**KEY APPLICATIONS**

- Aggregation of access and data center traffic
- On-demand bandwidth provisioning using hardware-based rate limiting technology with kilobit resolution
- Create MPLS VPN, virtual leased line, or Transparent LAN services as an MPLS Label Edge Router
- Aggregate TDM or Ethernet traffic and uplink with Packet over SONET/SDH, and ATM

**PRODUCT OVERVIEW**

The RS 8000 and 8600 are high-performance, all-purpose metro routers. Among the most recognized and highly deployed router platforms in the metro, the 8000 and 8600 combine powerful service creation capabilities with a full range of optical and copper interfaces in a compact, NEBS-compliant platform. The RS 8000 and 8600 provide an ideal service-provisioning platform for service providers in the metro, with powerful service creation tools like Riverstone’s metro-optimized MPLS Layer 2 or 3 tunneling technology, dynamic bandwidth provisioning, and connection-oriented data collection architecture.

The RS 8000 and 8600 are best known for their ability to deliver services over the full range of networks found in the metro, including TDM, RPR, Packet-over SONET/SDH, ATM, and Gigabit Ethernet. The RS 8000 and 8600 already serve as trusted platforms in a diverse range of metro deployments, from Metro Ethernet aggregation and high-density access to broadband aggregation and content injection, and even as part of class-5 switch replacement solutions in the Telco central office. Overall, RS 8000/8600 routers are an established, trusted choice wherever the need for IP intelligence is found.

**CUSTOMER CHALLENGES & RS 8000/8600 SOLUTIONS**

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interoperability across legacy and emerging backbone media</td>
<td>Industry leading WAN connectivity including ATM, POS/SDH, T1/E1, T3/E3, WDM, Serial/Frame Relay</td>
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<tr>
<td>Manage bandwidth-hungry applications and manage network usage</td>
<td>Wire-speed application control including rate limiting, rate shaping prioritization, redirection, and load balancing. Wire-speed ability to establish traffic type, identify users, and subsequently account for the network utilization without loss of performance and defining Service Level Agreements (SLAs)</td>
</tr>
<tr>
<td>Achieve maximum network uptime</td>
<td>NEBS 3 compliant platform with redundant hardware support, standards-based VRRP, and self-healing route paths (OSPF multipath, MLPPP, and Port Trunking)</td>
</tr>
</tbody>
</table>
ORDERING INFORMATION

Part No. | Product Description (RS 8000) 8-slot Router chassis, backplane, switch fabric, and fan also requires GBM-CM, SYS-OS, G80-PAC, or G80-PDC
----|----
G80-CMS (GB8-CMS) | 16-slot media module also requires GBM-CM, SYS-OS, G80-PAC, or G80-PDC

G80-PAC | AC power supply (8-slot chassis)
G80-PDC | DC power supply (8-slot chassis)
G80-PDC | DC power supply (64-slot chassis)
G80-FAN | Spare fan tray for RS 8000
G80-FAN | Spare fan tray for RS 8600
GBM-CM-128 | Control Module 2 with 128 MB memory
GBM-CM-356 | Control Module 3 with 256 MB memory

SYSTEM SOFTWARE

SYS-OS-32 | RS Router operating system software (PC-card format) required for operation
SYS-OS-32 | RS Router operating system software

Platform Features

- Feature-rich Wire-speed Services:
  - IP routing, unicast, and multicast
  - Routing in hardware on each line card
  - LSR and LER MPLS support in hardware
  - RSVP-TE and LDP label distribution and signaling
  - MPLS traffic engineering support
  - Security (ACLs, L2 filters)
  - Layer 4 application-flow switching and QoS
  - Network Address Translation (NAT)
  - Hardware-based Rate Limiting
  - Jumbo Frame support
  - VLANs based on port or protocol
  - Server Load Balancing (6/5/6)

Highly Fault Tolerant

- Redundant CPU, power supplies
- Hot-swappable media modules
- Standards-based VRRP
- Layer 2 and redundant protocol support
- Redundant Switch Fabric (RS 8600)

Extensive Management

- Wire-speed full RMON/RMON2
- SNMP manageable
- SSH
- RADIUS
- TACACS+
- RS-232 (out-of-band management)
- Command Line Interface (CLI)

Interfaces

10/100 Ethernet (TX and FX)
Gigabit Ethernet and MPLS Enabled Gigabit Ethernet Packet over SONET/SDH OC3c/OC12c
MPLS-enabled Packet over SONET/SDH OC3c/OC12c ATM DS-3, E-3c, OC-3c, OC-12c
T1/E1/DS3/E3 and Channelized DS3
Packet Ring OC-48c

Specifications

- Up to 4,096 VLANs
- Up to 250,000 routes
- Up to 20,000 security/access control filters
- MTBF (predicted) > 200,000 hours

RS 8000 (8-slot chassis) Capacity and Performance:

- 32 Gbps non-blocking switching fabric
- 15 million packets per second routing throughput
- Up to 2,000,000 Layer-4 application flows
- Up to 3,750,000 Layer-2 MAC addresses performance

Physical

- Dimensions: 8.75' H x 17.25' W x 12.25' D
- Weight: 44.5 lbs (20.2 kg)

Environmental Specifications

- Operating temp: +40 to +70°C (+104 to 158°F)
- Non-operating temp: -40 to +65°C (-40 to 149°F)
- Altitude, operating: 10,000 ft (3,000 m) maximum
- Altitude, non-operating: 20,000 ft (6,000 m) maximum
- Shock and vibration: GR63

Power Requirements

- AC Input voltage: 100 - 125 VAC; 200 - 240 VAC
- AC Input voltage: 100 - 125 VAC; 200 - 240 VAC
- DC Input current: 14 A
- DC Input voltage: -48 to -60 VDC; -48 to -60 VDC

NEBS Level 3 Compliance

Agency Standards and Specifications

- CE: Current UL 60950, EN 60950, IEC 60950, EN 60065
- CE: Current UL 60950, EN 60950, IEC 60950, EN 60065
- Electromagnetic Compliance: FCC Part 15, Section 15.109(a), 15.109(b), 15.110(b)
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IETF Standards MIB Support

- RFC 1246 Experience with the OSPF Protocol
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Standards and Protocols

- RFC 2001 IPv4 Addressing Architecture
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