

Oracle Communications Unified Assurance

Communications networks are becoming increasingly mission critical for Communication Service Providers (CSPs), Managed Service Providers (MSPs), and enterprises as they seek to capitalize on the business opportunities created by cloud, virtualization, 5G, and IoT technologies. At the same time, these networks are becoming far more challenging to manage given the increased network complexity and exponential growth in network traffic.

Assure the performance of critical networks and services at lower TCO

CSPs, MSPs and enterprises need to transform how their network infrastructure is managed. Historically, network management teams have focused on managing infrastructure rather than the services they support. They used complex legacy software tools that were costly to operate and struggled to scale.

To effectively transform, they need end-to-end visibility, proactive and real-time infrastructure and service management, greater automation with AIOps, and better cost-efficiencies.

Introducing Oracle Communications Unified Assurance

Oracle Communications Unified Assurance is a key component of Oracle's Unified Assurance solution shown below.

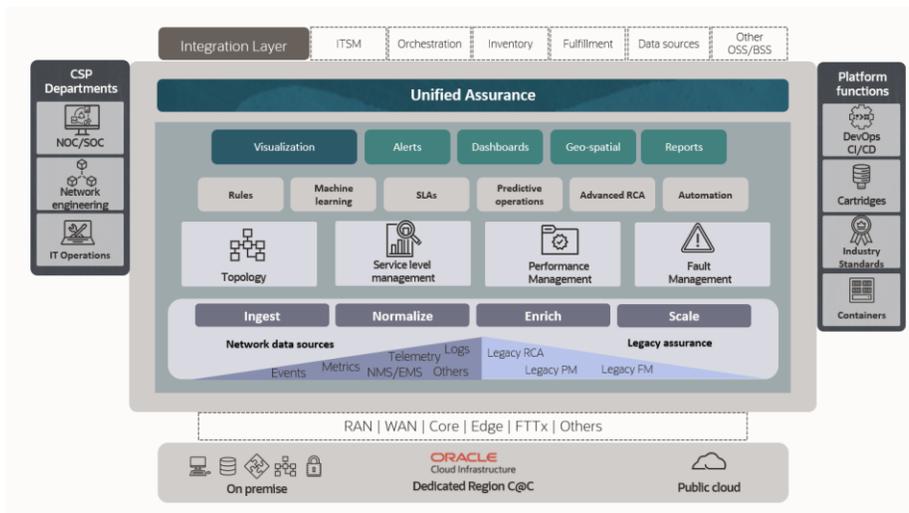


Image 1. Oracle's Unified Assurance solution.

It was designed to provide such a solution with scale, machine learning and automation built in.

Key benefits

Unified Assurance delivers fault, performance, topology, and service management within a unified platform designed to be open, multi-tenant, and highly scalable:

- AI-driven fault management.** Designed for large scale and speed. Unique, class leading RCA³ and other features to deliver real-time actionable insights.
- Real-time, proactive performance monitoring.** Deliver real-time alerts and AI-driven insights so that issues can be tackled before they become outages.
- Service management.** End-to-end delivery of real-time, consolidated, threshold-based monitoring for service availability, performance, and utilization.
- AIOps.** Harness Artificial Intelligence for IT Operations (AIOps) technologies, such as: machine learning to drive prediction, correlation, root cause analysis, and automation in real-time

“Now that the GNOG consolidation project is complete, Digicel is able to see the reduction in OPEX costs further improve e.g., via operational overhead reduction, increased efficiency, hardware associated costs reduction, etc.

Digicel is now well on the journey from a NOC model to a Service Operations Center and the ultimate goal, a Customer Centric Service Assurance Center.”

Luis Isidoro

Global Director of Technology Operations, Digicel

Enabling transformation at scale with AI-optimized advanced analytics

RCA³ provides a unique and proven root cause analysis model that delivers significant improvements in speed and accuracy. RCA³ combines three different perspectives: unsupervised machine learning, supervised event correlation, and topological root cause to deliver the optimum analysis and surpass all other RCA solutions.

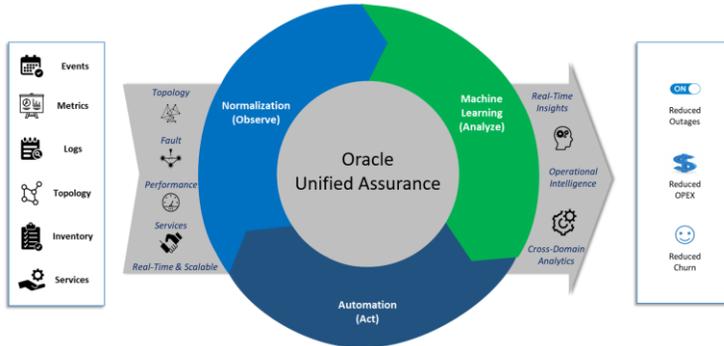


Image 2. Oracle Communications Unified Assurance turns data into insights.

