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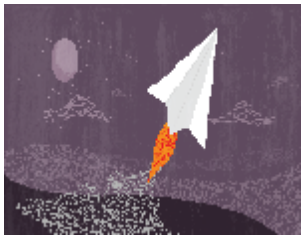
Oracle Communications Virtual Signal Transfer (OC vSTP)



Industry Leader in signaling since 1994

Oracle Communications Virtual Signal Transfer Point (OC vSTP) is a cross platform virtualization software derived from the best of EAGLE STP and virtual Diameter Signaling Router (vDSR), enabling common signaling across 2G, 3G.

OVERVIEW

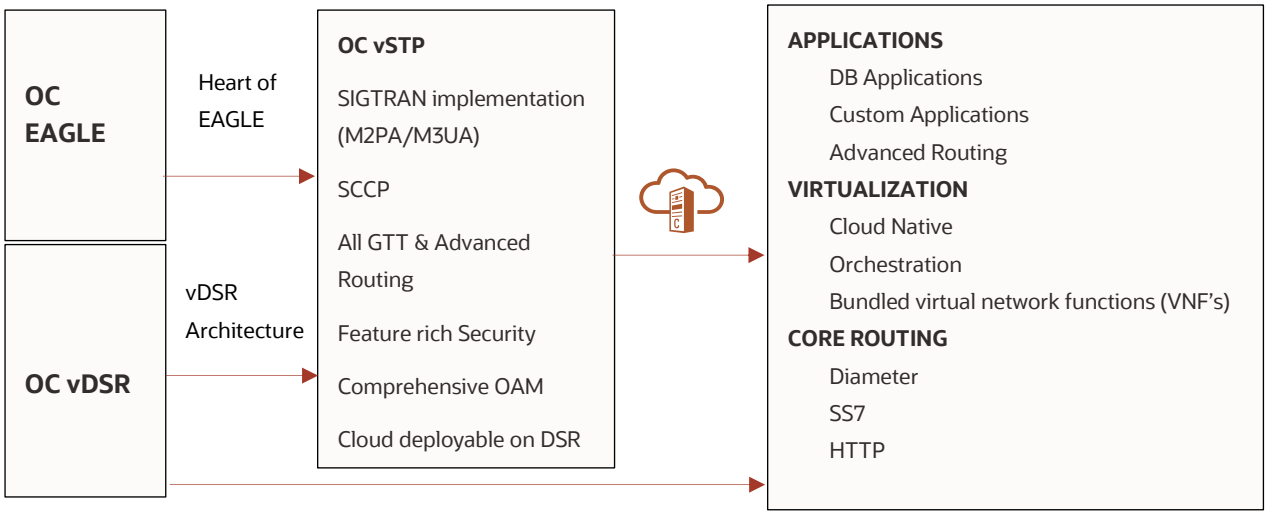
With OC vSTP, the operator can easily demonstrate and deploy solutions across multiple platforms, irrespective of the virtual machine (VM) in use. OC vSTP also doubles up as an SS7 Security Firewall to counter secure vulnerability attacks. With an impressive reputation for reliability and agility, OC vSTP contains innovative features to deliver tangible business benefits such as significant performance improvements, a more powerful virtualization system and a wider range of supported guest operating system platforms. This unified signaling solution is ideal for managing the communication service provider network in the most effective.

Key Functions

- Ease of creating isolated environments
- Enriched GUI for vSTP configuration
- Flexible load sharing, flexible routing options using GTT features like FLOBR/ TOBR/ MBR/ SBR
- SIGTRAN support
- TDM support with optional 3rd party hardware
- Administration and access control are by click of a button
- Short learning curve graphical user interface
- Common signaling license that offers investment protection
- Network security addressing both stateful and stateless security cases with clear future path

PRODUCT DESCRIPTION

Oracle Communications vSTP is a unique signaling solution with breadth and depth that is globally recognized. It takes the heart of the best in class STP and combines it with the best in class DSR. It involves benefits of all that EAGLE provides along with the reliability and confidence of the Oracle virtualization.



