

ORACLE COMMUNICATIONS IP SERVICE ACTIVATOR

KEY FEATURES

- Expert IP/Ethernet Service Modules
- Comprehensive, Multivendor Support
- Powerful Policy-based Management
- Stateful Activation Technology
- Sophisticated QoS Management
- IPv4-IPv6 Provisioning Support
- Service-aware Configuration Management
- Comprehensive OSS Integration Support
- Extensible Cartridge Software Development Kit
- Oracle Solaris, Oracle Linux with Oracle VM, Redhat Linux, Oracle Enterprise Database and Oracle RAC Support

KEY BENEFITS

- Streamlines and automates delivery of highly-differentiated, custom IP/Ethernet connectivity offers in complex, multivendor environment
- Enables CSP to scale operations without having to increase headcount
- Performs complex, network-wide updates, such as QoS or routing changes, with a few simple steps
- Reduces order fall-out by providing structure and discipline to provisioning complex service configurations
- Enables rapid troubleshooting and restoration of complex service configurations
- Provides complete device and service-aware configuration management
- Supports service configuration auditing to validate configuration health of customer services, and find discrepancies
- Insulates upstream systems from IP/Ethernet configuration complexity and ongoing vendor and technology change in the network
- Offers rapid, low cost support for new features and custom requirements
- Extends flexibly as business

Oracle Communications IP Service Activator, a key component in Oracle's Rapid Service Design and Order Delivery (RSDOD) solution for business services, enables communications service providers (CSPs) to efficiently provision a rich, highly-differentiated portfolio of IP/Ethernet connectivity offers — such as IP/Ethernet VPNs, multicast VPNs, QoS and Bandwidth on Demand – in a complex, heterogeneous network environment.

Deployed by many of the world's leading CSPs, Oracle Communications IP Service Activator provides a unique, multivendor, policy-driven activation approach to abstract complexity and simplify provisioning, enabling CSPs to efficiently offer differentiated IP/Ethernet connectivity offers and grow margins by eliminating costly service and vendor-specific provisioning silos.

IP Service Activator's Role in Oracle's Rapid Service Design and Order Delivery Solution

While Oracle Communications IP Service Activator can be deployed stand-alone, it can also be deployed as part of Oracle's RSDOD solution for business services. In this configuration, Oracle Communications IP Service Activator works with the solution's inventory and service management components to enable flow-through automation of complex IP/Ethernet services and reduce overall IT complexity by eliminating service and vendor-specific silos.

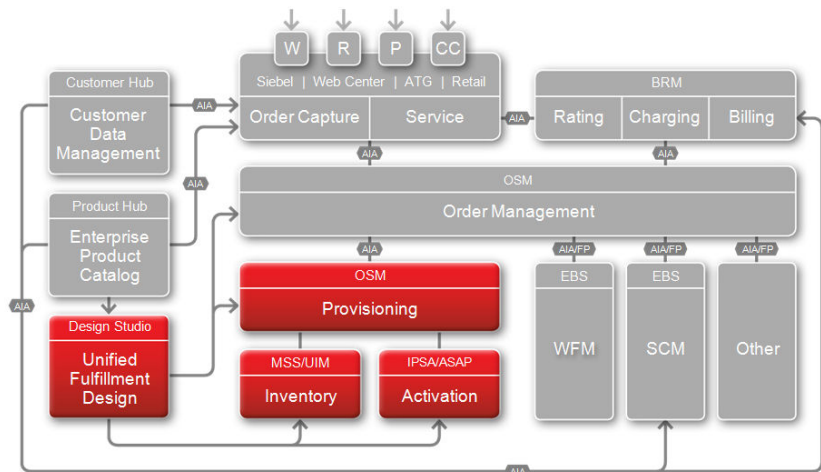


Figure 1. Oracle Communications RSDOD Solution for Business Services

In the context of the Oracle Communications RSDOD solution for business services, Oracle Communications IP Service Activator offers this value:

- **Rapid service design** – Enables localized service design updates through technology and vendor decoupling. Oracle Communications IP Service Activator offers a single,

requirements evolve over time

- Simplifies interface and sub-interface management across large, multivendor networks
- Provides comprehensive security policies to protect networks, users and services from malicious attacks
- Provides carrier-grade scalability and supports multiple high performance, low-cost deployment options

technology and vendor-agnostic activation approach for configuring complex IP/Ethernet connectivity services. By leveraging extensible expert service modules and equipment vendor cartridges, CSPs can rapidly and flexibly deploy activation support for new services, technologies and vendor equipment with minimal upstream impact.

