



GENBAND's SR3™ Route Proxy is a powerful, cost effective, easy to use, and high capacity routing solution that provides maximum opportunities and flexibility for operators. The SR3 platform routes calls based on the service providers' requirements and eliminates their routing limitations.

GENBAND SR3 ROUTE PROXY – PERFORMANCE AND SCALE

The GENBAND SR3 platform includes one or more clusters of SR3 servers and one or more clusters of call servers (S3 SBC™, C3 Signaling Controller™ or third party call servers). Call servers query SR3 servers with SIP Invites for route information on every received call request. The SR3 responds to the query with a SIP Redirect which includes zero or more route choices. A query/response constitutes one transaction. The call server hunts and attempts to complete the call based on the response.

ADVANCED ROUTING FEATURE SET

GENBAND's SR3 uses visual LCR tables with drag and drop interface, LCR priority override, profit based routing, jurisdictional routing, and percentage based routing. The SR3 centralizes routing, which can support a multi-vendor architecture using the SIP RFC compliant 300 redirect method. The SR3 jurisdictional routing supports domestic jurisdictional routing module and also routes US domestic traffic by state (inter-intra), LATA, or OCN.

CARRIER CLASS PERFORMANCE, RELIABILITY

GENBAND's SR3 is a carrier grade, high availability, redundant NEBS certified configuration. The SR3 supports 10 million dial codes along with 100 million rates and can be rapidly uploaded to support 10 million routes, which can be updated and changed to propagate to the call server in less than 10 minutes. It processes over 250 calls per second with unlimited scale.

MANAGEMENT

The software used in the SR3 does not rely on any particular network hardware or software configuration to achieve its results, so its capability set can be added to almost any network management infrastructure system without concern over capacity. The SR3 can be integrated with SOAP/XML of GenView-RSM to leverage its existing features. In addition, the user can apply threshold to any route module in order to create profit on the calls and manage millions of routes for multiple suppliers on an inter-intra-state basis. It enables service providers to split the inbound traffic for each customer and set different margins for each destination, or grouping of destinations, also operators can set minimum acceptable profit margin and avoid loss.

SR3 PERFORMANCE

Each SR3 server supports up to 250 SIP Invite/Redirect transactions per second (TPS). Adding more servers will result in increased performance in 250 TPS increments per additional server. Call servers load balance across a cluster of SR3 servers through DNS.

CALCULATING TRANSACTIONS PER SECOND

The TPS load on the SR3 cluster is equal to the aggregate incoming call request rate.

$$TPS = CPS = (Total\ number\ of\ calls) / (Average\ Success\ Rate * Average\ Call\ Duration)$$

This is a worst case calculation: the SIP Redirect response may have multiple route choices. If ASR is less than 100%, it may be due to the call server hunting through multiple choices from a single Redirect response. Therefore, a single response results in multiple call attempts – the aggregate TPS in these scenarios is less than the maximum resulting from the calculation above.



SR3 SERVER REQUIREMENTS FOR GIVEN TPS

The following factors need to be considered to determine the number of servers required for a given TPS:

1. The SR3 includes two applications:
 - a. Call Application – this processes the SIP Invites and responds with SIP Redirects, including the routing logic.
 - b. Web Application – this supports the web interface and DB
2. Call and Web Applications can be deployed on physical servers in two ways:
 - a. One server that runs both applications, with one spare server. The max TPS supported is 120
 - b. A dedicated server for the Web application and 2 or more servers for the call application in an N+1 configuration. The TPS per call server is 250. As call servers are added, the system delivers an additional 250 TPS for each call server.

The following table summarizes the deployment options:

Description	Number of Servers	Call Server Redundancy	Max TPS
Minimum Config – Integrated Web server	<ul style="list-style-type: none"> • 1 Call/Web Server + • 1 Spare Server 	1+1	120
Minimum Config – Dedicated Web Server	<ul style="list-style-type: none"> • 1 Call Server + • 1 Spare Call Server + • 1 Web Server 	1+1	250
Additional TPS Scale	<ul style="list-style-type: none"> • N Call servers + • 1 Spare Call Server + • 1 Web Server 	N+1	N*250

Sample configurations:

Required TPS Capacity	Required Configuration	Number of Servers
120 TPS	1+1 Configuration – 2 call/web servers	2
170 TPS	1+1 Redundant Call Servers with 1 Web Server	3
280 TPS	2+1 Redundant Call Servers with 1 Web Server	4

HARDWARE SPECIFICATIONS

POWER – REDUNDANCY (1+1)

- 600W AC, Hot swap PSU (Rear access)

STORAGE:

- Six hot swap 2.5 inch SAS HD drives
- RAID 1 or 10 Standard, RAID 5 available with PCI Card

PERFORMANCE:

- Dual, 64 bit quad core Intel Xeon 5300 series
- 32 GB 667 MHz ECC SDRAM

FEATURES AND BENEFITS

SCALABILITY

- Three PCI cards meet scalable expansion needs for high-end applications
- Single multi-core processor to a dual 64-bit quad core processor option scale to meet the performance needs of next-generation applications
- Telephony solution providers continue to require systems with high PCI-X slot capacity; these systems are not as widely available since PCI slots now dominate systems
- Support up to five telephony board with redundant power while maintaining a small foot print

ECONOMICAL

- Independent software vendors can create the proper mix of features for an ideal platform, eliminating unused components
- Three year extended lifecycle for SR3 hardware can reduce overall equipment, development and deployment costs

AVAILABILITY

- Hot swap hard drives and power supplies ensure low Mean-Time-To-Repair (MTTR)
- Remote management support for resetting the systems and monitoring environmental activity