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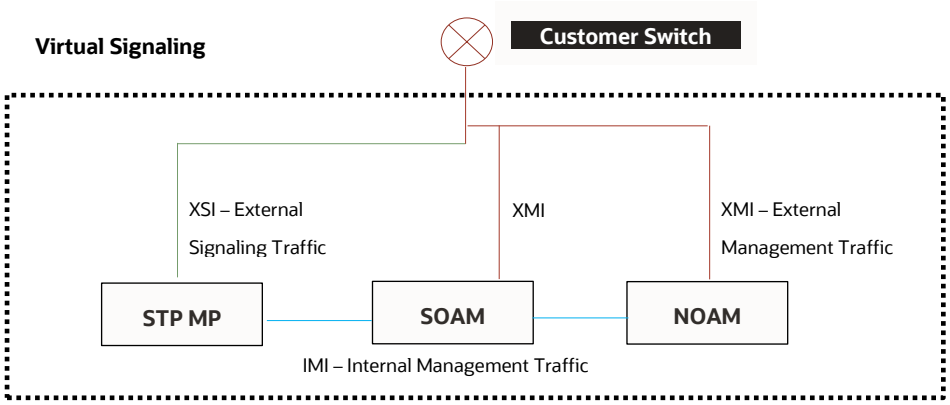
Oracle Communications vSTP leverages the DSR's system OAM (SOAM) and network OAM (NOAM) architecture to further enhance its operability. Configuration and management of topology data, security, servers, IP networking is taken care by Network OAM. While the configuration and management of signaling node, routing of data, TCP/SCTP by System OAM At the message protocol (MP) layer, real time signaling, and database processing takes place, while different MP type can be created to process the diameter and SS7 traffic separately.



OC vSTP supports the following interfaces:

TRAFFIC MANAGEMENT	OC VSTP MANAGED OBJECTS
External management traffic Internal management Interface for signaling traffic.	SS7 addressing resources Basic media transfer protocol (MTP) resources. Global title addresses, global title translation. GTT sets, GTT load sharing resources. Message transfer part 2 (M2PA) options. Signaling connection control part (SCCP). MTP level 3 user adaption (M3UA) options. Alarm aggregation options and much more.

OC vSTP supports 20K MPS SS7 traffic capacity at the system level. This allows vSTP to support redundancy and diversity at the signaling interfaces. That is, more than one active STP-MP server supports signaling interfaces pointing towards the same remote signaling point. Also, OC vSTP is fully compatible with Oracle and 3rd party infrastructure. At the virtual compute stack, it supports other virtual machines.

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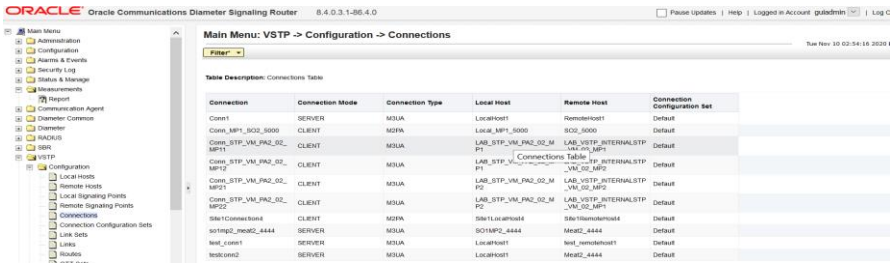
The configuration management capabilities in vSTP provides an intuitive graphical user interface (GUI) to configure vSTP and security configuration. It also provides a common interface for vSTP provisioning.



ELEMENTS

Signal Transfer Point (STP)

The STP delivers American National Standards Institute (ANSI) / International Telecommunication Union (ITU) international gateway functionality in addition to centralized signaling routing and bridges the existing circuit-switch and packet switch networks. It offers advanced routing and screening functions while supporting multiple link interface types and industry standards. This helps in fostering flexible configuration and connection of network devices.

