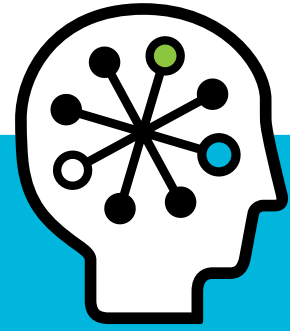# HP OpenCall SIP Network Server

Data sheet

Tightly integrated with the HP CMS Platforms and solutions, the HP OpenCall SIP Network Server enables the service providers to operate value added services, providing high availability and scalability alongside operational benefits.

The HP OpenCall SIP Network Server is an easily configurable SIP network element that allows the service provider to deploy IP based applications in their networks. It addresses IMS and TISPAN as well as NGN networks and supports all key SIP functions such as Proxy, Redirect and Registrar.

The HP OpenCall SIP Network Server provides high-availability service and allows intelligent routing and enhanced load balancing between service instances deployed in the network.

In particular, it is optimised to load-balance the SIP traffic for the HP OpenCall Media Platform (enabling multimedia services) and the HP OpenCall Service Controller/Service Access Controller (supporting real time charging services), or any SIP-enabled CMS solution.

Key features and benefits

- SIP Proxy, Redirect, and Registrar functions
- Layer 7 load balancing and routing for multi-service platforms
- HTTP and secure HTTP load-balancer
- Scriptable load-balancing and routing rules
- SIP baseline protocol and extensions support for IPv4 networks
- IPv6 'ready' for NGN and IMS

- Scalability from entry level configuration to very large systems supporting 50M+ subscribers
- Telco grade software
- Linux operating system
- HP worldwide 24x7 support
- Wide range of additional services (trainings, consulting, customisation)

Product features

Load-balancing features

Scalability
The HP OC SNS load-balancing feature enables HP CMS products and solutions a dynamic capacity increase from a few SIP sessions on a pair of mated machines to several thousands ports on a cluster of servers.

Service high-availability
The HP CMS OpenCall SIP products and solutions cluster architecture is designed to avoid a single point of failure. Hardware and software service components are deployed on more than one server in a redundant model. The HP OC SNS provides a deterministic failure detection mechanism that verifies that signalling traffic is shared among the active service instances of the cluster. Once a service instance is detected failed, the HP OC SNS reroutes traffic towards the remaining active service instances.

Graceful service shutdown
When a graceful shutdown operation is invoked on an active service instance, the HP OC SNS continues to route messages belonging to established sessions to the service being shutdown. New sessions are routed to the remaining active service instances. When all sessions are completed on the service instance being shutdown, this service instance is effectively shutdown.
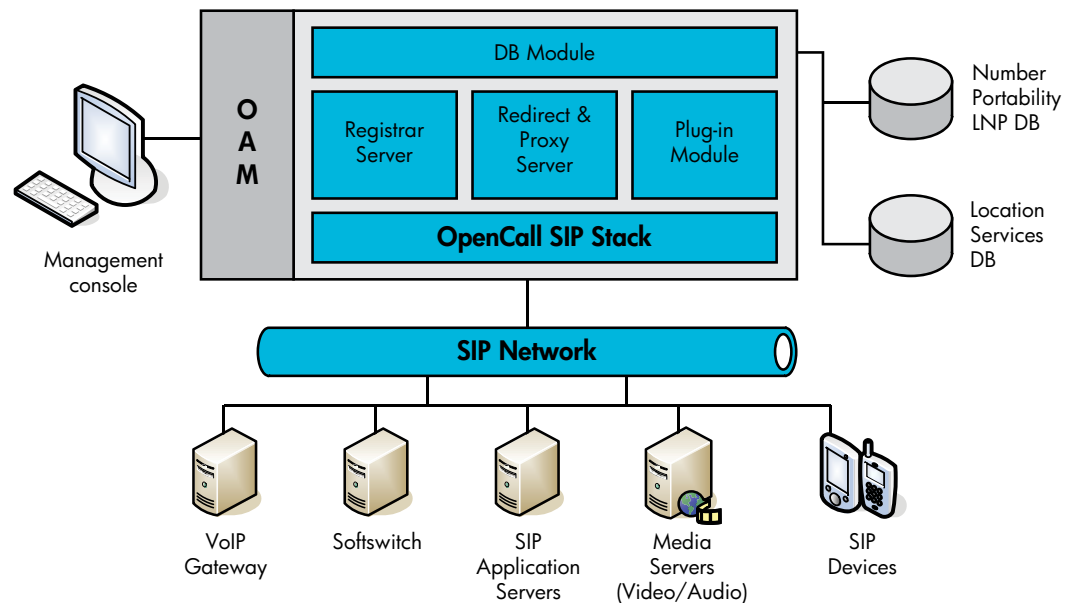
Conference affinity

The HP OC SNS can be configured to load-balance the conference requests across the different conference service instances, in accordance with the conference ranges handled by the HP OpenCall Media platforms, verifying all legs are terminated on the same conference. This is an example of the power and flexibility of the HP OC SNS – showing that it is capable of extracting service-related information from signalling messages and processing this information to achieve intelligent routing.

