

Oracle Communications Session Delivery Manager



APPLICATIONS

- Next-generation management platform that meets the demands of the largest network operations centers

KEY FEATURES

- Configuration, fault, performance, and security management
- At-a-glance dashboard summary
- Flexible device configuration views
- Server clustering
- Load balancing of user sessions across multiple servers
- HA, high-performance management architecture
- Modular, extensible system framework
- Open, flexible interfaces and client views

KEY BENEFITS

- Centralized management for all session delivery infrastructure products
- Manages small to very large deployments
- Multiple capabilities for preventing management system outages
- Extensible via management application add-ons
- Multiple client views and integration with third-party OSS/BSS applications
- Enables efficient deployment, configuration, and upgrade of

Oracle Communications Session Delivery Manager product family is a next-generation management platform designed to meet the demanding requirements of the largest service providers and enterprise network operations centers (NOCs). It features a modular framework for managing Oracle's network session delivery and control infrastructure elements.

Overview

Oracle Communications Session Delivery Manager's flexible, high availability (HA) architecture scales to manage very large networks and provides an extensible framework for hosting solution-specific management applications and value-added application add-ons. Its clustering technology enhances management performance and availability in the most demanding service and business-critical environments.

Through convenient, easy-to-read dashboard and configuration views, Oracle Communications Session Delivery Manager facilitates flow-through provisioning, capacity planning, and comprehensive performance and fault monitoring with at-a-glance status indicators that simplify real-time, network-wide management. It also integrates with operation support system (OSS) and business support system (BSS) ecosystems via standard interfaces, to deliver advanced service fulfillment, service assurance, and billing solutions.

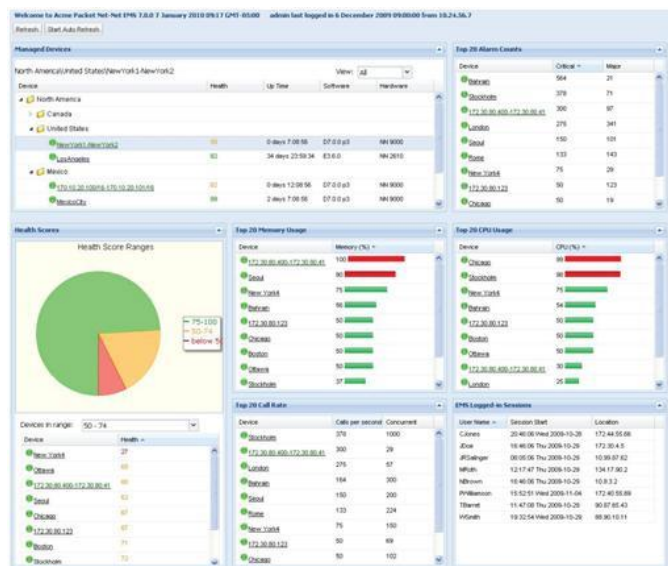


Figure 1: Oracle Communications Session Delivery Manager's easy to read dashboard and system summary screen

Architecture

Oracle Communications Session Delivery Manager family of products utilizes a modular, multi-tiered architecture. The architecture improves upon previous-generation element management systems to deliver unprecedented scale, HA, and a flexible user interface that make Oracle Communications Session Delivery Manager products adaptable to a variety of service provider and enterprise NOC environments.

Leveraging powerful system services and applications, as well as integrated element management and other applications, Oracle Communications Session Delivery Manager products manage a wide range of Oracle's network session delivery and control infrastructure products and solutions.

Oracle Communications Session Delivery Manager's architecture consists of the base system plus optional management applications that are installed and configured to manage specific session delivery infrastructure products, configurations, and solutions. The base system includes device and security management, as well as real-time health monitoring of Oracle Communications Session Delivery Manager server clusters. Management applications/products include the Oracle Communications Element Manager, which provides configuration, fault, and performance management for session delivery infrastructure elements. Also included are Oracle Communications Enterprise Trunk Manager, a management tool to simplify of provisioning and accelerate turn-up of SIP trunks, Oracle Communications Session Report Manager, a historical performance data repository for analysis on historical signaling, media and other types of data, and Oracle Communications Session Route Manager, the route provisioning and management tool for session routing proxies and session border controllers.

