



AdvOSS Session Border Controller

Product Data Sheet

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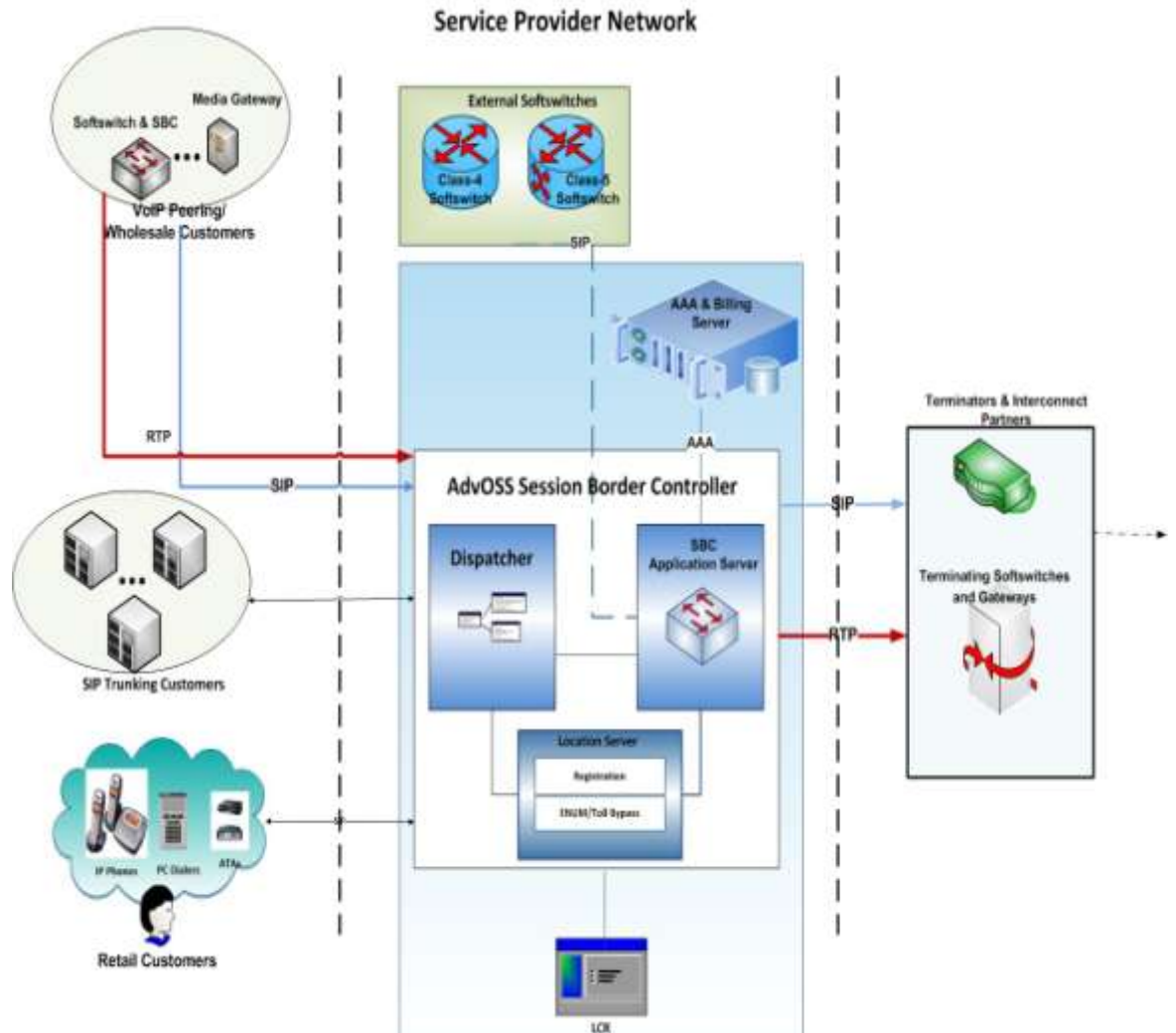
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1 AdvOSS Session Border Controller

AdvOSS SBC (Session Border Controller) provides powerful border control functionality by allowing control and manipulation of signaling and media packets for secure IP based multimedia communication. It acts as a SIP B2BUA (Back to Back User Agent) and can be deployed at both the Access and Peering or Interconnection side of the Service Provider network.

As an Access SBC, it provides enhanced Access Control & Admission Control and enable Operators to handle NAT Traversal related issues in addition to various other advanced capabilities. While as a Peering SBC it provides Topology Hiding, Routing look up, Vendor side termination capacity check etc.

AdvOSS SBC can be easily deployed into any IP based multimedia network and integrates with existing Class 4 Softswitches, Media Gateways, and Application Servers etc over SIP protocol. AdvOSS also offers state of the art LCR Engine, SIP Application Servers and Billing System that come pre-integrated with SBC.



