

CORIANT IS NOW PART OF INFINERA

8603 Smart Router

Cost-efficient, High Speed Preaggregation Router for Mobile and FMC Networks

The Coriant® 8603 Smart Router is a cost-efficient, 60 Gbps capacity router targeted for 5G and high speed fixed mobile convergence (FMC) networks. With a compact 1RU chassis, power efficient design, and high 1GE interface density, the 8603 Smart Router is ideally suited for installations in mobile, fixed access, and aggregation networks. In addition, the 8603 Smart Router efficiently aggregates the uplink traffic flows to 10GE links toward the core and also offers 1GE Power over Ethernet (PoE) ports to connect wireless access points, IP cameras, and VoIP phones. Support from both the Coriant network management system, Coriant Transcend™ Chorus for Packet, and the Coriant multi-vendor SDN controller, Coriant Transcend™ Symphony for Packet, enables a broad array of operational efficiencies and programmable network automation.

SUPPORTING FIXED MOBILE CONVERGED NETWORKS

Leveraging IP routing as well as MPLS and Ethernet switching tables, the 8603 Smart Router provides the flexibility needed to serve evolving network architectures and applications. The 8603 Smart Router supports a mix of IP and Ethernet services, such as IP VPNs, VPLS and Ethernet pseudowires, significant buffering capacity for bursty data applications, and advanced traffic management features with hierarchical QoS support for flexible end-user service definition. IP-Multicast support is available for applications such as eMBMS and IPTV broadcast delivery.

ENABLING FLEXIBLE LTE NETWORK ARCHITECTURES

The 8603 Smart Router offers capabilities to implement flexible LTE and 5G network architectures through two platform variants. The 8603-A provides 60 Gbps throughput capacity, and the 8603-B provides 30 Gbps throughput capacity. In addition, the 8603-A platform offers the option for PoE and integrated GPS receiver. Both variants provide IP and IP VPN routing to support the X2 interface between eNodeB and the S1 and S1-Flex interfaces between eNodeB and LTE network core elements. The 8603 Smart Router can also accommodate fixed network traffic enabling mobile operators to extend their service offerings to include, for example, fixed business services.

DELIVERING A RANGE OF BACKHAUL APPLICATIONS

The 8603 Smart Router further strengthens the Coriant Smart Router portfolio support for IP VPN applications, Ethernet and pseudowire connectivity, Virtual Private LAN Service (VPLS), and Hierarchical VPLS (H-VPLS). The extensive selection of connectivity options enables service providers to choose the most suitable backhaul application. The 8603 Smart Router effectively addresses the requirements of mobile backhaul networks, fixed mobile convergence, and cloud computing applications.

BENEFITS OF THE CORIANT® 8603 SMART ROUTER

- **Leverages purpose-built architecture** for FMC and 5G networks
- **Reduces operational expenses** with intelligent network management
- **Enables SDN capabilities** for network automation and optimization
- **Delivers high-density in a compact form factor** for access and aggregation networks
- **Offers a comprehensive range of synchronization options**
- **Delivers switching and routing capacity of 60 Gbps**



The Coriant® 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 Series is supported by the Coriant Transcend™ Chorus for Packet, an easy-to-use, end-to-end network management solution that minimizes operational and maintenance costs and scales up to tens of thousands of network elements.

REDUCING OPERATIONAL COSTS WITH INTELLIGENT NETWORK MANAGEMENT

Fully managed through Transcend Chorus, the 8603 Smart Router seamlessly integrates with any existing Smart Router backhaul network, network expansion, or greenfield deployment. Transcend Chorus supports the operator throughout the network lifecycle, from planning and deployment phases all the way to optimization and maintenance, minimizing routine tasks and operational expenditures.

IMPLEMENTING AN OPEN, PROGRAMMABLE, AUTOMATED SDN SOLUTION

The 8603 Smart Router is fully supported by the Coriant Transcend™ Symphony for Packet multi-vendor SDN controller. Transcend Symphony is an integral component of the overall Coriant Transcend™ Solution, a modular SDN software suite that combines the benefits of open, programmable, and automated multi-layer (Layer 0-3) SDN architecture and a proven portfolio of IP/MPLS edge routing and packet optical transport solutions to enable dynamic, end-to-end network control.

