Coriant

DATASHEET

# 8605 Smart Router

*Compact Cell Site Access Network Element with Superior Synchronization Features*

The cost-efficient Coriant™ 8605 Smart Router is an optimal solution for service providers' access networks at either small traffic aggregation points or cell sites. A diverse set of access and uplink interfaces offers efficient alternatives for backhaul and provides flexibility for mobile evolution. The 8605 Smart Router is LTE-ready, providing bi-directional switching capacity up to 2 Gbps coupled, with the latest synchronization features. Versatile service capabilities such as Ethernet connections, IP routing, support for TDM, ATM and HDLC, enable smooth migration of 3G ATM and 2G TDM into an Ethernet or IP-based network infrastructure. The 8605 Smart Router has packet-based forwarding with QoS support enabling network optimization for voice and data services.

## COST-EFFECTIVE DELIVERY OF LTE, 3G AND 2G VOICE AND DATA SERVICES

The 8605 Smart Router is an environmentally hardened, compact router (1RU). The bi-directional switching capacity of the 8605 Smart Router is up to 2 Gbps and 1.4 Gbps with Simple IMIX packet size distribution. It is designed for cost-efficient delivery of LTE, 3G and 2G voice and data services over a common network infrastructure. The 8605 Smart Router variants offer sixteen channelized E1/T1 interfaces, two Ethernet 10/100BASE-T and two Ethernet Combo interfaces which can be used as 2 x 100/1000BASE-X SFP or 2 X 10/100/1000BASE-TX. The 8605 Smart Router supports Ethernet, ATM, HDLC, SAToP and CESoPSN pseudowires and has an external alarm interface and station clock input. The highly accurate oscillator improves packet synchronization performance in even the most challenging conditions. When combined with a feature set that enables robust functionality in any cell site, the 8605 Smart Router is an ideal solution for access sites.

## ROBUST SYNCHRONIZATION

Mobile networks are sensitive to synchronization. For TDM networks, the 8605 Smart Router supports traditional line signal-based synchronization and for packet-based networks supports IEEE1588v2, Adaptive timing and Synchronous Ethernet. Additionally, the 8605 Smart Router supports a high quality OCXO, which provides accurate temperature stability for IEEE 1588v2, adaptive timing recovery as well as a highly stable node clock holdover.

## QUALITY OF SERVICE TESTING IN PACKET NETWORKS

The unique Packet Loop Test feature enables service parameters including delay, jitter, throughput and connectivity to be tested, helping ensure that packet networks meet the latest QoS requirements of voice, video and data services.

## ENERGY-EFFICIENT NETWORK ELEMENT WITH MULTI-PROTOCOL SUPPORT

The 8605 Smart Router is highly energy-efficient, thanks to its low power consumption. In addition, it can be managed by the Coriant™ 8000 Intelligent Network Manager (INM) with multi-protocol support and therefore requires only minimal on-site support.

### BENEFITS OF THE CORIANT™ 8605 SMART ROUTER

- Deliver bi-directional **switching capacity of up to 2 Gbps**
- **Support a range of service types** to deliver LTE, 3G and 2G services
- Provide **robust synchronization**
- **Offer compact form factor (1RU)** ideal for access sites
- **Enable network optimization for** voice and data services
- **Reduce operational expenses** with intelligent network management
- Deliver **energy efficiency**

### The Smart Router Series

The Smart Router series offers versatile and scalable solutions for mobile backhaul from small aggregation sites to controller and gateway sites. In addition, Smart Routers serve fixed and mobile convergence and cloud computing networking needs. These solutions are designed to meet the ever-growing requirements of data hungry mobile and enterprise users. All of the Smart Routers are LTE-ready and provide an extensive Ethernet and IP/MPLS feature set. Simultaneous support for multiservice applications in access and aggregation networks protects earlier network investments. The Smart Router product family is supported by the 8000 INM, which is an easy to use end-to-end network management solution. The 8000 INM minimizes operational and maintenance costs and scales up to tens of thousands of network elements.