2 Business Use Cases

AdvOSS SBC supports and enables several important business use cases for Service Providers. Some of the major use cases include but not limited to the following:

- NAT Traversal
- Media Proxy & Relaying
- Media Transcoding
 - Between G.729 and G.723
 - Between G.729 and G.711 uLaw
 - Between G.729 and G.711 aLaw
 - Between G.723 and G.711 uLaw
 - Between G.723 and G.711 aLaw

- Congestion control and overload protection for SoftSwitches and Services in the core network
- Topology Hiding
- Complex SIP Header Manipulation and modification
- Handling malformed SIP packets
- Authentication, Authorization and on-line Accounting on behalf of services provided by SoftSwitches in the core in case they are themselves unable to provide the AAA services
- SIP Registration
- SIP Registration Pass-through in case SIP Registrar resides in the core network
- Least Cost Routing to Interconnecting Peers
- Policy Based Routing to Interconnect Peers
- Filtering and Routing incoming SIP messages to Application Servers and SoftSwitches in the core network
- SIP Session Management
- Limiting session routing to Interconnect peers when their session handling capacity is reached or exceeded

3 Modules:

AdvOSS SBC is composed of following modules:

- **Mandatory modules:**
 - SIP Router/Load Balancer
 - Service Management
 - Provisioning
 - SBC Application Server (B2BUA) built on AdvOSS SDP
- **Optional modules:**
 - Admission Control
 - Concurrency Control
 - AAA client (RADIUS)
 - SIP Registrar
 - Least Cost Routing Module

- Media Proxy
- Media Transcoding
- Number Translation & Dial plan Handling: E911 & Special Number handling
- Protocol Manipulation: Error Code Translation & SIP Header Manipulation
- Vendor Management

Special SBC Application Features:

- Topology Hiding
- NAT Traversal
- Black Listing/Whit Listing of originating carriers
- Error Codes translation
- Regulatory Compliance (Lawful intercept & E911 support)

For details of these modules please see the section titled “AdvOSS SBC Modules” later in this document.

4 Integration Points:

AdvOSS SBC offers point of integration with other Network elements as mentioned below:

1. Originating Media Gateways and Softswitches:

AdvOSS SBC integrates with Originator's Media Gateways and SoftSwitches for RTP and media handling. It acts as a B2BUA for network topology hiding by terminating a call coming from originator's Media Gateways or SoftSwitches and initiating new call.

2. Terminating Media and Softswitches:

For Topology hiding, AdvOSS SBC act as a B2BUA and initiate a new call leg to Terminating Gateways and Softswitches.

3. Client User equipment:

AdvOSS SDP can directly integrate with subscriber side user equipment if the SIP Registrar service is used with SBC.

SIP Registration is an optional service. SBC can provide its own SIP Registrar and could also act as a pass-through for a Registration service running in the core network, in the scenario when SBC is acting as the Access SBC.

4. Signaling Protocol Converter:

AdvOSS SBC integrates with Signaling Protocol converters for protocol conversion such as H323 to SIP and SS7 to SIP and vice versa.

5. Core SoftSwitch :

AdvOSS SBC can be integrated with any core Softswitch deployed by CSP over SIP. AdvOSS also offers Core Softswitch which is pre-integrated with AdvOSS SBC.

6. Online AAA and Billing:

AdvOSS SBC can be integrated with an online AAA server and billing system via its built-in RADIUS client.

7. SIP/IMS Application Servers:

AdvOSS SBC can be integrated with any Next Generation Application Server over standard SIP interface. AdvOSS also offers a suite of Next Generation SIP based Application Servers which can be provided with SBC.

8. Mediation System:

AdvOSS SBC provides CDR files for offline processing through Mediation System into the Billing System. AdvOSS also offers Mediation System which can be provided to CSP if required.

5 Key Benefits

AdvOSS SBC offers the following key benefits to the CSPs, in addition to its feature set:

Scalability:

Built on top of AMPS Platform, system provided very high scalability and can scale linearly to support large volume of traffic. It is deployed in a cluster model with a front-end SIP load balancer and multiple back-end SBC application processes. SBC application processes can be scaled by adding more CPU and memory resources to the system. It can therefore, scale quite easily on modern multi-core systems.

High Availability and Fail-over Clustering:

AdvOSS SBC supports a Virtual IP based high availability solution where it is listening on a Virtual IP instead of physical IP. A hot standby server can be configured to assume the virtual IP in case the Primary server fails.

Resilience:

System has the capacity to absorb sudden shocks in usage. It uses a token bucket filtering mechanism for SIP packets. Ingress Rate limit and burst size can be defined for different SIP Message types on different originating source IP addresses or with a wild card IP address. Packets exceeding the rate limit are rejected. Also, a burst size of more than a certain size is rejected without loss of service.

Robustness:

The system is very robust and well tested with several real and artificially crafted SIP workloads that deliberately inject errors. It keeps performing in the face of high error rates such as malformation in arriving packets.

Customize-ability:

The system is designed to allow for easy and rapid customizations as per CSP requirements, on demand using the SCCXML scripting language. The language allows quick programming in a combination of CCXML and Java Script.

Disaster Recovery:

The System can be deployed in two geographically distant data centers, for disaster recovery reasons. AdvOSS Database solutions provide real-time DB replication to remote slaves. This gives the remote location an almost real-time image of the live database and the system can fall back to remote location in a disaster situation.

Flexibility:

The system has the architectural provision to support any business model. This allows for easy enhancements, extensions in service and business logic, and customize-ability to support specific requirements of a CSP.

Speed:

The system guarantees high speed of operations and latency times associated with the operations.

Data Integrity:

The system preserves the integrity and correct relationship of data in order to guarantee the correct behavior.

Redundancy:

The system achieves redundancy through multiple methods like having database servers in active/active configuration. The database servers as well as the servers hosting the GUIs are hosted in geographically distributed data centers.

Security:

Powerful security mechanism is implemented in the AdvOSS GUI to avoid any misuse. Detailed Audit Trail and logging is provided by the system and it offers IP based authentication for SIP traffic originating clients.