Additional applications designed to manage specific session delivery infrastructure solutions can be integrated, making Oracle Communications Session Delivery Manager a highly versatile platform for managing service provider and enterprise services and applications.

Through standard interfaces that communicate with external elements, Oracle Communications Session Delivery Manager product family operates seamlessly with the management systems and practices used in today's service provider and enterprise data and operations centers. The standard interfaces include browser-based management clients, other Oracle Communications Session Delivery Manager servers, network session delivery and control infrastructure products, and third-party OSS/BSS and management systems. Oracle Communications Session Delivery Manager products also use standard formats such as cascading style sheets (CSSs) and XML Schema Definition (XSD) for presentation and data management.

Oracle Communications Session Delivery Manager products utilize a browser-based thin client, providing a flexible graphical user interface (GUI) that simplifies management operations. A web services client resides on some of the Oracle Communications Session Delivery Manager products, enabling northbound OSS/BSS application integration for flow-through provisioning and network-wide management.

Oracle Communications Session Delivery Manager products presentation model features CSSs that deliver multiple configuration and dashboard views, making it adaptable to individual and organizational user preferences.

NETWORK SESSION DELIVERY AND CONTROL INFRASTRUCTURE

Oracle's network session delivery and control infrastructure enables enterprises and service providers to manage the many challenges in the delivery of IP voice, video, and data services and applications. Service provider solutions are deployed at network borders and in the IP service core to help fixed-line, mobile, wholesale, and over-the-top service providers optimize revenues and realize long-term cost savings. In the enterprise, session delivery infrastructure solutions seamlessly connect fixed and mobile users, enabling rich multimedia interactions and automating business processes for significant increases in productivity and efficiency.

The following Oracle products are part of the network session delivery and control infrastructure:

- Oracle Communications Session Border Controller
- Oracle Communications Session Router
- Oracle Communications Subscriber-Aware Load Balancer
- Oracle Communications Unified Session Manager
- Oracle Communications Security Gateway
- Oracle Communications Interactive Session Recorder
- Oracle Communications Application Session Controller
- Oracle Communications Tunneled Session Controller
- Oracle Communications Core Session Manager
- Oracle Enterprise Session Border Controller
- Oracle Communications Session Delivery Manager product family
 - Acme Packet 3820
 - Acme Packet 4500
 - Acme Packet 4600
 - Acme Packet 6000 Series

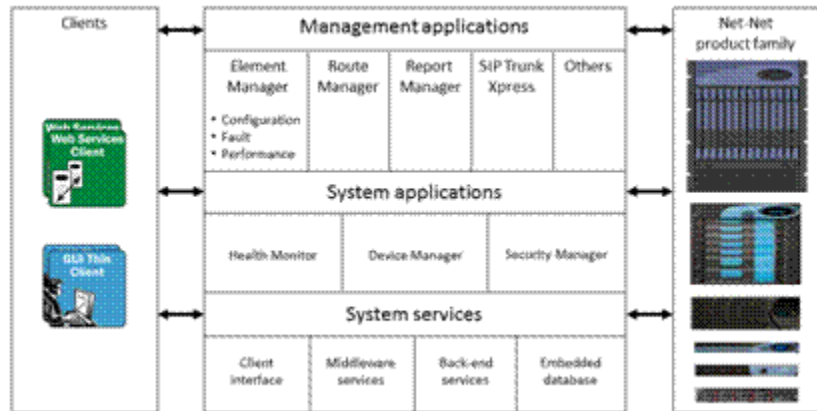


Figure 2: Oracle Communications Session Delivery Manager's modular multi-tiered element management architecture

Base System

Oracle Communications Session Delivery Manager products base system includes its underlying system services plus a set of base system applications, including the Health Monitor, Device Manager, and Security Manager features. These applications perform basic administrative functions for individual and clustered Oracle Communications Session Delivery Management Suite servers.

Health Monitor

Health Monitor provides heartbeat indicators and statistics related to Oracle Communications Session Delivery Manager server status and disk utilization for servers configured as members of an Oracle Communications Session Delivery Manager server cluster.

