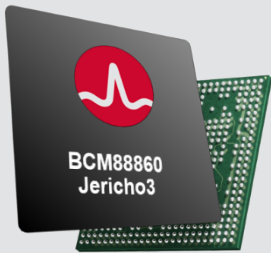


Product Brief



Key Features

- Highly-integrated StrataDNX scalable switching and routing device.
- Highly scalable, field-proven StrataDNX traffic manager, with deep packet buffers.
- Advanced and programmable packet processor, with built-in support for data center and carrier applications.
- Hardware support for IEEE 1588v2 and SyncE implementations with nanosecond-scale time stamping.
- Large on-chip tables with off-chip expandability.
 - 50GbE, 100GbE, 400GbE and 800GbE interfaces.
- Scaling to over one petabit-per-second switching and routing solutions together with the BCM88920.
- MACsec and IPsec support at line rate on all network interfaces.

Supported Applications

- Carrier Ethernet core, metro/edge switches, and routers.
- Data center leaf, spine, core, and DCI switches.
- Data center high-capacity, deep-buffered, ToR switches.

BCM88860

StrataDNX™ 28.8 Tb/s StrataDNX™ Ethernet Switch Router Series

Overview

The Broadcom® BCM88860 scalable Ethernet Switch Router Series is the industry's most integrated networking solution, enabling high-density 800GbE switching and routing platforms with line rate MACsec and IPsec support.

The BCM88860 is the ninth generation of the StrataDNX scalable switching product line and processes up to 28.8 Tb/s of line card traffic, supporting up to 18 800GbE ports, 72 100GbE ports, or a mix of front panel ports from 50GbE to 800GbE, operating at Layer 2 through Layer 4.

The BCM88860 series, together with the BCM88920 fabric element (FE) device, enables system vendors to build a scalable product line based on a unified architecture that addresses any density or application, such as:

- Multi-terabit core and edge routers for data center, packet transport, or carrier network applications
- Large-scale spine and leaf switches for data centers with integrated deep buffering and hierarchical quality-of-service (HQoS)
- Multiple interconnected modular systems to create a scalable core platform for switching and routing capacity multiplication
- High-capacity, fixed configuration switch for mission-critical applications

The BCM88860 Elastic Pipe™ packet processor is C++ programmable, with built-in support for data center and carrier networking applications. The large-on-chip, centralized, and fungible databases are sized to scale to the most demanding service provider and cloud applications.

The BCM88860 traffic manager integrates deep packet buffers with a distributed scheduling scheme that allows state-of-the-art hierarchical quality-of-service (QoS), transmission scheduling per-customer, per-service, as well as tunneling and overlay networks. Flexible flow control mechanisms support Priority-based Flow Control (PFC), Enhanced Transmission Selection (ETS), and Explicit Congestion Notification (ECN).

Features

- Ninth-generation StrataDNX scalable FAP product line
- High-performance 28.8-Tb/s full-duplex routing
- MACsec and IPsec support at line rate over all network interfaces
- Fabric interface:
 - SerDes interface to the Broadcom BCM88920 fabric element
- Flexible network interface:
 - 50GbE, 100GbE, 400GbE and 800GbE interfaces
- Back-to-back configurations of two devices
- Traffic Manager:
 - 24-GB in-package, HBM (High-Bandwidth Memory) deep buffering
 - Carrier-grade hierarchical traffic management
 - Compliant with scheduling and shaping standards, including MEF and DSL-Forum
- Elastic Pipe:
 - Extending BCM88860 pipe using a pool of additional general-purpose stages:
 1. Future-proof and programmable pipe with elastic extension
 2. Programmable and Software-defined
 3. Flexible binding of a centralized database to any stage of the pipe
- Switching, routing, MPLS, VPLS, L2VPNs, L3VPNs, segment routing, and OAM
- Data center tunneling encapsulations including VxLAN, NV-GRE, and GENEVE
- Built-in support for data center, carrier, and Metro Ethernet, and packet transport applications
- Large on-chip tables with optional on-chip expandability
- OAM accelerator engine
- Instrumentation and Telemetry:
 - On-chip, large-scale hardware acceleration
 - Monitoring of large numbers of sessions, with advanced reporting capabilities

Figure 1: BCM88860 Block Diagram

