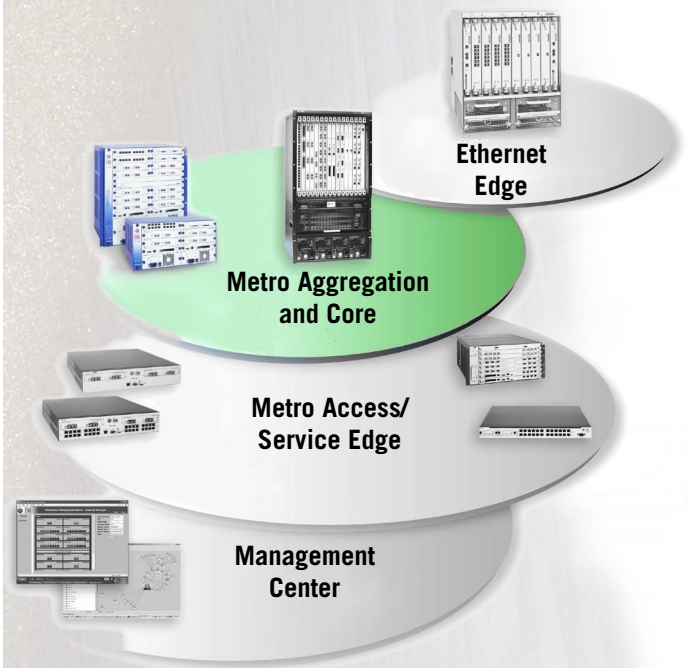## Lucent Ethernet Routers 8000 and 8600
(formerly Riverstone RS 8000/RS 8600)

The Lucent Ethernet Routers 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 carriers. Using VPLS, converged services with VoIP, Internet Access, Video and multipoint VPNs can be provided over both existing production networks and new Ethernet infrastructure. These services can be backed by service level agreements which can be delivered end-to-end through strict quality of service at the edge and traffic engineering through the core.

The key to the versatility of the 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 these networks. 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

Lucent Technologies
Bell Labs Innovations

Ethernet Edge

Metro Aggregation and Core

Metro Access/ Service Edge

Management Center

Lucent Ethernet Routers 8000 and 8600

CUSTOMER CHALLENGES AND SOLUTIONS	
Challenge	**Solution**
Rapidly deploy new Ethernet services while continuing to use existing infrastructure	Leverage the versatile interfaces of the 8000 and 8600 to interconnect existing ATM and WAN infrastructure with new Metro Ethernet networks to rapidly deploy Ethernet Services over large geographic regions
Deliver services with maximum network uptime	Redundant processor, switch fabric, and power supply, combined with standards-based VRRP and self-healing route paths (OSPF multi-path, MLPPP, MPLS Fast Reroute and Port Trunking) offer NEBS/ETSI compliance and multiple levels of redundancy
Offer Triple play services over cost effective Ethernet networks in the metro	Use the 8000 and 8600 systems as MTU devices connected to 15800 systems to form large hierarchical VPLS networks in the metro. Use the extensive classification and QoS capabilities of 8000 and 8600 to aggregate multiple edge devices such as DSLAMs to offer triple play services over this VPLS network.

Platform Features:

Service Enablers
- IP routing - OSPF, IS-IS, BGP
- LER and LSR MPLS support in hardware
- RSVP-TE and LDP label distribution and signaling
- MPLS traffic engineering
- Ethernet Pseudowire (formerly Martini Draft)
- VPLS and H-VPLS
- Layer 3 BGP VPNs
- Multicast (PIM, DVMRP & IGMP snooping)
- 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
- DHCP Relay and Client

System, Software and Hardware Fault Tolerance
- Redundant control modules
- Redundant power supplies
- Redundant switch fabrics (8600)
- Spanning Tree Protocol, Rapid STP, Per VLAN STP
- VRRP
- Link Aggregation, SmartTrunking
- Loop detection
- BGP and OSPF restart
- BFD
- 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)
- 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
- 2 Port MPLS-enabled Packet over SONET/SDH OC12c
- 4 Port T1/E1
- 2 Port DS3/E3
- 2 Port ATM DS3/E3/OC3c
- 1 Port ATM OC12c
- 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
- **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
- **8600:**
  Up to 7,500,000 Layer 2 MAC addresses
  35,700,000 packets per second routing throughput
  32 Gbps non-blocking redundant 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

Physical Specifications:

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

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:	4000m @ 30°C
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.	Product Description
G86-CHS	8600 16 slot Base system, chassis, switch fabric, backplane and modular fan
G80-CHS	8000 8 slot Base system, including chassis, backplane and modular fan
G86-PAC	8600 AC Power Supply
G86-PDC	8600 DC Power Supply
G80-PAC	8000 AC Power Supply
G80-PDC	8000 DC Power Supply
G8M-CM5-512	8x00 Control Module 5 with 512 MB memory
SYS-OS-32	License for Lucent Ethernet Router OS (includes PCMCIA Flash card)
SYS-PCM32	PCMCIA Flash Card. Order with redundant Control Module.
G86-SWF	8600 Switch Fabric Module. Order only if second is required for redundancy.
G86-FAN	8600 Fan Tray Module (Spare)
G80-FAN	8000 Fan Tray Module (Spare)

For availability and complete ordering information, including specific modules, please contact your Lucent Technologies Sales Representative or visit our website at www.lucent.com.

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To learn more about our comprehensive portfolio, please contact your Lucent Technologies Sales Representative or visit our web site at www.lucent.com.