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Oracle Communications Converged Application Server

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

Orchestrating Communications

With the growing proliferation of IoT, 5G, VoiceAI 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 simple example would be to take drone or video streaming directly to a secure cloud, organizing, and displaying multiple feeds in real time. To further complicate this scenario, 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.   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 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

Converged Application Server readily processes IT and Network Traffic

Key Features

- Built for the Cloud and on-premises deployment
- 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 of application development and deployment
- Increase revenue with innovative converged Web-telecom applications and diverse business models
- Faster time to develop and deploy carrier-grade converged services

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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 and 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 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.

Carrier-Grade, Open, Standards-based Converged Application Platform

Oracle Communications Converged Application Server is a carrier-grade, open, standards-based converged Web-telecom application platform based on the SIP Servlet, Java EE, Web Services, and IMS standards. 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.
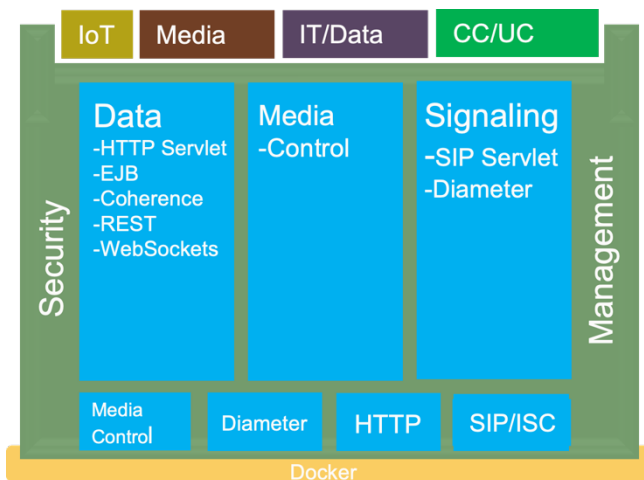

Figure 1. Functional Overview of Oracle Communications Converged Application Server

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 and Web Services. 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.

Deployed Use Cases

- Intelligent Call Routing
- Call Blocking
- SPAM Protection
- Call Branding
- Selective Call Recording
- Unified Communications
- Contact Center Solutions
- Conferencing Servers
- IP Multimedia Subsystems (IMS) in 4G/LTE
- STIR/SHAKEN
- Caller Attestation
- Stateful Call Tracking

Deployed Functions

- Click-to-call
- Transfer call
- Hold/Mute
- Tele-presence
- Call-Back
- Integration with 3rd party services
- Chat
- Conference Calls
- Parallel Ringing
- Call Routing
- Call Continuity
- File Sharing/database
- Video stream connect, capture, and playback

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Businesses can easily integrate Web and enterprise applications with SIP-based communication and collaboration capabilities such as VoIP, presence, location, multimedia conferencing, and click-to-dial, among many others.

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, 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. High performance and low latency are key attributes of communications applications developed and deployed on Oracle Communications Converged Application Server. It takes full advantage of the real-time Java Virtual Machine (JVM) and optimization of the converged application container for extremely high throughput.

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Cloud Ready or On-Premises

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

- Cloud Native: Kubernetes, Kubernetes Orchestration, Docker and Podman Container support, F5 Loadbalancer
- Observability & Monitoring support for cloud: Prometheus, Grafana, ELK stack, FluentD
- Internet/Web Standards: SIP Servlet, Java 8 and 11, Web Services, SIP, Diameter
- Platforms: KVM, VMWare ESXi, Oracle Linux, Oracle VM
- Java Virtual Machines: Oracle JRockit, Oracle Java Hotspot VM, HP JVM

Detailed information is available in the release notes.

Summary

Whether on-premises or in the cloud, the Oracle Communications Converged Application Server is designed for rapid service delivery of carrier-grade 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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