COMPACT FORM FACTOR WITH HIGH INTERFACE DENSITY AND FULL SYNCHRONIZATION SUPPORT

Designed to offer essential high speed preaggregation capabilities in a compact 1RU design, the 8603 Smart Router accommodates 6 SFP+ 10GE ports, 20 SFP 1GE ports, and 4 fixed 1GE electrical ports with optional PoE support. With features essential to mobile backhaul network deployments, the 8603 Smart Router supports a range of highly accurate synchronization schemes, such as Synchronous Ethernet, Synchronization Status Message (SSM) over Ethernet, and IEEE 1588v2 Boundary Clock for phase synchronization, which is required for LTE Time-Division Duplex (LTE TDD) and LTE Advanced. Phase synchronization can also be provided using the unique Coriant® Integrated GPS (GNSS) receiver supported by the 8603 Smart Router.

TECHNICAL SPECIFICATIONS

Physical Dimensions

- 441 x 44 x 300 mm / 17.36 x 1.73 x 11.81 in (W x H x D)
- Standard 19-inch, 23-inch, or ETSI 600 mm rack mounting
- 3.0 kg / 6.61 lb without fan and power modules
- 1RU high

Power and Cooling

- Hot swappable single feed -48 VDC power module (up to 2 per element)
- Hot swappable single feed 100-240 VAC power module (up to 2 per element)
- Power consumption:
 - Maximum 140 W (without PoE)
 - Typical 100 W (without PoE)
- Power over Ethernet (PoE) support up to 60 W
- Five fans in one fan module, fan speed controlled by the control function

Forwarding Plane

- IPv4 and IPv6 routing
- MPLS switching (LSR and LER)
- Ethernet MAC switching

Functionality

- IP VPN (RFC 4364)
- IP and IP VPN multicast
- VPLS and H-VPLS
- Integrated routing and bridging
- Ethernet/VLAN pseudowire
- Single and multi-segment pseudowires
- 802.1ad QinQ
- Seamless MPLS
- Y.1731 frame loss, frame delay, and frame delay variation measurement
- IEEE 802.1ag Ethernet OAM loopback, continuity check, ping, and link trace
- IP header compression
- BFD (Static routes, OSPF, ISIS, RSVP-TE)

Forwarding Capacity

- 60 Gbps full duplex forwarding capacity (Simple IMIX)

Chassis Configuration

- Power module
- 6 x 10GBASE-R SFP+ ports
- 20 x 1000BASE-X SFP ports
- 4 x 1GE electrical interfaces with optional IEEE 802.3at PoE
- Fan unit

Resiliency and Load Balancing

- Ethernet Link Protection
- Ethernet Link Aggregation
- 1:1 RSVP-TE LSP protection
- Fast Reroute (FRR)
- Ethernet pseudowire redundancy
- VRRP
- IP load balancing (Equal Cost Multipath - ECMP)
- BGP multipath for load balancing
- IPv4 and IP VPN load balancing to RSVP-TE tunnels

TECHNICAL SPECIFICATIONS

Security

- L3/L4 Access Control Lists
- Denial of service protection
- Radius and TACACS+ authentication and accounting
- SSH-2 for FTP and Telnet
- MD5 and SHA-1

Synchronization

- ITU-T [G.8262]
- Station Clock Input and Output ports
- Pulse-per-Second (PPS) input and output
- Time-of-Day (TOD) input
- Synchronous Ethernet
- SSM over Ethernet [G.8264]
- IEEE 1588v2 Boundary Clock for phase synchronization
- IEEE 1588v2 L3 Frequency Sync Slave
- Integrated GPS (GNSS) receiver

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)
- IEEE 802.1P/Q mapping to IP or MPLS
- Policing and shaping
- VLAN shaping
- RED/WRED queue management
- Strict Priority and WFQ scheduling
- Access Control Lists (ACLs)

Management

- CLI with SSH2, FTP with SSH2
- SNMPv1 and SNMPv2 monitoring
- Coriant Transcend™ Chorus for Packet
- Coriant Transcend™ Symphony for Packet
- RADIUS and TACACS+ authentication and accounting

Standards

- Safety:
 - EN 60950-1:2006 + A2:2013
 - IEC 60950-2:2005 + A2:2013
- EMC:
 - EN 300 386 V1.6.1 (2012-09)
 - Installation environment: telecommunication center
 - ITU-T K.80:07/2009
 - FCC 47 CFR Part 15, Subpart B, Class A
 - EN 301 489-1 V2.1.1
 - EN 301 489-19 V2.1.0
 - EN 303 413 V1.1.1
- Radio Equipment Directive 2014/53/EU

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: -20°C to 65°C / -4°F to 149°F (without PoE)
- Relative humidity: 5% to 95%

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