The Unified Assurance platform

Oracle Communications Unified Assurance delivers fault, performance, topology, and service management within a single, unified platform. Designed to be open, multi-tenant, and highly scalable to address current and future needs of service providers.

Unified Assurance uses Artificial Intelligence for IT Operations (AIOps) technologies, including machine learning, to drive correlation, root cause analysis, and automation. Unified Assurance is able to ingest all kinds of data from all parts of your network, to normalize it all into a common object model and to run effective Machine Learning (ML) policies that span the multiple network dimensions (such as RCA³). It comes with an extensive library of supported network devices, and certification of new devices takes a fraction of the time taken in legacy platforms.

Unified Assurance provides real-time insights, cross-domain analytics, operational intelligence, and automation to help address the fundamental problem of “swivel-chair” operations, with procedures spanning multiple element management systems (EMSs), inventory systems, and customer databases that slows progress even before work is done to resolve any outage.

Unified Assurance can co-exist and augment or replace legacy systems, bringing intelligence and actionable insights to transform operations, deliver greater efficiency, a better customer experience, and considerable cost savings.

Key features

- Open platform, built for scale and speed
- Real-time machine learning (ML) insights
- RCA³: Revolutionary, 3-way ML powered root cause analysis delivering optimum results
- Domain agnostic, scalable data collection. Any source, normalized into a common object model
- Enables consolidation of costly legacy, redundant systems
- Trusted, repeatable transition from legacy, proven by global customers
- Extensive library of supported devices with an accelerated certification process

RCA³

Unified Assurance’s unique approach to root cause analysis delivers significant improvements in speed and accuracy. RCA³ uses machine learning to quickly pinpoint, analyze and resolve the root cause of service impacting events



RCA³ combines unsupervised ML, supervised ML, and topological root cause analysis for optimal outcomes.

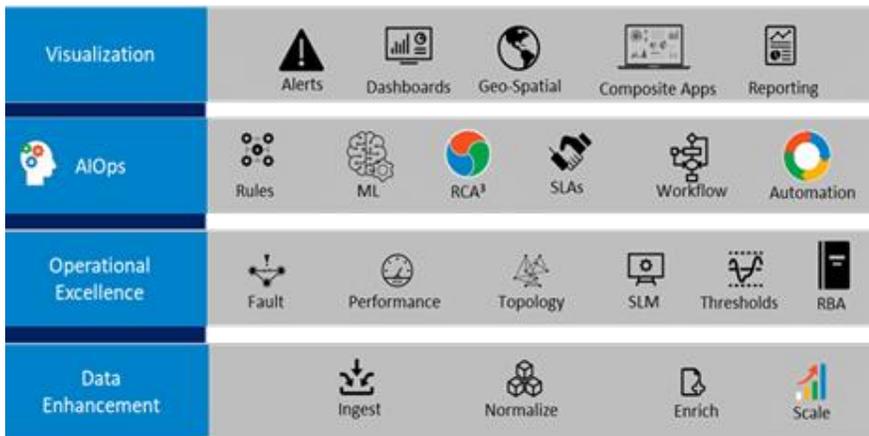


Image 3. Unified Assurance delivers fault, performance, and service management within a single platform.

AIOps and RCA³

Machine Learning (ML) is at the center of the Network Operations transformation. But not all ML solutions are equal. Some ignore data and miss vital insights. You can't get answers to important questions if you don't have the right data. Others are difficult to integrate. In Unified Assurance, ML is seamlessly and completely integrated, runs across the whole platform and all data types, and ignores nothing to give the greatest insights with RCA³.

Transforming data into actionable insights

Oracle Communications Unified Assurance handles all kinds of data including events, performance, topology, business services and applications. All data is collected and normalized into the common model. This gives Unified Assurance a 360° view and greatly simplifies complexities with a single UI, customizable reports, dashboards, and portals.

When applying ML, the common data model becomes even more powerful, and the ML policies span all the data domains. Unified Assurance treats all data as a valued asset, to be enriched, including data from 3rd party integrations.

Other software tools can't scale and so they routinely filter (suppress) data and discard it. Unified Assurance not only unifies data from multiple sources, but it also uses all the data, unfiltered, nothing discarded – a true holistic single source of truth from which allows RCA³ to create valuable insights.

Towards zero service disruption

The consequences of network incidents can be very disrupting to businesses. They can cause widespread outages, SLA violations, and customer dissatisfaction that can lead to churn. Proactive monitoring, real-time performance, ML-driven root cause analysis, and predictive analytics are functional improvements that can lead to closed-loop assurance and zero-touch automation solutions to address problems before they impact services.

AIOps

Unified Assurance includes Artificial Intelligence for IT operations (AIOps) technologies, such as machine learning, to drive prediction, correlation, root cause analysis, and automation in real-time

Fault management key features

- Comprehensive service visualization regardless of vendor, technology, or protocol
- View Impacted services / customers in real-time
- Dramatically speeds troubleshooting to improve customer experience
- Business impact maps based upon business value and topology
- Automated discovery based upon Ping, SNMP, or customized ingestion
- Unsupervised & supervised machine learning
- Open policy machine learning engine with over 50 out-of-the-box policies
- Topology-based parent-child correlation engine
- Open action policy engine to enable driving automation

Fault management

Consolidating all faults under one platform allows the operations team to monitor, detect, analyze, and resolve faults faster with the ability to manipulate, prioritize, and escalate alarms on the fly.