Health Monitor functions and features include the following:

- Status information and statistics related to members of an Oracle Communications Session Delivery Manager server cluster
- Alarm generation upon servers entering or exiting an Oracle Communications Session Delivery Manager server cluster
- Maintenance and reporting of disk usage statistics for servers that are members of an Oracle Communications Session Delivery Manager server cluster

Device Manager

Device Manager applies basic administration of individual session delivery infrastructure devices or device groups to simplify the management of small to very large networks of session delivery infrastructure products. Device groups can be organized hierarchically according to the needs of the organization.

Device Manager functions and features include the following:

- Addition, deletion, and modification of devices to Oracle Communications Session Delivery Manager
- Display of summary and detailed information on individual devices and device groups
- Management of user permissions based on operation and device group privileges

Security Manager

Security Manager enables the definition and control of access rights for individual users and user groups, plus an audit log for all changes. Security settings are configurable for users, user groups, and groups of devices.

Security Manager functions and features include the following:

- Access control lists that define permitted user and user group access rights (per element management function— configuration, fault, performance; system operations and information; based on function and device group / instance)
- User and user group support (users assignable to groups with predefined permissions; override to group permissions to grant/deny permissions for individual user; unique username/passwords for each individual user for authentication)
- Audit log of all activities performed by individual users (including username, date/time, operation performed, and success/failure)
- Inactivity timer for client connections
- Configurable password rules

Management Applications

Oracle Communications Session Delivery Manager products support a flexible range of management applications that provide operations personnel with the essentials for managing small to very large networks of session delivery infrastructure products across a wide range of session delivery solutions.

Oracle Communications Session Delivery Manager products leverage a highly modular framework that supports additional management applications that can be integrated into the Oracle Communications Session Delivery Manager over time as additional session delivery infrastructure products and solutions are deployed. This starts with Oracle Communications Element Manager, a powerful configuration, monitoring, and statistical collection tool. It extends to Oracle Communications Enterprise Trunk Manager, a management tool to simplify provisioning and accelerate turn-up of SIP trunks, Oracle Communications Session Report Manager, a historical performance data repository for analysis on historical signaling, media and other types of data, and Oracle Communications Session Route Manager, the route provisioning application for session routing proxies and session border controllers (SBCs).

Oracle Communications Element Manager

Oracle Communications Element Manager is used for configuration, monitoring, and statistical collection, and it supports all session delivery infrastructure products and hardware platforms. It is a standard management application within the Oracle Communications Session Delivery Manager family of products. Oracle Communications Element Manager comprises the Configuration Manager, Fault Manager, and Performance Manager features of the session delivery infrastructure—all of which are accessed through the Oracle Communications Session Delivery Manager's GUI.

Configuration Manager

Configuration Manager enables element configuration, provisioning, and software management for multiple networks. Configuration Manager also includes a powerful

configuration archiving function to assist operations personnel in auditing and troubleshooting configurations for faster problem resolution and reduced maintenance costs. Configuration archiving automates configuration backups for one or more elements and also enables the restoration of configurations from the archive. Its auditing capabilities include onscreen comparison of element configurations and comma-separated value (CSV) file export to save comparison results for subsequent viewing. Operations staff can also perform search and sort functions on the archive and manage its size through editing and purging functions.

Other Configuration Manager functions and features include the following:

- Configuration via GUI thin client interface or web services client API to OSS provisioning applications
- Multiple configuration/presentation views (default, command line interface, and list)
- Hierarchical view of session delivery infrastructure elements and their physical and logical components (physical interface, virtual interface, realm, signaling service, session agents, and so on)
- Auto-initiated upgrade of multiple session delivery infrastructure elements enabled through Acme Packet OS upgrade
- Global parameter changes that enable simultaneous configuration of multiple attributes across multiple session delivery infrastructure elements
- Device inventory information and configuration parameter details
- Multiple concurrent users supported with local configuration views for each user
- Complete device control via commands (save, activate, save and activate, reboot, and so on)
- Tooltip that displays session delivery infrastructure command-line interface parameter name by mousing over configuration parameter description
- Online, context-sensitive help

Fault Manager

Through Fault Manager, Oracle Communications Session Delivery Manager products enable real-time monitoring of operational status by collecting and displaying alarms and fault-related statistics.

