8615 Smart Router
Cost-Efficient, High Speed Ethernet Aggregator for Packet Networks

The 8615 Smart Router is a cost-efficient, 44 Gbps full duplex IP/MPLS router targeted for pure packet networks. It is designed for aggregation and large mobile macro sites in technically advanced all-IP networks. The 8615 Smart Router provides high 1GE interface density for mobile or fixed access networks. In addition, it efficiently aggregates the uplink traffic flows to 10GE links towards the core. It also provides the flexibility and capabilities needed to serve all-IP mobile and fixed networks including applications ranging from traditional consumer, enterprise and machine-to-machine connectivity to cloud networking needs.

SUPPORT ALL-IP MOBILE AND FIXED NETWORKS
The 8615 Smart Router is an optimal solution for mobile and fixed networks that deploy Ethernet technology as the underlying transport media. It contains large IP routing as well as MPLS and Ethernet switching tables, providing the flexibility needed to serve evolving network architectures and applications. It also provides high volume buffering capacity to accommodate bursty data applications.

ENABLE FLEXIBLE LTE NETWORK ARCHITECTURES
The 8615 Smart Router provides ideal capabilities to implement flexible LTE network architectures. It provides IP routing flexibility, supporting the X2 interface between eNodeBs, and the S1 and S1-Flex interfaces between eNodeBs and LTE network core elements. The 8615 Smart Router can also accommodate fixed network traffic, so mobile operators can extend their service offering to include, for example, fixed business services.

DELIVER RANGE OF BACKHAUL APPLICATIONS
The 8615 Smart Router further strengthens the 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 for their needs. The 8615 Smart Router accommodates processing capacity for IPsec encryption and decryption for control plane traffic.

The network element hardware design enhances the IPsec capabilities with a dedicated IPsec hardware accelerator to also support IPsec on the data plane. This network element is capable of serving the needs of mobile backhaul networks, fixed mobile convergence and cloud computing applications.

REDUCE OPERATIONAL COSTS WITH INTELLIGENT NETWORK MANAGEMENT
The 8615 Smart Router is fully managed with the 8000 Intelligent Network Manager. It also seamlessly integrates to any existing Smart Router backhaul network, network

BENEFITS OF CORIANT’S 8615 SMART ROUTER
■ Support all-IP mobile and fixed networks with a cost-effective IP/MPLS router
■ Enable flexible LTE network architectures
■ Deliver a range of backhaul applications
■ Reduce operational expenses with intelligent network management
■ Deploy a range of synchronization options
■ Deliver high speed packet aggregation in a compact form factor
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 the Smart Router platforms 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 Intelligent Network Manager, which is an easy to use end-to-end network management solution. The 8000 Intelligent Network Manager minimizes operational and maintenance costs and scales up to tens of thousands of network elements.

expansion or greenfield deployment. The 8000 intelligent Network Manager supports the operator throughout the network lifecycle from planning and deployment phases all the way to optimization and maintenance. It also minimizes the routine tasks and operational expenditures at all steps.

HIGH INTERFACE DENSITY AND FULL SYNCHRONIZATION SUPPORT

The 8615 Smart Router accommodates 16 fixed optical 1GE ports and 8 fixed 1GE electrical ports. The electrical ports support IEEE 802.3at Power over Ethernet (PoE) for passing electrical power alongside with the data traffic. The integrated PoE solution enables the 8615 Smart Router to deliver CAPEX and OPEX savings by eliminating the need for external power sources at directly connected external devices.

As an essential contribution to mobile backhaul network deployments, the 8615 Smart Router supports a range of highly accurate synchronization schemes, such as Synchronous Ethernet, Synchronization Status Message (SSM) over Ethernet, and IEEE1588v2 Boundary Clock for phase synchronization, which is required for LTE Time-Division Duplex (LTE TDD) and LTE Advanced.

COMPACT FORM FACTOR

The 8615 Smart Router is designed to offer essential high speed packet aggregation capabilities in a compact 1 Rack Unit (RU) high design. Two 8615 Smart Routers can be stacked with external cabling forming a redundant pair of devices to secure user service availability at critical network locations. With the stacking option, the 8615 Smart Router has redundant control plane and user plane operations.
### TECHNICAL SPECIFICATIONS

#### Physical Dimensions
- 1 RU high
- 300 mm deep
- 19 inch rack mounting

#### Power and Cooling
- -48V DC
- Maximum power consumption at Coriant 8615 router 170 W
- 120 W pool shared among 8 ports, maximum PoE 30 W per port
- User changeable power module with optional protection
- Redundant power supply
- Forced cooling with fan module

#### Chassis Configuration
- Power module
- 2 x 10GBASE-R SFP+ fixed ports
- 16 x 1000BASE-X SFP fixed ports
- 8 x 1GE electrical interfaces with IEEE 802.3at PoE, 7 ports for traffic, 1 port dedicated for management
- Station Clock Input/Output (SCI/SCO)
- Pulse-per-Second (PPS) clock input and output
- Time of Day (ToD) input
- Fan unit

#### Forwarding Plane
- IPv4 routing
- MPLS switching (LSR and LER)
- Ethernet MAC switching

#### Functionality
- IP VPN (RFC 4364)
- Ethernet/VLAN pseudowire
- (H)-VPLS
- IEEE802.1ag Ethernet OAM loopback, continuity check, ping and link trace

#### Forwarding and Buffering Capacity
- Up to 30 Gbps full duplex forwarding capacity
- Up to 1.5 Gbyte buffering capacity

#### Security
- L3/L4 Access Control Lists
- IPsec capable HW for control plane processing

#### Resiliency
- VRRP
- 1:1 RSVP-TE LSP protection
- Ethernet Link Protection
- Ethernet Link Aggregation

#### Synchronization
- Synchronous Ethernet [G.8262]
- SSN over Ethernet [G.8264]
- IEEE1588v2 frequency synchronization
- IEEE1588v2 Boundary Clock for phase 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 (EF, AF and BE) and for 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

#### Management
- CLI with SSH2, FTP with SSH2
- SNMPv1 and SNMPv2 monitoring
- Coriant 8000 Intelligent Network Manager

#### Maintenance and Trouble Shooting
- Ethernet OAM
- BFD
- Packet Loop Test
- IP, MPLS and VCCV Ping
- IP, MPLS and VCCV Traceroute

#### Environmental Conditions
- Operating temperature: -5°C to +45°C