Oracle Communications Unified Assurance delivers a unified view of the availability and performance of the entire infrastructure on a single screen so immediate action can be taken in one click.

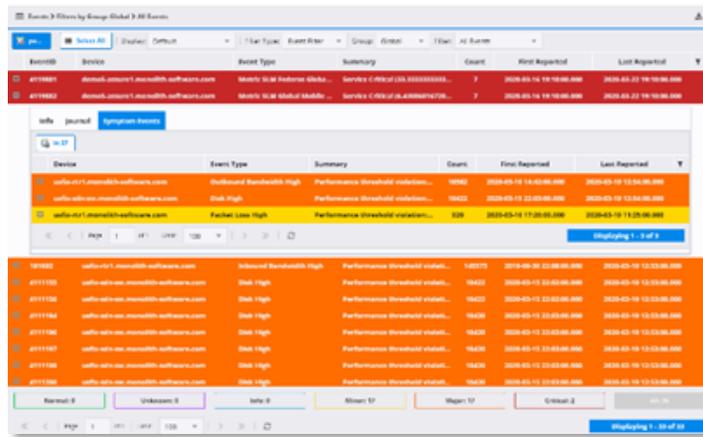


Image 4. Nested correlated alarms present a clear view.

Real-time performance monitoring

Oracle Communications Unified Assurance can collect performance metrics from all data source types network, server, storage, and applications. Multiple metric KPIs can be combined into advanced custom KQIs based on industry standards or custom formulas.

Both KPIs and KQIs can have one or more thresholds associated to them: basic, trend, predictive trend, abnormal and missing data. The result is end-to-end service performance visibility and monitoring and real-time reporting to help service providers proactively prevent outages or tackle them before they impact customers.



Image 5. Oracle's Unified Assurance provides end-to-end service visualization & service quality management

Monitoring key features

- Automated discovery capabilities based upon Ping, SNMP, or customized technology ingestion
- Clustered polling for robust distributed, secure data collection
- Open, extensible, redundant, distributable collection engine (REST, SNMP, TL1, and more)
- Open data policy engine to enable customized conversion of data to KPIs to KQIs
- Robust analytics and performance reporting with drag/drop customizable tools, maps, and dashboard
- Open action policy engine to enable automation

Service management

Oracle Communications Unified Assurance simplifies the delivery of effective service management and significantly reduces the resources it consumes, allowing operations teams to focus upon business impact and customer satisfaction ahead of network health. It provides end-to-end, consolidated threshold-based monitoring and reporting of service availability, performance, and utilization to ensure that SLAs are met. Top-down views display business impact and service performance via dynamic, real-time, and multi-tenant dashboards that support complex service hierarchy definitions. Unified Assurance supports real-time analysis as well as historical reporting.



Image 6. Predictive performance monitoring and threshold breach notifications.

Oracle Communications Unified Assurance's service management provides end-to-end visibility across disparate technologies, vendors, or device types on a multi-tenant basis. Normalized KQIs are stored and viewed in a service context in a single-pane-of-glass. Service Management leverages the unified fault and performance functions of Unified Assurance that enable data to be collected in any format, from any protocol or data feed. Data are managed and analyzed using event filters, performance monitors, and sophisticated AI-based alerting engines. Results are accessible immediately.



Image 6. Predictive performance monitoring and threshold breach notifications.

Service management key features

- Service impact analysis for customer/service availability alerts
- Quality of Service management for service performance & compliance reporting
- Service overview dashboard with drag/drop customizable tools, maps, and dashboards
- Open, extensible, redundant, distributable collection engine (REST, SNMP, TCP Server/ Client, database, flat file, UNIX Pipe, CLI)
- Open transactional polling engine to support proactive polling of common network services: (DNS, DHCP, HTTP(s), NTP, etc.)
- Open policy machine learning with 53 OOB policies
- Open action policy engine to enable driving automation
- Performance overview by device, group, or interface
- Performance reporting with drag/drop customizable tools, maps, and dashboards
- Topology-based parent-child correlation engine

Summary

Oracle Communications Unified Assurance provides AI-optimized assurance, analytics, and automation solutions that monitor and manage the performance of critical networks and services. Our market leading solutions are proven with CSPs, MSPs and other enterprises with complex and large scale networks. Oracle helps businesses transform their operations to reduce costs, prevent losses, improve operational efficiency, deliver exceptional customer service, and accelerate time-to-revenue. Unified Assurance will ingest large quantities of data from multiple sources which are normalized and processed with machine learning to deliver intelligent insights. Unified Assurance's unique approach to root cause analysis delivers significant improvements in speed and accuracy. RCA³ uses machine learning to quickly pinpoint, analyze and resolve the root cause of service-impacting events.

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