Fault Manager functions and features include the following:

- Event delivery via Simple Network Management Protocol (SNMP) traps
- Visual display of alarms on main GUI screen
- Alarms color coded by level of severity
- User-configurable trap severity mapping
- Alarm severities that are configurable
- Alarm and event filtering and management
- Alarm acknowledgment, clearing, deletion, and save to a file
- E-mail notifications based on severity level of event

Performance Manager

Performance Manager enables the collection and real-time monitoring of session delivery infrastructure performance statistics.

Performance Manager functions and features include the following:

- Configurable, performance-related threshold crossing alerts

- Comprehensive performance metrics (signaling—session rate and quantity, registrations, acceptance/rejection, and so on; media—packets and bandwidth; network—frames, packets, and bandwidth; system resources—CPU and memory utilization, health score)
- Real-time, on-demand collection and display of performance statistics (exportable to CSV-formatted file)
- Statistics available for systems/HA nodes, physical interfaces, network interfaces, realms, and session agents

Oracle Communications Enterprise Trunk Manager

Oracle Communications Enterprise Trunk Manager significantly reduces the cost and effort associated with provisioning Session Initiation Protocol (SIP) trunking services. Deployed in a NOC of a SIP trunking service provider, Oracle Communications Enterprise Trunk Manager simultaneously manages the configuration of the service provider SBC (SP-SBC) and enterprise SBCs (E-SBCs) to simplify and streamline SIP trunking service enablement. With Oracle Communications Enterprise Trunk Manager, service providers can rapidly accelerate service turn-up by eliminating the time and expense associated with dispatching an engineer or technician to the customer site to manually configure the E-SBC. Enterprises also benefit by more quickly realizing the cost savings and other advantages associated with SIP trunking services.

Oracle Communications Enterprise Trunk Manager functions and features include the following:

- Integrated wizard for configuration of initial SP-SBC and E-SBC parameters
- Network-wide view of SIP trunks deployed and associated E-SBCs and SP-SBCs
- Automated configuration of distributed E-SBCs from central location
- E-SBC lockdown to ensure security and limit accidental configuration errors

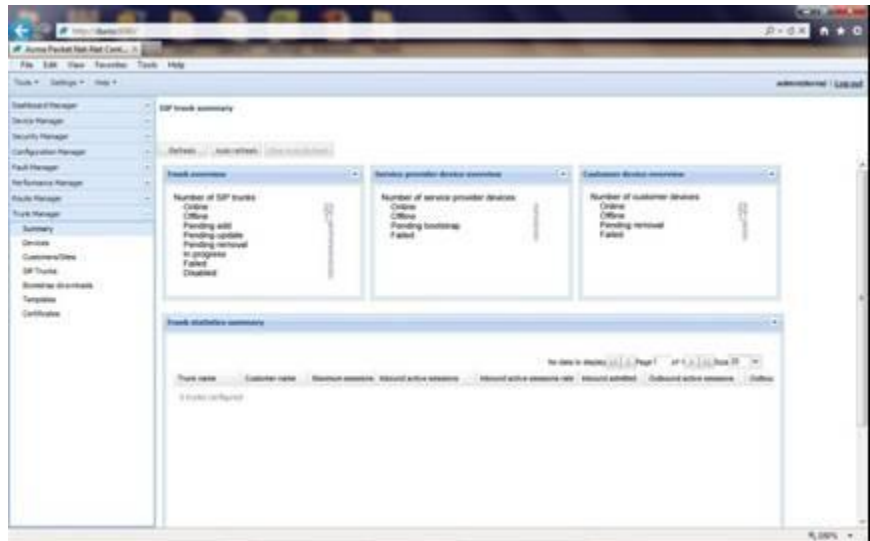


Figure 3: SIP trunk summary from Oracle Communications Enterprise Trunk Manager

Oracle Communications Session Report Manager

Oracle Communications Session Report Manager improves Internet Protocol (IP) communications network planning and troubleshooting, and it collects data across the

session delivery infrastructure. It aggregates and reports statistics for device reporting and operational measurements, providing network intelligence for capacity planning, quality of service reporting, and troubleshooting.

