

CORIANT IS NOW PART OF INFINERA

8630 Smart Router

Fully Redundant and Flexible Hub and Aggregation Site Router with Multiple Scalability Options

The Coriant® 8630 Smart Router is an IP/MPLS-based router integrating a complete set of carrier-class functions. The main applications of the 8630 Smart Router are managing traffic aggregation in FMC, LTE, 4G, 3G, and 2G mobile networks and delivering Ethernet and IP VPN services. Purpose-built for mobile networks, the cost-efficient 8630 Smart Router is size-optimized to function in operators' hub and aggregation sites for traffic grooming and transport in 2G, 3G, and LTE networks – from base stations to the mobile core.

MANAGING TRAFFIC AGGREGATION WITH A VARIETY OF CONFIGURATION OPTIONS

The 8630 Smart Router offers full-feature support for 2G, 3G, and the mobile evolution toward LTE, LTE-A, and 5G along with the requirements of Fixed Mobile Convergence (FMC). The device has a hardware-based forwarding architecture that enables high performance and predictable reliability despite complex service requirements. In a compact 5RU form factor, the 8630 Smart Router fits into a standard 19-inch rack and can be equipped with a maximum of two Control and DC Power Cards (CDCs) and up to 4 line cards. These line cards can be either Ethernet Line Cards (ELC1s) or Interface Module Concentrator (IFC) cards. In a configuration with four ELC1s, the bi-directional switching capacity is 100 Gbps. The IFC may contain up to two Interface Modules (IFMs). A wide selection of interface modules is available with a mixture of protocols (e.g., IP, MPLS, Ethernet, ATM, Frame Relay, and TDM). The integrated CDC implements management, routing, signaling, timing, and powering. With support for various interfaces from 10G Ethernet to channelized TDM and POS, the 8630 Smart Router offers the full redundancy needed in carrier networks.

SUPPORTING ROBUST SYNCHRONIZATION

The synchronization capabilities of the 8630 Smart Router are essential for LTE, LTE-A, and future 5G networks. In addition to frequency synchronization, the 8630 Smart Router supports 1588 Phase synchronization that is required by LTE-A and LTE-TDD along with 5G applications in the future. Phase synchronization can be provided using the innovative Coriant® Integrated GPS (SNSS) SFP receiver supported by the 8630 Smart Router. The integrated features of the 8630 Smart Router also enable simple migration to phase synchronization. The 8630 Smart Router multicast capabilities support applications such as IPTV and eMBMS broadcast delivery.

ENABLING EXTENSIVE PROTECTION FUNCTIONALITY

The 8630 Smart Router provides a broad set of element and system-level protection functions. At the hardware level, the 8630 Smart Router supports carrier-class functions including power and control card redundancy, distributed switching architecture, and stored configuration backups of all line cards.

BENEFITS OF THE CORIANT® 8630 SMART ROUTER

- **Manage traffic aggregation** in LTE, 3G, and 2G networks and deliver Ethernet and IP VPN services
- **Provide full-duplex switching capacity of 100 Gbps**
- **Enable flexible LTE network architectures**
- **Reduce operational expenses** with intelligent network management
- **Deploy a range of synchronization options**
- **Provide full element and network-level redundancy**



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.

IMPLEMENTING AN OPEN, PROGRAMMABLE, AUTOMATED SDN SOLUTION

The 8630 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.

TECHNICAL SPECIFICATIONS

Physical Dimensions

- 450 x 224 x 300 mm / 17.7 x 8.8 x 11.8 in (W x H x D)
- Standard 19-inch, 23-inch, or ETSI 600 mm rack mounting
- 7.85 kg / 17.31 lb including adapters and fan modules
- 5RU high

Power and Cooling

- -48 Vdc power feed with optional protection
- Power consumption: maximum 740 W (typical value dependent on the element configuration)
- 4 fans in 2 modules, fan speed controlled by control cards

Architecture

- Hardware-based forwarding
- Distributed switching architecture

Forwarding Plane

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

Functionality

- IP VPN (RFC 4364)
- 6vPE support
- VPLS and H-VPLS
- Integrated Routing and Bridging

- Ethernet/VLAN, SAToP, CESoPSN, ATM, Frame Relay, and HDLC pseudowires
- Single and multi-segment pseudowires
- 802.1ad QinQ
- Seamless MPLS
- MPLS-TP Bidirectional LSP
- MPLS-TP 1:1 Linear Protection
- MPLS-TP OAM
- TDM cross connection
- ATM VP/VC switching
- ATM cell concatenation
- ATM IMA
- MC / ML-PPP, PPPmux
- 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
- Two Way Active Measurement Protocol (TWAMP)
- BFD (Static routes, OSPF, ISIS, RSVP-TE)

