

CORIANT IS NOW PART OF INFINERA

8602 Smart Router

Ultra-compact Outdoor Cell Site and Customer Premises Device

The Coriant® 8602 Smart Router is an optimized cell site router for macro and small cell backhauling. With support for an extensive Ethernet and IP/MPLS feature set, the 8602 Smart Router offers optimal functionality as a customer premises device for business services. The device extends the Coriant® Smart Router portfolio to the access network and enables operators to utilize IP/MPLS as a unified technology down to small cell sites. The end-to-end Coriant mobile backhaul solution includes a common control plane, traffic management, and monitoring, which enable cost efficiency throughout the entire network.

DEPLOYING A COST-EFFECTIVE AND COMPACT CELL SITE ROUTER

The 8602 Smart Router is an extremely compact IP/MPLS and Ethernet device that meets various networking needs. Four variants of the 8602 Smart Router Series are available. The 8602-A provides two optical SFPs and four electrical Gigabit Ethernet ports for access and network connectivity. The 8602-D variant offers six Gigabit Ethernet interfaces, all SFP-based. The 8602-AS and 8602-DS are shorter versions of the product suitable for indoor use. With all four variants, the 8602 Smart Router is a perfect fit for IP or Ethernet traffic aggregation with full QoS awareness and IP routing capabilities.

SUPPORTING ACCESS NETWORKS INCLUDING OUTDOOR SITES WITH A COMPACT DEVICE

The 8602 Smart Router is targeted for access network sites that require small form factor and low power consumption devices for deployment in a dense topology and even the most demanding outdoor installations. Due to its versatile installation options, the 8602 Smart Router can be installed in various locations for different applications. With the optional rack mount adapter, two units can be located side by side in a rack. An optional wall mount adapter can be used to install the device either against a wall or a pole. The 8602 Smart Router also has an extended operating temperature range with passive cooling, a hardened enclosure, and protection against dust and moisture (compliant to the Ingress Protection Rating IP67 when used with the outdoor kit) to enhance the versatility of the device.

REDUCING SETUP COSTS WITH PLUG-AND-PLAY INSTALLATION

Node setup can be fully automated using the Self-Organizing Network (SON) capabilities of the 8602 Smart Router and the Coriant Transcend™ Chorus for Packet. This automation speeds up network roll-out and minimizes manual intervention. When the 8602 Smart Router is physically connected to the network, it automatically retrieves the configuration from Transcend Chorus. This cost-saving solution is enabled with autoconfiguration functionality implemented in the 8602 Smart Router and in Transcend Chorus.

BENEFITS OF THE CORIANT® 8602 SMART ROUTER

- **Extend IP/MPLS to the access network** and cell sites
- **Support sites with demanding requirements** including outdoor sites
- **Speed up network rollout** with fully automated node setup
- **Reduce operational costs** with powerful service provisioning tools
- **Reduce maintenance costs** with low power consumption, a sealed enclosure, and passive cooling without filters



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 8602 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.

REDUCING OPERATIONAL COSTS

The design of the 8602 Smart Router helps operators to benefit from reduced operational costs. Low power consumption and passive cooling ensure minimized power-related costs. Temperature hardening enables installation in variable, demanding climatic conditions. Passive cooling minimizes maintenance concerns as there are no fans and filters to replace. Powerful service provisioning and innovative testing tools in Transcend Chorus make the service creation and validation process extremely efficient for the operator, thus minimizing operational costs.

OFFERING FULL PACKET SYNCHRONIZATION CAPABILITIES

The 8602 Smart Router integrates full packet synchronization capabilities to support demanding radio network interfaces. All Ethernet ports are fully compliant with Synchronous Ethernet standards. Synchronization can also be provided using IEEE 1588v2. The 8602 Smart Router supports both frequency and phase synchronization (Boundary Clock). Furthermore, the 8602 Smart Router supports the Coriant® Integrated GPS (GNSS) SFP receiver for flexible and cost-efficient phase synchronization distribution.

TECHNICAL SPECIFICATIONS

Physical Dimensions for the 8602-A and 8602-D

- 138 x 55 x 338 mm / 5.43 x 2.17 x 13.31 in (W x H x D)
- Standard 19-inch, 23-inch, or ETSI 600 mm rack mounting with a rack adapter (two units side by side)
- Wall and pole mountable with a wall mount kit
- 2.6 kg / 5.7 lb
- 1.24RU high

Physical Dimensions for the 8602-AS and 8602-DS

- 138 x 55 x 275 mm / 5.43 x 2.17 x 10.83 in (W x H x D)
- Standard 19-inch, 23-inch, or ETSI 600 mm rack mounting with a rack adapter (two units side by side)
- 2.1 kg / 4.6 lb
- 1.24RU high

Power and Cooling

- DC Variant: Wide range -48 Vdc to +24 Vdc
- AC Variant: Wide range 90 Vac to 250 Vac
- Power consumption for 8602-A, 8602-D, 8602-AS, 8602-DS:
 - Typical 18 W, maximum 21 W
- Passive cooling

Forwarding Plane

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

Functionality

- IP VPN (RFC4364)
- 6vPE support
- Ethernet/VLAN 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, continuity check, ping, and link trace
- Two Way Active Measurement Protocol (TWAMP)
- BFD (Static routes, OSPF, ISIS, RSVP-TE)
- E1 interface support via SFP for SAToP pseudowires
- IP Multicast

Forwarding Capacity

- Up to 5 Gbps, 3 Gbps with Simple IMIX

8602 Smart Router Variants

- 8602-A, 8602-AS
 - Two 1000BASE-X Ethernet SFP ports
 - Four 100/1000BASE-TX Ethernet RJ-45 ports
- 8602-D, 8602-DS
 - Six 1000BASE-X Ethernet SFP ports
- All variants
 - RS-232 local console port
 - Indoor or outdoor kit

TECHNICAL SPECIFICATIONS

Resiliency and Load Balancing

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

Security

- L3/L4 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
- Pulse-per-Second (PPS) clock input and output
- Synchronous Ethernet
- SSM over Ethernet (G.8264)
- IEEE 1588v2 Precision Time Protocol 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
- WRED/RED queue management
- Strict Priority and WFQ scheduling
- Access Control Lists (ACL)

Management

- CLI with SSH2, FTP with SSH2
- SNMPv1 and SNMPv2 monitoring
- Coriant Transcend™ Chorus for Packet
- Coriant Transcend™ Symphony for Packet
- Smart Router autoconfiguration based on DHCP client

Standards

- Safety:
 - IEC 60950-1:2005 (2nd Edition)
 - IEC 60950-22:2005
- EMC:
 - EN 300 386:2010
 - ITU-T K.80 (07/2009)
 - FCC 47 CFR Part 15, Subpart B (Class B device)
- RTTE Directive 1999/5/EC

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 V2.1.4 (2003-04) Class 2.3
 - Temperature: -40°C to 70°C / -40°F to 158°F
- Indoor operating conditions: ETSI EN 300 019-1-3 V2.3.2 (2009-11) Class 3.2
 - Extended temperature: -40°C to +65°C / -40°F to 149°F
 - Extended relative humidity: 5% to 100%
- Outdoor operating conditions: ETSI EN 300 019-1-4 (2003-04) Class 4.1E
 - Extended temperature: -45°C to +65°C / -49°F to 149°F
 - Sun shield available for installation in sunlight over +40°C / 104°F
 - Extended relative humidity: 5% to 100%
- Ingress Protection Rating IP67 with the outdoor kit
- Minimum cold boot-up temperature: -40°C / -40°F

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