## TECHNICAL SPECIFICATIONS

**Physical Dimensions**
- 446 x 44.35 x 250 mm / 17.56 x 1.75 x 9.84 in (W x H x D)
- Standard 19-inch, 23-inch or ETSI 600 mm rack mounting
- Wall-mountable
- 1RU high

**Power and Cooling**
- Dual feed, wide range (-48 Vdc to +24 Vdc) power module (one per element)
- 100-240 Vac power module
- Power consumption: typical 22W, maximum 31W
- Free convention cooling

**Forwarding Plane**
- IPv4 routing
- MPLS switching (LSR and LER)

**Functionality**
- IP VPN (RFC4364)
- Ethernet/VLAN, SAToP, CESoPSN, ATM and HDLC pseudowires
- Single and multi-segment pseudowires
- TDM cross connection
- ATM VP/VC switching
- ATM cell concatenation
- ATM IMA
- MC / MLPPP, PPPmux
- Y.1731 frame loss, frame delay and frame delay variation support
- IEEE802.1ag Ethernet OAM loopback, continuity check, ping and link trace
- BFD (Static, OSPF, ISIS, RSVP-TE)

**Forwarding Capacity**
- Up to 2 Gbps, 1.4 Gbps with Simple IMIX

**Chassis Configuration**
- 16 x chE1/chT1
- Two 10/100BASE-T interfaces
- Two Ethernet Combo (2 x 10/100BASE-TX/1000BASE-T or 2 x 1000BASE-X SFP) interfaces
- Local management port (RS-232 type)
- External alarm interface
- Station Clock Input (SCI)

**Resiliency and Load Balancing**
- 1:1 RSVP-TE LSP protection
- Fast Reroute (FRR)
- IPseudowire redundancy (ATM, TDM)
- IP load balancing (Equal Cost Multipath - ECMP)
- IPv4 and IP VPN load balancing to RSVP-TE tunnels

**Synchronization**
- ITU-T G.813 option 1
- ITU-T G.8262
- Telcordia [GR-1244] Stratum-3
- E1/T1 line synchronization
- Synchronous Ethernet
- SSM over Ethernet [G.8264]
- Adaptive synchronization from SAToP and CESoPSN pseudowires
- IEEE 1588v2 Slave Clock for frequency synch

**IPv4 Routing and MPLS Label Distribution Protocols**
- OSPF-TE, ISIS-TE, BGP and MP-BGP
- LDP, RSVP-TE

**Traffic Management**
- DiffServ support for up to 7 traffic classes
- DiffServ aware MPLS Traffic Engineering (DS-TE)
- IEEE802.1P/Q mapping to IP or MPLS
- Policing and shaping
- VLAN shaping
- Access Control Lists (ACL)
- ATM service categories: CBR, rt-VBR, nrt-VBR, UBR+, UBR
- ATM VC queuing/shaping

**Management**
- CLI with SSH2, FTP with SSH2
- SNMPv1 and SNMPv2 monitoring
- 8000 Intelligent Network Manager
- Cell site autoconfiguration based on DHCP client
- RADIUS authentication and accounting

**Standards**
- Safety: EN60950-1:2006 and IEC60950-1:2005
- EMC:
  - EN 300 386:2008
  - CC 47 CFR Part 15, Subpart B, Class B
- RTTE Directive 1999/5/EC
- NEBS level 3

**Environmental Conditions**
- Storage: ETSI EN 300 019-1-1, Class 1.1. Temperature: –5°C to 45°C / 23°F to 113°F
- Transportation: ETSI EN 300 019-1-2 Class 2.3, Temperature: –40°C to 70°C / –40°F to 158°F
- Operating conditions: ETSI EN 300 019-1-3, Class 3.2 (non-condensing), Temperature: -40°C to 65°C / -40°F to 149°F. With AC power operating temperature: -5° C to 45° C / 23°F to 113°F. Relative humidity: 5% to 95%.
- Minimum cold boot-up temperature: -20°C / -4°F



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