- **Fast, accurate service delivery** – Enables automated provisioning of highly-differentiated IP/Ethernet connectivity offers. Acting as the solution’s activation ‘black box’ for IP/Ethernet connectivity services, Oracle Communications IP Service Activator intelligently computes how service requests are translated into complex, highly-distributed service configurations in a multivendor network. Likewise, its unique service configuration assurance capability ensures accurate service delivery and strengthens CSPs ability to meet QoS, Availability and Delivery SLAs.
- **Reduced IT complexity and cost** – Simplifies provisioning architecture by providing a single, service and vendor-agnostic activation approach for configuring IP/ Ethernet connectivity services in a heterogeneous network. Its expert service modules and vendor cartridges reduce the need for service and vendor-specific provisioning skills and shield upstream systems from the complexity of managing highly distributed service configurations, allowing CSPs to redeploy personnel to higher value tasks and simplify back office provisioning architectures for complex services.

Key Challenges in Provisioning IP/Ethernet Connectivity Services

Managing complex IP and Ethernet-based connectivity services involves orchestrating thousands of commands to an intricate array of multivendor devices. This complexity makes the ongoing management of these services, such as moves, adds, changes and deletes, inherently difficult to manage. Likewise, ongoing technology changes at the network level, such as adding new vendor equipment or capabilities, further increases the complexity of the overall provisioning environment.

Most CSPs use a combination of manual, custom script or template-based configuration approaches and experience these challenges:

- Fragmented provisioning environment with non-standard processes and service configurations
- Fragmented view of services supported by multiple vendor technologies
- Multiple service silos and costly upstream integrations
- Poor operational visibility of how and when services are configured on the network
- High-order fallout due to error-prone processes, non-standard implementations, and severe deficiencies of script/template technologies to modify and rollback complex services
- Need for highly skilled team to support service delivery and order fall-out resolution
- Inability to scale due to limited automation
- Long lead times and inability to offer differentiated services such as bandwidth on demand or real-time QoS updates due to manual processes
- Expensive development required to support specialized, custom requirements

These challenges have a direct impact on the business, in terms of increased costs, low or negative margins, slow market responsiveness, and a poor customer experience. Oracle Communications IP Service Activator abstracts service and vendor complexity to address

these challenges and simplify the provisioning environment.

Comprehensive Multivendor Support

Oracle Communications IP Service Activator offers comprehensive, out-of-the-box IP and Ethernet provisioning support for leading network equipment vendors, including Cisco, Juniper, Alcatel, Brocade and Huawei. The solution's plug and play device cartridge architecture enables CSPs to flexibly deploy the most suitable and cost-effective devices for their service offerings without being tied to a single vendor.

Stateful Activation Technology

Oracle Communications IP Service Activator's unique stateful activation technology efficiently computes service configuration changes by taking numerous variables into account, including device vendor and types, OS versions, interface types and hardware, CSP preferences, and also particularly the existing state of device and service configurations. This approach enables full configuration change flexibility and totally reliable service additions, modifications, deletions and rollback. Oracle's capabilities contrasts with custom script or template-based approaches which will always severely lack in reliability and are generally used only for a limited set of provisioning use cases.

Data Modeling and Stateful Persistency

Oracle Communications IP Service Activator manages the inherent complexity of IP and Ethernet connectivity services by maintaining a stateful, persistent data model of three key pieces of inter-related information: a representation of network topology, details of configured services and policies, and system data such as status, fault and logging information.

By retaining a memory of how services are provisioned on the network, the solution efficiently computes what changes are required to provision or update a service, thereby driving down provisioning times and eliminating the need for highly-skilled resources to assemble or update complex service configurations.

Expert Service Modules

Oracle Communications IP Service Activator provides a set of extensive and sophisticated expert service models that model elaborate, intrinsic knowledge of various services to abstract service complexity from the provisioning process. Each service module is vendor-agnostic, enabling CSPs to flexibly plug-in different vendor device cartridges to support the service on the network. When deployed, CSPs can provision complex services with a few clicks and without detailed knowledge of the network implementation.

Oracle Communications IP Service Activator supports expert service modules out-of-the-box, including:

- Layer 2 IP MPLS-based point-to-point or Ethernet Line (E-Line) services
- Layer 3 IP MPLS-based VPNs
- Virtual Private LAN Service (VPLS) or Ethernet LAN (E-LAN) services
- Metro Ethernet VLAN services
- Traffic engineering MPLS tunnels
- Multicast VPNs
- Interface Configuration
- Quality of Service (QoS)

Powerful Policy-based Management

Oracle Communications IP Service Activator provides an intelligent, multivendor policy-based approach to simplify the provisioning and management of complex IP and Ethernet connectivity services. By leveraging pre-built service and vendor plug-in cartridges, the solution's policy-based engine efficiently translates service requests into multivendor, device-specific configuration commands, thereby increasing automation, eliminating errors and reducing the need for costly in-depth human analysis.

