that can be independently scaled but also independently upgraded to minimize touch to the application. These benefits expand beyond signaling and media alone and Oracle is implementing a microservices architecture to maximize these benefits alongside architecture efficiency.

### AI/ML services

Oracle Communications is investing in leveraging Oracle Cloud Infrastructure's integrated artificial intelligence (AI) and machine learning (ML) services so that SBC data can be analyzed in real time to detect anomalies and optimize network performance. Oracle's AI strategy intends to empower carriers and enterprises to make smarter, faster decisions to enable reliable, efficient voice services.

## Scalability and availability

The microservices architecture of Oracle's cloud native SBC allows media, signaling, service processing, and other common services to scale independently and adapt to fluctuations in traffic patterns on demand. By using Kubernetes as a container orchestrator, customers can harness the power of autohealing of micro services. This enables instances to be automatically deleted and recreated whenever there is evidence of an issue.

# Automated lifecycle management and testing

## Continuous deployment

Embracing DevOps methodologies and continuous integration/continuous delivery (CI/CD) significantly accelerates software delivery and shortens release cycles. Oracle’s cloud native SBC embraces DevOps principles and CI/CD practices, enabling rapid development, testing, and deployment cycles for new features and updates. By using standardized and repeatable upgrade processes service providers and enterprises can reduce the potential for error.

## Automated testing

Zero-touch automation simplifies operations and frees up valuable resources to focus on other initiatives. Automated lifecycle management requires automated testing. Oracle’s cloud native SBC offers an automated test suite with prepackaged test cases. The automated test suite can be invoked via REST from CD pipeline tools for pre- and post-operations checks.

# Flexible observability, management & troubleshooting

An important element to the success of cloud native infrastructure is interoperability through the support for well-established open source third party common services.

In the Oracle’s cloud native SBC, metrics and alarms are handled by the observability layer within the customers cloud native environment. Oracle’s cloud native SBC exposes its metrics and alarms in real time to an observability layer that the customer can easily customize or feed into a data lake for integration with AI and ML tools.

## Metrics, alarms, logging, and tracing

Oracle’s cloud native SBC is compatible with Prometheus and Alert Manager for metrics and alarms, and Grafana for customized KPI visualizations; it also provides default files that can be easily loaded into these toolsets. Real-time logging is supported with standard protocols for visibility using time series databases such as OpenSearch and Elasticsearch. Oracle’s cloud native SBC supports OpenTelemetry protocols for tracing using tools such as Jaeger and Grafana Tempo.

## Cloud Native SBC Console

For better security in distributed cloud environments, Oracle’s cloud native SBC includes a console that provide centralized identity access management (IAM) and control. It also includes a graphical user interface (GUI) for Oracle’s cloud native SBC configuration that allows users to manage settings and validate configurations.

# Key functions and features

Oracle’s cloud native SBC leverages the cloud native core concepts to directly address the evolving needs of service providers and enterprises.

Table 1. Oracle’s cloud native SBC key functions and features.

Functional Area	Functions/Features
General	<ul style="list-style-type: none"> <li>• Container orchestrated platform with HELMv3</li> <li>• Microservices architecture: signaling, media, transcoding, configuration, Identity Access Management (IAM), file service, X1, etc.</li> <li>• Interconnect SBC functionality</li> </ul>
High Availability	<ul style="list-style-type: none"> <li>• Configurable N:M redundancy for media and transcoding</li> <li>• Call state retention in a in-memory datagrid (key-value store)</li> <li>• Stateless common services</li> </ul>
Observability & Management	<ul style="list-style-type: none"> <li>• Prometheus exposition format for real-time metrics and alarms</li> <li>• OpenTelemetry for tracing</li> </ul>

	<ul style="list-style-type: none"> <li>• Logging support with standard logging tools (OpenSearch, Logstash, FluentD, etc.)</li> <li>• REST API for configuration</li> <li>• GUI for configuration</li> </ul>
CI/CD	<ul style="list-style-type: none"> <li>• Jenkins</li> </ul>
Platform	<ul style="list-style-type: none"> <li>• Support for OpenShift deployed over OpenStack in private clouds</li> </ul>
Security	<ul style="list-style-type: none"> <li>• SBC denial of service (DoS) self-protection</li> <li>• Static or dynamic access controls (permit/deny)</li> <li>• Self-protection against signaling overloads and distributed denial of service (DDoS) attacks</li> <li>• Media and signaling validation to prevent service theft and fraud</li> <li>• Transport Layer Security (TLS) including TLS 1.3 and Secure Real-time Transport Protocol (SRTP) encryption for             <ul style="list-style-type: none"> <li>• privacy and confidentiality</li> <li>• STIR/SHAKEN</li> <li>• Lawful Intercept X1/X2/X3 support</li> </ul> </li> </ul>
Feature set	<ul style="list-style-type: none"> <li>• SIP signaling protocol interworking and mediation</li> <li>• SIP IPv6-IPv4 interworking</li> <li>• NAT traversal and IP address mediation</li> <li>• Signaling and dial plan normalization</li> <li>• Transcoding/transrating with flexible, dynamic codec management</li> <li>• Flexible routing</li> <li>• Number matching and translation rules</li> <li>• Dynamic bandwidth monitoring and control</li> <li>• File based accounting</li> <li>• Check-pointing of signaling, media, and configuration for nonstop availability</li> <li>• Define and enforce QoS marking/mapping</li> <li>• QoS monitoring, accounting, and reporting</li> <li>• Admission controls to optimize service infrastructure availability</li> <li>• Policy enforcement to help ensure bandwidth availability</li> <li>• Session reroute around upstream outages</li> </ul>

## Summary

Oracle’s cloud native SBC enables automation, security, interoperability, and reliability for end-to-end IP real-time communications in containerized cloud environments. It is Oracle's cutting-edge solution for real-time communications networks, designed to revolutionize session delivery and edge protection across private and public clouds. With expanded scalability and availability, automated lifecycle management, and enhanced observability, Oracle’s cloud native SBC enables service providers and enterprises to streamline operations and speed up time to market for their products and services. By focusing on automation and flexibility enabled by cloud native architectures and AI-powered data insights leveraging ML and computational abilities from the cloud, Oracle’s cloud native SBC intends to future-proof the SBC to support evolving communications technology.

## Related services

- [Oracle Communications Session Border Controller](#)
- [Oracle Enterprise Session Border Controller](#)

## Connect with us

Call **+1.800.ORACLE1** or visit **oracle.com**. Outside North America, find your local office at: **oracle.com/contact**.

 [blogs.oracle.com](https://blogs.oracle.com)

 [facebook.com/oracle](https://facebook.com/oracle)

 [twitter.com/oracle](https://twitter.com/oracle)

Copyright © 2025, Oracle and/or its affiliates. This document is provided for information purposes only, and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document, and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle, Java, MySQL, and NetSuite are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.