

Oracle Communications Converged Application Server

Oracle Communications Converged Application Server is a general-purpose computing platform enhanced with call processing to set up and manage real time voice, video, and data sessions supporting any communications environment. The latest release adds cloud deployment capabilities for real time automatic scaling and upgrades for optimal use of hardware and network resources. The Oracle Communications Converged Application Server is the industry's most comprehensive web-communications application server, delivering an open, standards-based service creation and execution platform for IP-based communications applications. It enables businesses to rapidly develop, and cost-effectively deploy, innovative, revenue-enhancing communication and collaboration services.

Converging IT with Communications

With the growing proliferation of IoT and cloud applications, new complex traffic patterns are emerging that require special customization to not only integrate, but also provide a high degree of real time automation to keep up with the operational and business challenges of delivering innovative services with maximum profitability and optimal productivity. Industries are challenged to merge their network communications with their Information Technology (IT) systems. A converged IT to communication scenario may include:

- Connecting a drone or video streaming directly to a secure cloud while organizing and displaying multiple feeds in real time. Add to the mix a new video stream, a voice call, or automatically scale up the processing and cloud storage, in real time, with no restarts or system reboots
- Add a "click-to-chat" application to connect customers to an Enterprise's contact center and allow that call to be securely transferred to an over the top or PSTN call, with 3-factor SMS authentication.
- A web-based healthcare system that seamlessly interconnects, doctors, pharmacies, labs, clinics, hospitals, and insurance companies to conference, chat, and share HIPAA patient data.



Converged Application Server readily processes IT and Network Traffic

Key Features

- Built for the Cloud
- Carrier-grade High Availability
- Rapid Service Delivery
- Multi-Industry Business Models
- Virtualized, Software Defined
- Secure, Compliant
- Converged IT-telecom application container based on SIP Servlet, Java EE, Diameter and Web Services
- Geo redundant
- High performance/Low latency

Key Benefits

- Lower cost
 - application development
 - deployment
 - over CPaaS
- Increase revenue with innovative converged Web-telecom applications and diverse business models
- Faster time to develop and deploy carrier-grade converged services

Deployed Use Cases

- Unified Communications
- Contact Center Solutions
- Conferencing Servers
- Tele-presence
- Tele-Health/Counseling

The ability to capture real time voice, video, or data streams, and manage them into a service is invaluable to industries such as healthcare, the military, government services, food and beverage, shipping and logistics, hospitality, construction and engineering, or utilities, and many other industries

The Oracle Communications Converged Application Server extends the proven IT WebLogic Server to manage real time voice or video session. Built into the Converged Application Server are interfaces that allow programs to manage the SIP sessions, SIP application timers, application deployments, and SIP listeners. The Oracle Communications Converged Application Server is a container with a SIP stack that handles the dialog, transactions messaging, and transport messaging. With a single container model, businesses may rapidly develop and deploy converged IT-communications applications either on-premises or in the cloud, to manage voice, video, or data across any enterprise or carrier network.

Maximizing Profitability with Converged Services

Most enterprise and carrier voice services are built on proprietary, telecom-specific platforms which lack integrated IT-Web capabilities. As a result, many businesses are challenged with long delivery lead times, and the associated high costs of developing and deploying carrier-grade converged Web-Telecom applications. By providing an open, standards-based converged application platform with integrated SIP with Web/IT capabilities, Oracle Communications Converged Application Server has helped businesses worldwide reduce the cost and time of developing and deploying carrier-grade, converged applications by over 70%. This has enabled customers to maximize profitability from existing services, as well as realize new revenue from innovative converged Web-Telecom applications.

High Available, Fault Resilient, Open, Standards-based Converged Application Server

Oracle Communications Converged Application Server is a carrier-grade, open, standards-based converged Web-telecom application server based on the SIP Servlet, Java EE, Web Services, and IMS standards, and is the telecom application server component of Oracle's industry-leading SDP product family. It is designed for a wide-range of IP-based, communication-enabled applications, such as VoIP, multimedia conferencing, SIP/IMS-based call control and messaging services.

Deployed Functions

- Click-to-call
- Transfer call
- Hold/Mute
- Presence Server
- Tele-presence
- Chat
- Conference Calls
- Voice broadcast
- Parallel Ringing
- Call Routing
- Call Continuity
- File Sharing/database
- Video streams connect, capture, and playback

RELATED PRODUCTS

- Oracle WebLogic Suite
- Oracle Communications WebRTC Session Controller
- Oracle Communications Session Border Controller
- Oracle Coherence In-memory Datagrid
- Oracle Java