Oracle Communications Session Report Manager functions and features include the following:

- Automatic import of historical data records (HDRs) from the session delivery infrastructure
- Aggregation of HDR data (hourly, daily, weekly, and monthly)
- Configurable data retention times
- Scheduled or ad hoc reports
- Predefined reports with integrated filters for customized views
- Export of report data (PDF file format)
- HA of report data between redundant Oracle Communications Session Element Manager servers

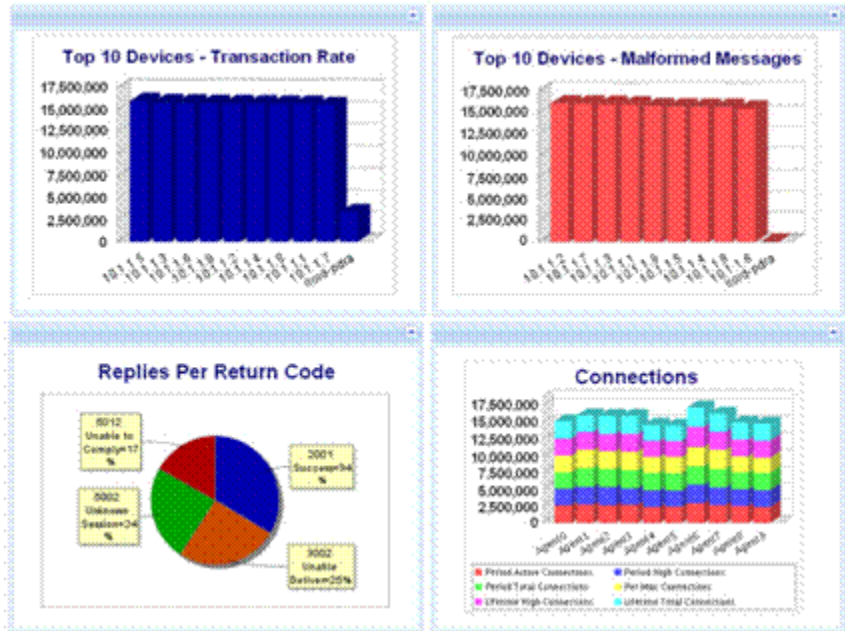


Figure 4: Available reports from Oracle Communications Session Report Manager

Oracle Communications Session Route Manager

Oracle Communications Session Route Manager is a management application used in session routing applications for service provider interconnect and peering services. It consolidates and automates the management and distribution of up to 2 million routes per SBC or session routing proxy (SRP).

Utilizing Oracle Communications Session Delivery Manager's intuitive, browser-based GUI, Oracle Communications Session Route Manager leverages the framework to automatically provision and distribute routing information to all or specific subsets of SBCs and SRPs in the network.

In addition to built-in route provisioning, Oracle Communications Session Route Manager can import routes from deployed session delivery infrastructure systems or

from external servers. Powerful global search and display capabilities additionally simplify route modification and creation.

To enhance troubleshooting and maintenance, Oracle Communications Session Route Manager maintains a history of route changes and system updates and provides rollback capability.

Oracle Communications Session Route Manager functions and features include the following:

- Creation and modification of onboard routing databases for Oracle SBCs and SRPs
- Global search and display for route creation and modification
- Automatic distribution of routing information to all or specific subsets of SBCs and SRPs
- Route importation from external databases (CSV file format) or deployed systems
- Enhanced troubleshooting via edit/search/replace, rollback, and audit log capabilities

System Requirements

ORACLE COMMUNICATIONS SESSION DELIVERY MANAGER PRODUCT FAMILY SYSTEM REQUIREMENTS





Attribute	Details
Server	<p>Minimum hardware requirements:</p> <ul style="list-style-type: none">• CPU: 4-core 2.1 GHz processor or better• RAM: 16 GB• Hard disk: 195 GB minimum, 300 GB recommended
Operating system support	<ul style="list-style-type: none">• Red Hat Enterprise Linux v6.2 (64 bit)• Oracle Enterprise Linux (64 bit)• CentOS-6.2 (64 bit)
VMware support	<ul style="list-style-type: none">• Any of the supported operating systems• Same Linux minimum hardware requirements as above
Client	<ul style="list-style-type: none">• Thin client: Web browser with Adobe Flash• Microsoft Internet Explorer version 9.0 or higher• Mozilla Firefox (latest plus two previous versions)• Google Chrome (latest plus two previous versions)

CONTACT US

For more information about Oracle Communications Session Delivery Manager, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.



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