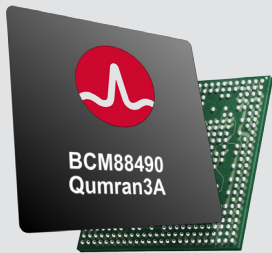


Product Brief



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.
- Time-sensitive Network (TSN).
- Large on-chip tables.
- 1GbE, 2.5GbE, 5 GbE, 10 GbE, 25 GbE, 50GbE, 100GbE, 400GbE, and 800GbE interfaces.
- MACsec, IPsec, and TunnelSec support at line rate on all network interfaces.

Supported Applications

- Cell Site Router (CSR) and Mobile Backhaul (MBH)
- PON OLT
- Microwave access
- Carrier Ethernet edge and aggregation switches and routers
- Data center deep-buffered ToR switches

BCM88490

StrataDNX™ 2.4 Tb/s StrataDNX™ Ethernet Switch Router Series

Overview

The Broadcom® BCM88490 scalable Ethernet Switch Router Series is an optimized switching solution for fifth generation (5G) mobile backhaul, cell-site routing transport and aggregation, data center applications, enabling switching and routing platforms with line rate MACsec and IPsec support

The BCM88490 belongs to the ninth generation of the DNX scalable switching product line and processes up to 2400 Gb/s of traffic with an integrated security engine operating at line rate.

The BCM88490 series enables system vendors to build a comprehensive access, aggregation, and edge portfolio, with routing capacity ranging from 360 Gb/s to 2.4 Tb/s in fixed form factors, and with dense connectivity of 80 front panel ports allowing flexible configurations of up to 4.8T of Ethernet interfaces, with port rates ranging from 1 Gb/s to 800 Gb/s.

The BCM88490 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 BCM88490 traffic manager integrates deep packet buffers with a flexible 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 2.4-Tb/s full-duplex routing
- Flexible network interface:
 - 1GbE, 2.5GbE, 5GbE, 10GbE, 25GbE, 50GbE, 100GbE, 400GbE, and 800GbE interfaces
- MACsec, IPsec, and TunnelSec support at line rate over all network interfaces
- Support for Secure-boot procedure authenticating trusted controllers
- Traffic Manager:
 - Up to 4 x 32b LPDDR5x interfaces for deep buffering
 - Carrier-grade hierarchical traffic management
 - Compliant with scheduling and shaping standards, including MEF and DSL-Forum
- Elastic Pipe:
 - Extending BCM88490 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
- OAM accelerator engine
- Instrumentation and Telemetry:
 - On-chip, large-scale hardware acceleration
 - Monitoring of large numbers of sessions, with advanced reporting capabilities

Figure 1: BCM88490 Block Diagram