Additional features

Modular architecture

The HP OC SNS includes the following functions:

• Configurable load balancing between service instances

• SIP Proxy

• SIP Redirect

• SIP Registrar

• A modular architecture that enables new function addition through a plug-in design:

  – LDAP look-up

  – On-the-fly SIP content adaptation

HP OCSNS is built on top of the industry proven HP OCSIP protocol stack used in HP CMS products and solutions.

In order to ease the Integration of HP OCSNS in network infrastructures, the databases (Local Number Portability, Presence status, Location Service and Authentication) can be remotely accessed through the DB module. The DB module provides an API to access external Data Bases (for example, LDAP) with caching feature.

Operations, Administration and Maintenance (OAM) functions include provisioning, event logging, SNMP and Telnet CLI remote interfaces.

Robustness and performances

The HP OC SNS is available in a stand-alone as well as in a high-availability mode. This HA mode is based on an active/stand-by architecture that enables the continuity of the session traffic routing to the service instances.

Completely written in C and C++, and based on the highly performing and RFC complete HP OpenCall USP SIP stack, the HP OC SNS is designed to meet the high performance and reliability that the service provider network requires.

Technical specifications

System requirements

Hardware	ProLiant rack mount server ProLiant blade server Carrier grade rackmount and blade servers
Operating system support	Red Hat Enterprise Linux
Available functions	SIP Proxy SIP Redirect SIP Registrar SIP load balancing HTTP load balancing

Supported RFCs

RFC 3261	Session Initiation Protocol
RFC 3262	Reliability of provisional responses in SIP
RFC 3263	Locating SIP servers
RFC 3265	SIP specific event notification
RFC 2327	Session Description Protocol (SDP)
RFC 2052	A domain name system RR for specifying the location services (SRV)
RFC 2915	The naming Authority Pointer DNS resource Record
RFC 2916	E164 number and DNS
RFC 2617	HTTP Authentication: Digest Authentication
RFC 2806	URLs for Telephone Calls
RFC 3087	Control of Service Context using SIP-Request URI
RFC 3824	E164 numbers with the Session Initiation Protocol
RFC 2976	SIP INFO method
RFC 3311	SIP UPDATE method
RFC 3326	The SIP reason header
RFC 3515	The Session Initiation Protocol, Refer method
RFC 3891	The SIP replace header
RFC 3892	The SIP referred-by mechanism
RFC 3841	Caller preference for the SIP protocol
RFC 2246	TLS protocol
RFC 3455	Private header (P-header) Extensions to the Session Initiation Protocol for the Third Generation Partnership Project (3GPP)
RFC 3312	Integration of resource management and Session Initiation Protocol
RFC 3323	A privacy mechanism for the Session Initiation Protocol
RFC 3313	Private Session Initiation Protocol Extensions for media authorisation
RFC 3325	Private Extensions to the Session Initiation Protocol for Network Asserted Identity within Trusted Networks: User Agent case
RFC 3420	Internet media Type message/sipfrag
RFC 3581	An Extension to the Session Initiation Protocol (SIP) for Symmetric Response Routing
RFC 4028	Session Timers in the Session Initiation Protocol (SIP)
Draft-ietf-sipping-cc-transfer-02.txt	Transfer – SIP call control
Draft-ietf-sipping-transc-3pcc-00.txt	Transcoding Services invocation

In addition, this design allows scriptable routing criteria and dynamic configuration. This enables a smooth evolution of the application capacity, as well as a stepped introduction of new services.

Service benefits

Any service provider application with size or high-availability constraints implies that it resides on more than one server and can benefit from the HP OC SNS.

In particular, the HP OC SNS can be used to provide application routing or SIP load balancing for the following:

• Audio and video conferencing servers

• Audio and Video trans-coding servers

• IP Media Servers or Media Resource Function servers

• IP Multimedia Application Servers

• Service Controllers

• Group list management servers

HP signalling experience and ecosystem

HP CMS offers state-of-the-art SIP signalling connectivity and extended protocol support that meets worldwide standards.

The HP OC SNS is part of the HP OpenCall signalling suite, which offers a highly efficient and reliable operating environment for signalling and next generation IP Multimedia Subsystem (IMS) networks.

Major communication service providers around the world rely on the HP OpenCall suite to provide the scalability, expandability and high availability of their services, and benefit from HP unique expertise and strong track record: 4,700 installations in telecom networks across 100 countries, used by the major equipment providers and more than 50 ISVs worldwide.

• Industry-proven product design and certified signalling technology

• Investment protection with feature-rich and future-proof products

World-class support and services from HP

Different support service level agreement s are available for the HP OpenCall SIP Network Server: 9x5 for trials and proof of concept or 24x7 for operational environment. In addition, HP proposes a premium support model is also available for mission critical environments.

In addition, HP Software provides customisation (such as plug-in addition), consulting, trainings, OS sustaining, OS ports and other additional services; full description is available on the services brochures.

For more information

For more information about OpenCall SIP Network Server, contact HP Software.

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