Signaling Gateway (SGW)

SGW is a complement to STP, it transfers signaling messages relevant to call establishment, billing, location, short messages, address conversion and other services. Operators can migrate to packet switched networks without modifying their existing infrastructure. Without any additional nodes, Oracle SGW can manage changes in the traffic and can manage signaling in the most complex networks. These three components yield compelling use cases around 3G-VoLTE migration, mobile number portability and equipment identity register.

Home Location Register Router (HLRR)

The HLRR flexibility allocates numbers across multiple HLR's in a network and overcomes the limitations of traditional range-based routing that ultimately waste HLR capacity. The HLR router provides the mapping between subscriber numbers and HLR's operators can fill every HLR to 100% capacity, eliminating the need to maintain subscriber routing tables in every mobile switching center.

Equipment Identity Register (EIR)

EIR reduces the number of **GSM** mobile handset thefts by providing a mechanism to assist network operators in preventing stolen or disallowed handsets from accessing the network. This control is accomplished by comparing the International Mobile Equipment Identity (**IMEI**) that is provided during handset registration.

Oracle Communication Signaling and Policy Solutions

- Oracle Communications EAGLE
- Oracle Communications Diameter Signaling Router (DSR)
- Oracle Communications Policy Control Function (PCF)
- Oracle Communications Common Signaling, Security and Edge Protection Proxy (SEPP)
- Oracle Communications Common Signaling, Network Repository Function (NRF)
- Oracle Communications Common Signaling, Service Communication Proxy (SCP)
- Oracle Communications Common Signaling, Binding Support Function (BSF)
- Oracle Communications Common Signaling, Interworking and Mediation Function (IWF)

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OC vSTP features:

Flexible routing options using GTT features like flexible linkset optional based routing (FLOBR)/ Transaction capabilities application part opcode-based routing (TOBR)/ mobile application part-based routing (MBR)/ sub system routing (SBR).
SIGTRAN support.
Time division multiplexing (TDM) support using optional 3rd party hardware.
Enriched GUI for vSTP configuration.
SCCP and MTP Loop Detection, ITU Duplicate Point code, and tagged image format (TIF) support.
EIR supports up to 250M subscribers.
MNP supports up to 250M subscribers.
Stateful Security Application supports up to 250M subscribers.
Stateful Firewall Support for SS7 and Diameter.
Mobility, Roaming, Authentication.
Reliability, Security, Screening.
Agility, Scalability, Load Sharing.

OC vSTP benefits:

Extends the lifetime and usefulness of existing hardware without having to refresh unnecessarily.
Provides an option for seamless journey to cloud without major changes in the existing infrastructure.
Assures unified signaling solution for ease of operability.
Supports key functions such as integrated monitoring, signal transfer, signaling gateway, advanced routing applications, screening, security and NP.
Supports 3rd party hardware.
Renders accurate projections for future growth in network traffic.
Ensures real time monitoring and observability.
Uses Common signaling license that offers investment protection.
Provides five-nines, field proven reliability in wireless and wireline networks worldwide.

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PERFORMANCE, AVAILABILITY AND RELIABILITY

Customers can deploy converged IP-based applications into their networks with unmatched availability and reliability, by having the application session state automatically distributed across multiple regional data centers/mobile switching center's (MSC's) in real time. The risk involving service losses can be avoided from single points of failure. High performance and low latency are the key attributes of the OC vSTP deployed on Oracle platforms. OC vSTP uniquely implements all that is required for running and managing the signaling traffic in the most effective way.

SUMMARY

Oracle Communications solutions enable service providers to securely manage and monetize the explosive growth in mobile data traffic and multimedia applications. They help service providers protect their network and customer data, analyze subscribers' quality of service, set policies to improve customer experience and optimize network performance.

Oracle Communications helps billions of people, devices and machines intelligently connect and engage over any network. With proven capabilities, scalable solutions, network security, common intelligent signaling platform, Oracle Communications solutions guarantees, security, high availability and continued support.

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