DATA SHEET

CORIANT IS NOW PART OF INFINERA

8600 Smart Router 2-Port 10 GbE + 12-Port GbE Line Card (ELC1)

Compact High Speed Ethernet Interface and Packet Switch Card

The Coriant® 8600 Smart Router Series is a scalable and versatile backhaul solution for evolving access networks. Designed to meet the ever-growing requirements of data hungry mobile users, this LTE-ready platform provides an extensive Ethernet and IP feature set. Simultaneous support of MPLS, TDM, ATM, and FR protects previous network investments. The 8600 Series is fully supported by the Coriant Transcend™ Chorus for Packet, an easy-to-use end-to-end network management solution. Transcend Chorus minimizes operational and maintenance costs and scales up to tens of thousands of network elements.

HIGH SWITCHING CAPACITY & HIGH SPEED ETHERNET INTERFACES

The 8600 Smart Router 2-Port 10 GbE + 12-Port GbE Line Card (ELC1) is designed for networks that require both high switching capacity and high speed Ethernet interfaces. Ideal for applications including mobile backhaul networks transitioning to an LTE environment, the ELC1 can be used flexibly as a high speed 10 GbE trunk interface toward the transport network or as a service termination point for IP routed or Ethernet switched traffic.

The ELC1 is supported by all chassis versions of the 8660 and 8630 Smart Routers, which are based on a distributed switching architecture. Traffic switching occurs on the line cards (IFC1, IFC2, or ELC1) without the need for separate switch cards. Any available line card slot of an 8660 or 8630 Smart Router can be equipped with an ELC1. Leveraging simplified and cost-efficient deployment, the ELC1 is backwards compatible with all available line and control card types. The function of the ELC1 is to perform Layer 2 and Layer 3 packet switching and traffic management while at the same time providing wire speed high-density Ethernet interfaces. The 1-slot ELC1 offers 25 Gbps of bidirectional switching capacity as well as 10 GbE and GbE interfaces.

SUPPORTING LTE, LTE-A, 5G, AND FMC

LTE, LTE-A, and future 5G is capable of supporting very high speed data services for mobile users and significantly impacts the mobile backhaul network, which must scale up to higher capacities and offer greater flexibility in connectivity defined by the mobile network. In LTE transport, the ELC1 can be used in applications such as a high speed network interface toward Ethernet transport or as an IP VPN connection end point with traffic aggregation toward the evolved packet core. In addition, the ELC1 can be used for any other IP or Ethernet service transport, such as 3G IP RAN. Fixed Mobile Convergence (FMC) and the transport of high speed wireline services are driving the need for increased backhaul capacity and flexibility.

BENEFITS OF THE CORIANT® 8600 SMART ROUTER ELC1

- **Provide significant capacity upgrade** and improve functionality of 8660 and 8630 Smart Routers
- **Deliver enhanced power efficiency** to reduce OpEx
- **Leverage high switching capacity** to enable migration toward next-generation LTE-A and 5G mobile networks
- **Provide 10G ports** for client and line side applications

The ELC1 in the 8600 Series helps to significantly lower transport costs and further improve overall power efficiency. The ELC1 can be deployed one at a time in the 8660 or 8630 Smart Routers requiring minimal incremental investment. The 10 GbE interfaces support XFP pluggable transceivers, and the GbE interfaces support SFPs. The pluggable transceivers are available for different transmission reaches.

ELC1 AND THE CORIANT® 8660 SMART ROUTER

With the ELC1, the 8660 Smart Router can be easily upgraded to a high-capacity traffic aggregation element. The total number of ELC1 units is dependent on the power feed and cooling implementation of the chassis. The 8660 Revision 2 (R2) chassis offers enhanced cooling and the ability to use an efficient DC powering solution provided by the Power Input Modules (PIMs) located at the lower part of the chassis. With the PIM modules, the 8660 Smart Router scales up to a 300 Gbps switch with a fully equipped ELC1 configuration including twelve ELC1 cards. A typical 8660 Smart Router configuration includes a combination of IFC and ELC1 cards.

ELC1 AND THE CORIANT® 8630 SMART ROUTER

The 8630 Smart Router equipped with ELC1s offers a high-capacity and compact access aggregation element. When all the four slots of the 8630 Smart Router are furnished with ELC1s, the total switching capacity of the network element is 100 Gbps.

TECHNICAL SPECIFICATIONS

Power Consumption
- Maximum power consumption: 150W
- Typical power consumption: 125W

Forwarding Plane
- IPv4 and IPv6 routing
- IP Multicast
- MPLS switching (LSR and LER)
- Ethernet MAC switching
- IP VPN (RFC 4364)
- VPNv4 BGP route aggregation
- 6vPE support
- Seamless MPLS
- Ethernet/VLAN pseudowire
- (H)-VPLS
- 802.1ad QinQ
- Integrated routing and bridging (IRB)
- IEEE802.1ag Ethernet OAM loopback, continuity check, ping, and link trace
- Y.1731 frame loss, frame delay, and frame delay variation measurement
- Two Way Active Measurement Protocol (TWAMP)
- BFD (Static, OSPF, ISIS, RSVP-TE)

Interfaces
- 2 x 10GBASE-R XFP ports
- 12 x 1000BASE-X SFP ports
- All ports can be used simultaneously

Chassis Configurations
- Hot swappable
- Up to 4 x ELC1s per 8630 Smart Router
- R2 Chassis: Up to 12 x ELC1s per 8660 Smart Router (with PIMs)
- R1 Chassis: Up to 7 x ELC1s per 8660 Smart Router
- Interoperable with IFC1-A, IFC1-B, and IFC2-B
- Interoperable with CDC1-A, CDC1-B, CDC1-SEC-A, and CDC1-SEC-B

Forwarding Capacity
- 25 Gbps

Resiliency
- VRRP
- 1:1 RSVP-TE LSP protection
- RSVP-TE FRR
- IPv4 and IP VPN load balancing to RSVP-TE tunnels
- ECMP
- Ethernet pseudowire redundancy
- Ethernet Link Protection
- Ethernet Link Aggregation

Synchronization
- Synchronous Ethernet [G.8262]
- SSM over Ethernet [G.8264]
- IEEE 1588 Frequency Slave
- IEEE 1588 Boundary Clock for phase sync
- SyncE assist

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

Traffic Management
- DiffServ support for up to 7 traffic classes (EF, AF, and BE) and MPLS (E-LSP and L-LSP)
- DiffServ aware MPLS Traffic Engineering (DS-TE)
- IEEE 802.1P/Q mapping to IP or MPLS
- VLAN shaping
- Strict Priority and WFQ scheduling
- RED/WRED queue management
- L3/L4 ACL
- Packet Loop Test

Management
- CLI with SSH2, FTP with SSH2
- SNMPv1 and SNMPv2 monitoring
- Coriant Transcend™ Chorus for Packet

Standards
- Safety: EN 60950-1:2006 and IEC60950-1:2005
- EMC: EN 300 386:2008
- RTTE Directive 1999/5/EC
- FCC 47 CFR Part 15, Subpart B, Class A

Environmental Conditions
- Storage:
  - ETSI EN 300 019-1-1, Class 1.1
  - Temperature: -5°C to 45°C / 23°F to 113°F

TECHNICAL SPECIFICATIONS

- 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%

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