Forwarding Capacity

- 25 Gbps per ELC1
- 3.5 Gbps per IFC
- 100 Gbps with fully equipped system**

Chassis Configuration

- Two slots for CDCs (CDC1-A, CDC1-B or CDC2-B)
- Four slots for line cards (ELC1, IFC1-A, IFC1-B, IFC2-B)

Interface Modules (IFM)

- 8-Port Ethernet 10/100/1000BASE-TX R2 IFM
- 8-Port Ethernet 100/1000BASE-X R2 IFM
- 1-Port 10GBASE-R R2 IFM (3 Gbps)
- 2+6-Port Ethernet 10/100/1000BASE-COMBO IFM
- 8-Port STM-1/OC-3 POS IFM
- 4-Port STM-4/OC-12 POS IFM
- 1-Port STM-16/OC-48 POS IFM
- 4-Port STM-1/OC-3 ATM IFM
- 4-Port chSTM-1/OC-3 Multiservice IFM
- 24-Port chE1/T1 Multiservice IFM

Resiliency and Load Balancing

- 1+1 CDC protection (DC power, control and timing)
- Non-stop forwarding with control plane redundancy and graceful restart
- Switching distributed to all line cards
- 1+1 MSP/APS protection
- Ethernet Link Protection
- Ethernet Link Aggregation
- 1:1 RSVP-TE LSP protection
- Fast Reroute (FRR)
- Pseudowire redundancy (Ethernet, ATM, TDM)
- VRRP
- IP load balancing (Equal Cost Multipath [ECMP])
- IPv4 and IP VPN load balancing to RSVP-TE tunnels

TECHNICAL SPECIFICATIONS

Security

- Wire-speed IP Access Control Lists
- Denial of service protection
- Radius and TACACS+ authentication and accounting
- SSH-2 for FTP and Telnet
- MD5, SHA-1 authentication

Synchronization

- ITU-T [G.813] option 1
- ITU-T [G.8262]
- Telcordia [GR-1244] Stratum-3
- Station Clock Input and Output ports on CDC
- Pulse-per-Second (PPS) input and output (CDC2)
- Time-of-Day input (CDC2)
- E1/T1, SDH/SONET line synchronization
- Synchronous Ethernet
- SSM over Ethernet [G.8264]
- Adaptive synchronization from SAToP and CESoPSN pseudowires
- IEEE 1588v2 Slave Clock for frequency sync
- IEEE 1588v2 Boundary Clock for phase sync
- SyncE assist
- Support for the Integrated GPS (GNSS) SFP receiver

Routing and MPLS Label Distribution

Protocols

- OSPF-TE, ISIS-TE, BGP, and MP-BGP
- LDP, RSVP-TE
- PIM-SM and PIM-SSM

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
- Port, VLAN group, and VLAN shaping
- RED/WRED queue management
- Strict Priority and WFQ scheduling
- 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
- Coriant Transcend™ Chorus for Packet
- Coriant Transcend™ Symphony for Packet

Standards

- Safety: EN 60950-1:2006 and IEC60950-1:2005
- EMC:
 - EN 300 386:2008
 - FCC 47 CFR Part 15, Subpart B, Class A
- RTTE Directive 1999/5/EC
- NEBS level 3 compliance: SR-3580*
- GR-1089-CORE: Issue 3, October 2002*
- GR-63-CORE: Issue 2, April 2002*
- MEF 9 and 14 compliance

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: -5°C to 45°C / 23°F to 113°F
 - Relative humidity: 5% to 95%

* Tested to be compliant with NEBS Level 3 according to GR-1089-CORE Issue 3 and GR-63-CORE Issue 2 in 2006

** For maximum configurations temperature range defined in manuals

These trademarks are owned by Coriant or its affiliates: Coriant®, Coriant CloudWave™, Coriant Dynamic Optical Cloud™, Coriant Groove™, Coriant Transcend™, mTera®, Nano™, and Pico™. Other trademarks are the property of their respective owners. Statements herein may contain projections regarding future products, features, or technology and resulting commercial or technical benefits, which may or may not occur. This publication does not constitute legal obligation to deliver any material, code, or functionality. This document does not modify or supplement any product specifications or warranties. Copyright © 2018 Coriant. All Rights Reserved. 74C.0025 Rev. F 09/18