

# RS 8000/8600 Metro Aggregation Routers

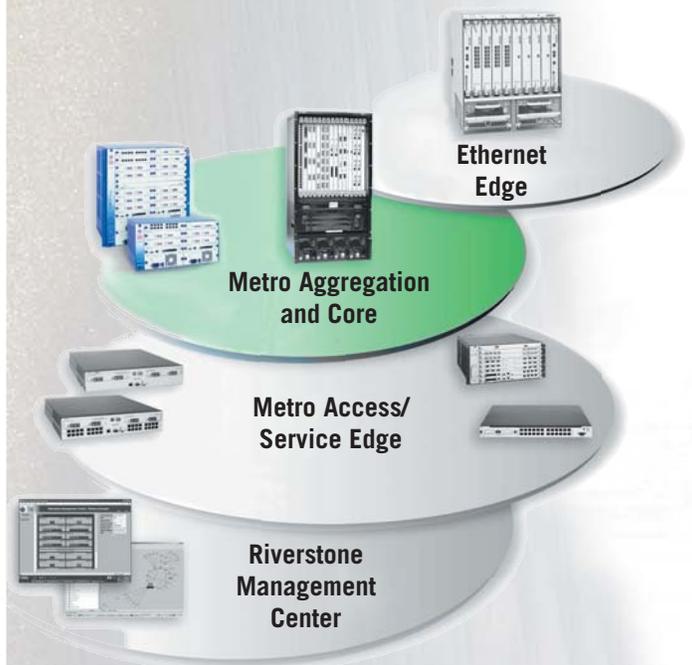
## Metro Aggregation Routers: RS 8000 and RS 8600

The RS 8000 and 8600 are high-performance, versatile metro routers. They combine powerful service creation abilities with support for the wide range of technologies that are deployed in the metro. As MPLS Provider Edge routers, they bring the scalability and reliability of MPLS-based service delivery for providers. Using VPLS, converged services with VoIP, Internet Access, Video and multipoint VPNs can be provided, over existing production networks and Ethernet infrastructure. These services can be backed by service level agreements which can be delivered from end-to-end through strict quality of service at the edge and traffic engineering through the core.

The versatility of the RS 8000 and 8600 is their ability to support the same advanced services over Ethernet, ATM, TDM and SONET/SDH networks. This allows service providers to continue utilizing their existing production networks and increase the returns from them. They are NEBS/ETSI compliant platforms with the redundancy support required for high-availability networks.

### KEY APPLICATIONS

- Provide scalable converged services across the metro with a VPLS based Ethernet infrastructure
- Leverage existing investments in ATM networks through ATM-Ethernet interworking to provide the same services across the entire network
- Rapidly deploy Voice-over-IP networks that offer high-availability and stringent quality of service
- Utilize production SONET networks to aggregate Ethernet traffic across the metro



# Metro Aggregation Routers: RS 8000 and RS 8600

CUSTOMER CHALLENGES AND SOLUTIONS	
Challenge	Solution
Assemble a sophisticated portfolio with triple play services and advanced business service bundles	Build a cost-effective Ethernet infrastructure and utilize VPLS to deliver services on a massive scale to customers. Ensure the high reliability customers expect, using the RS 8000 and 8600's portfolio of high availability features including hardware redundancy, the Hitless Protection System allowing hitless software upgrades and MPLS fast reroute.
Continue to utilize existing production networks	Provide advanced Ethernet services to customers, across existing ATM access networks using the RS 8000 and RS 8600 or connect Ethernet access networks to an ATM backbone to provide Layer 2 services across the metro.
Customize the QoS for each service based on the underlying application	Use the extensive portfolio of prioritization, queuing and service enforcement features on the RS 8000 and RS 8600, combined with MPLS traffic engineering to provide end to end service level agreements.

## Platform Features:

### Service Enablers

- IP routing - OSPF, IS-IS, BGP
- LSR and LER MPLS support in hardware
- RSVP-TE and LDP label distribution and signaling
- MPLS traffic engineering
- Multicast
- Security (ACLs, L2 filters)
- Hardware-based QoS - rate limiting, rate shaping, WFQ, SPQ
- Diffserv
- Jumbo Frame support
- VLAN Translation
- Hierarchical service bundles with the Advanced Services Module

### System, Software and Hardware Fault Tolerance

- Redundant power supplies
- Redundant switch fabrics (RS 8600)
- Spanning Tree Protocol, Rapid STP, Per VLAN STP
- VRRP
- Link Aggregation, Smarttrunking
- Loop detection
- BGP and OSPF restart
- Hitless Protection System for software upgrades and control module failovers