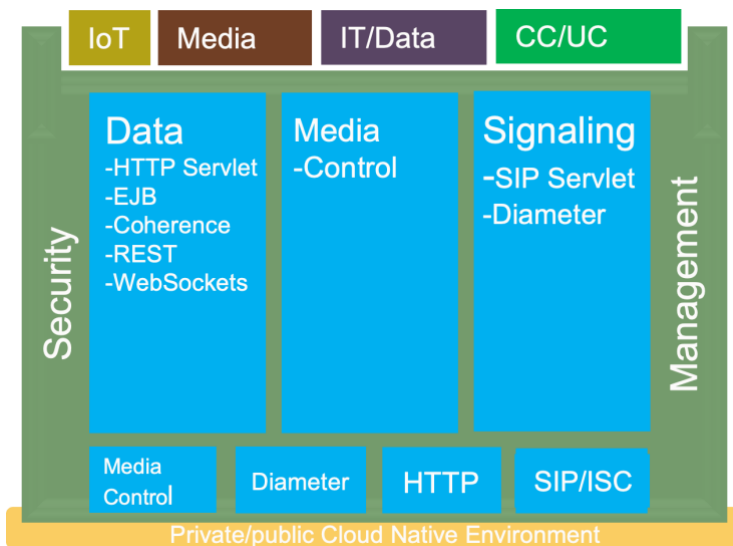


Figure 1. Functional Overview of Oracle Communications Converged Application Server

Converged Web-Telecom Application Container

At the core of Oracle Communications Converged Application Server is the industry's most advanced SIP Servlet container, natively integrated with the industry's most powerful Java EE containers for HTTP Servlet, EJB, Web Services, Web Sockets etc. This integrated container architecture encompasses the initialization, high availability, and roll-over features required in network systems so the developer may focus on innovative business applications. This reduces the development cost and the time to market for communication services. Businesses can easily integrate Web and enterprise applications with SIP-based communication and collaboration capabilities such as voice, video, presence, location, multimedia conferencing, and click-to-dial, among many others.

The Oracle Communications Converged Application Server Complements and extends a Session Border Controller with custom business/routing logic. The Converged Application Server also provides seamless integration to backend operations and business systems. A Session Border Controller can act as a load balancer for the messaging going into the Converged Application Server.

Accelerate Multimedia Converged Application Development

Converged Web-Telecom applications involve the delivery or sharing of one or more types of media, whether it is voice/audio, video, images or other types of data, which requires converged applications to interact with media servers. Oracle Communications Converged Application Server simplifies the development of rich- media converged applications by supporting the media server interfaces within the SIP Servlet container. It reduces the time and

complexity required of developers to integrate with 3rd party media servers, resulting in reduced costs and faster time-to-market for innovative multimedia converged applications.

Unmatched High Availability and Reliability

Oracle Communications Converged Application Server helps customers to minimize the risk of service outages and performance degradations by providing the industry's only converged application platform to support geographically redundant deployment configurations, with support for asynchronous session management. Businesses may deploy converged IP-based applications into their networks with unmatched high availability, and reliability, by having the application session state automatically distributed across multiple regional data centers in real time. This eliminates the risk of service outages from single points of failure, that is, no down time which can be caused by unforeseen natural disasters or equipment failures.

Extreme Performance and Predictable Latency

Converged applications deployed in telecom networks require real-time session set-up and application data access with minimal latency, because these factors have a direct impact on the quality of the end-user's experience. Utilizing the most popular programming language – Java, and utilizing Java's real time characteristics, the Oracle Communications Converged Application Server has a high-performance computation profile with low latency throughput which are fundamental attributes of communications services. It takes full advantage of the real-time Java Virtual Machine (JVM) and optimization of the converged application container for extremely high throughput.

By extending the WebLogic Server with SIP and Diameter communications interfaces, the Converged Application Server has become a world class technology for communications. Built into the Converged Application Server is the coherence data grid which provides linear capacity scaling and rapid call state replication.

Cloud Ready or On-Prem

The Oracle Communications Converged Application Server may be deployed on-premises or in the cloud with a comprehensive set of Cloud utilities, Web/telecom industry standards and platforms. Cloud native allows for automated deployments, updates, rollouts, and rollbacks. Cloud native also provides for automatic scale up or down depending on capacity and

performance. Cloud provides enhanced health monitoring and auto restart in case of failures. The Converged Application Server is compatible with:

- Cloud Native: Docker, Kubernetes, Prometheus monitoring, Grafana and Kibana visualization, Elasticsearch analytics, FluentD log collection, F5 BIG-IP Kubernetes Load Balancing
- Internet/Web/Communication Java Interfaces: SIP Servlet, SIP Toolbox, Java EE, Web Services (REST/SOAP), Diameter, WebSockets, Database
- Platforms: KVM 0.12, VMWare ES XI 6.7, Oracle Linux 7.8+, Oracle VM

Summary

Whether on-premises or in the cloud, the Oracle Communications Converged Application Server is designed for rapid service delivery of highly available, fault reliant applications. The Oracle Communications Converged Application Server is deployed in a variety of industries including healthcare, financials, cable, telecommunications, emergency services, and government. Based on the WebLogic container architecture, the Converged Application Server may be deployed on standard Linux hardware, a virtualized environment, or in a cloud native container architecture. Built with industry standards for containers, networks, and IT, the Oracle Communications Converged Application Server is ideal for managing network traffic that requires IT/WEB interaction.

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