This sophistication is enhanced by a role and an inheritance-based policy model that enables CSPs to flexibly apply updates to any point in the network with a single action. CSPs can group devices and interfaces according to business criteria, such as network role, service type, geographic location or customer, to rapidly implement business-driven decisions on the network. The complexities of the implementation, such as the conversion of the high level request to the actual configuration on the network, are seamlessly handled by Oracle Communications IP Service Activator behind-the-scenes.

Sophisticated QoS Management

Oracle Communications IP Service Activator enables sophisticated QoS management across large-scale, multivendor networks by providing an intelligent QoS service model, a policy-based approach and pre-built QoS vendor support. This approach abstracts the complexities of QoS management, enabling CSPs to perform complex, network-wide QoS updates with a few simple steps.

By supporting rapid provisioning of complex QoS updates, including identifying and classifying traffic, marking packets, traffic shaping, as well queuing and policing traffic, the solution enables CSPs to offer a rich, highly differentiated portfolio of QoS offers.

Comprehensive Access Control

With Oracle Communications IP Service Activator's policy-based access control capability, CSPs can deploy easy-to-manage, time-based security policies to protect the network, and the users and services that use it, from malicious attacks, including blocking specific applications, protecting sensitive data and preventing identified users from accessing certain services and/or network regions.

Interface and Sub-interface Configuration Management

Oracle Communications IP Service Activator helps CSPs simplify interface and sub-interface creation, modification and deletion across large, multivendor IP and Ethernet networks. Using interface configuration policies, the solution enables CSPs to efficiently create and configure commonly used interfaces and sub-interfaces, such as Serial or Gigabit Ethernet ports, loopback interfaces, or Ethernet VLAN or ATM PVC sub-interfaces.

Service-aware Configuration Management

Unlike traditional configuration management tools that are device-centric, Oracle Communications IP Service Activator provides a complete device and service-aware configuration management view, enabling CSPs to proactively manage change in highly complex, next-generation IP and Ethernet networks.

For more information, please refer to the "Oracle Communications IP Service Activator – Configuration Management Module" datasheet.

IPv4 and IPv6 Provisioning Support

Oracle Communications IP Service Activator's supports service provisioning for both IPv4 and IPv6, enabling CSPs to introduce new IPv6 business service offerings while simultaneously managing the operational complexities of a dual IPv4–IPv6 environment.

Network Discovery

Oracle Communications IP Service Activator intelligently discovers information about the network – such as devices, interfaces, IPv4-IPv6 addresses and network segments – and creates a detailed topology model of the discovered network. Through this process, the solution also ascertains the capabilities of each discovered node by identifying which services and policies it can support, thereby ensuring that the CSP can quickly leverage the asset in the delivery of a service.

Comprehensive OSS Integration Support

Oracle Communications IP Service Activator provides out-of-the-box tools and extensive APIs to easily integrate with other operations support system (OSS) components, including order entry, performance management and fault management.

Extensible Cartridge Software Development Kit

Oracle Communications IP Service Activator offers a cartridge software development kit (CSDK) to enable CSPs to flexibly extend the solution's service and vendor support independent of Oracle as business requirements evolve over time. With the CSDK, CSPs can build their own plug-in cartridges or extend existing ones, leveraging all state-of-the-art characteristics of stateful activation technology, to support the introduction of new service and vendor device support.

Flexible Configuration Templating

Oracle Communications IP Service Activator offers a Configuration Template Module (CTM), as a complement to the Cartridge SDK, to easily and quickly create simple configuration templates to support new, low-volume service requirements. This rapid, low-cost time to market capability is fully backed by the solution's robust, carrier-grade service delivery capabilities, including transaction management, as well as template management and versioning.

Carrier-Grade Performance and Scalability

Deployed in some of the largest, most demanding CSP networks, Oracle Communications IP Service Activator offers market-proven performance, resiliency and scalability. By supporting Oracle's latest technologies, including Oracle Solaris 10, Oracle Linux 5, Oracle Database 11g Enterprise and Real Application Clusters (RAC) 11g, the platform leverages leading technology innovations to drive ongoing and continuous improvements.

Flexible Deployment Options

Oracle Communications IP Service Activator supports Oracle Solaris, Oracle Linux with Oracle VM, and Redhat Enterprise Linux operating systems to offer CSPs multiple high performance, low-cost deployment options.

Contact Us

For more information about Oracle Communications IP Service Activator, please visit www.oracle.com/communications or via Email: comms-oss_ww@oracle.com.



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