### Extensive Management

- SNMP
- RMON / RMON 2
- SSH v1 and v2
- RADIUS
- TACACS+
- RS-232 (out-of-band management)
- Command Line Interface (CLI)
- Riverstone Management Center

## Interfaces

- 16 Port 10/100 Ethernet (TX,FX and BX)
- 2 Port Advanced Services Module - Gigabit Ethernet
- 2 Port Gigabit Ethernet
- 2 Port MPLS-enabled Gigabit Ethernet
- 2 Port MPLS-enabled Packet over SONET/SDH OC3c
- 4 Port T1/E1
- 2 Port DS3/E3
- 2 Port ATM DS3/E3/OC3
- 2 Port Channelized DS3

## Capacity and Performance

- Up to 4,096 VLANs
  - Up to 250,000 routes
  - Up to 20,000 security/access control filters
  - MTBF (predicted) > 200,000 hrs
- RS 8000:**  
Up to 3,500,000 Layer 2 MAC addresses  
16,700,000 packets per second routing throughput  
16 Gbps non-blocking switch fabric  
8 Slots
- RS 8600:**  
Up to 7,500,000 Layer 2 MAC addresses  
35,700,000 packets per second routing throughput  
32 Gbps non-blocking switch fabric  
16 Slots

## Standards Support

- For a complete list of standards supported, including RFCs and MIBs, please refer to [http://www.riverstonenet.com/rs\\_stds.shtml](http://www.riverstonenet.com/rs_stds.shtml)

## Physical Specifications:

### RS 8000:

Dimensions:	Height:	8.75 in. / 22.23 cm
	Width:	17.25 in. / 43.82 cm
	Depth:	12.25 in. / 31.12 cm

Weight : 44.5 lbs / 20.2 kg

### RS 8600:

Dimensions:	Height:	19.25 in. / 48.9 cm
	Width:	17.25 in. / 43.82 cm
	Depth:	12.25 in. / 31.12 cm

Weight : 61.75 lbs / 28 kg

## Environmental Specifications:

Altitude:	10000 ft (3000 m) maximum
Operating Temperature:	0° to +40°C (32° to 104°F)
Non-Op. Temperature:	-40° to +70°C (-40° to 158°F)
Operating Humidity:	10 to 90% (non-condensing)
Non-Op. Humidity:	5 to 95% maximum (non-condensing)
Shock and Vibration:	Telcordia GR63

## Power Specifications:

AC Power	Input Current:	3-5 A (8000) / 6-10 A (8600)
	Input Voltage:	100-240 V
	Frequency:	50-60 Hz
DC Power	Input Current:	14 A (8000) / 27 A (8600)
	Input Voltage:	-48 to -60 V

## Agency Standards and Specifications

Safety: Meets the requirements of UL1950, CSA C22.2 No. 950, EN60950, IEC950 and 73/23/EEC.  
Electromagnetic Compatibility: Compliant with the requirements of FCC Part 15, CSA C108.8, EN55022, VCCI, EN50082-1 and 89/336/EEC.  
NEBS: Level 3 Compliant  
ETSI: EN 300 386, EN 300 019, ETC 300 753 Compliant

## Ordering Information

### Part No.

G86-CHS  
G80-CHS  
G86-PAC  
G86-PDC  
G80-PAC  
G80-PDC  
G8M-CM3-256  
G8M-CM5-512  
SYS-OS-32  
SYS-PCM32  
G86-SWF  
G86-FAN  
G80-FAN

### Product Description

RS 8600 16 slot Base unit, chassis, switch fabric, backplane and modular fan  
RS 8000 8 slot Base system, including chassis, backplane and modular fan  
RS 8600 AC Power Supply  
RS 8600 DC Power Supply  
RS 8000 AC Power Supply  
RS 8000 DC Power Supply  
RS 8x00 Control Module 3 with 256 MB memory  
RS 8x00 Control Module 5 with 512 MB memory  
License for RapidOS (includes PCMCIA Flash card)  
PCMCIA Flash Card. Order with redundant Control Module.  
RS 8600 Switch Fabric Module. Order only if second is required for redundancy.  
RS 8600 Fan Tray Module (Spare)  
RS 8000 Fan Tray Module (Spare)

All products above are available with a light encryption option, to comply with US export laws. For availability and complete ordering information, including specific modules, contact your Riverstone Representative at (408) 878-6500. You may also visit our website at [www.riverstonenet.com](http://www.riverstonenet.com)

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