



## HIGH-PERFORMANCE PACKET SWITCH FABRIC

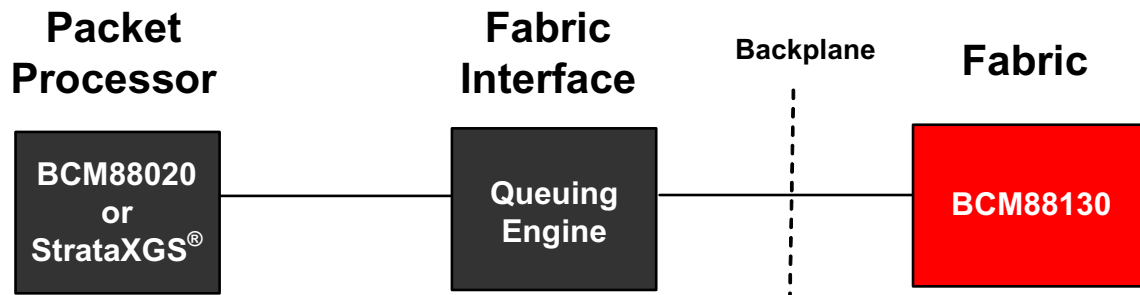
### FEATURES

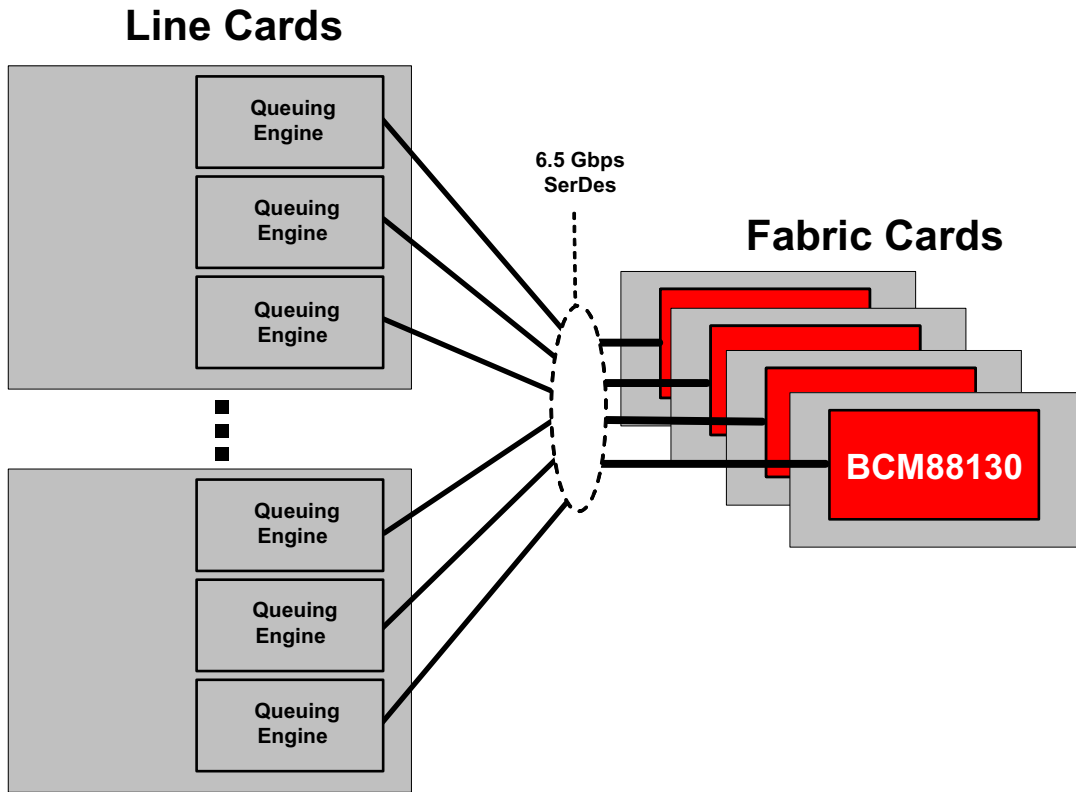
- Scales linearly to over 10 Tbps
- Non-blocking architecture
- 100 GE ready
- 600 Gbps switched bandwidth in single device
- Central bandwidth management in single device
  - Globally managed Quality of Service (QoS)
  - Bandwidth guarantees and low latency/Jitter
  - Hierarchical VOQs with 16 COS
- High-speed 6.5 Gbps SerDes
- High-performance multicast
- Self-routing crossbar
- Reliability and availability features
  - 1+1 and load shared redundancy
  - Hardware based lossless switchover
  - Fault detection and correction
  - Graceful degradation
- Complete end-to-end application solutions

### SUMMARY OF BENEFITS

- Proven fabric architecture for a range of modular platforms
- Interoperable with current QE2000 and future Queuing Engines to provide line-card future-proofing
- Central bandwidth management enforces service level agreements (SLAs) and bandwidth guarantees, including low latency and jitter services.
- Very low fabric overhead optimizes the use of backplane bandwidth.
- Line rate operation for all packet sizes with a full mesh of unicast and multicast traffic under stress
- High-performance multicast provides wirespeed non-blocking multicast while maintaining system SLAs. Streaming multicast/broadcast services such as IPTV requires these efficient multicast capabilities.
- Deep buffers provide a single control point for managing and guaranteeing QoS, and absorbing network round trip delays.
- Self-routing crossbar for chip-level autonomous operation allowing for single control point across devices and efficient multicast.

### BCM88130 System Diagram





### BCM88130 in Chassis Configuration

The SBX fabric is equally applicable to the next-generation Carrier Ethernet Switch Router (CESR) and Enterprise Core modular platforms. Its linear scalability allows end-users to offer a family of platforms using the same fabric design and architecture. Customers can develop these platforms with a common fabric architecture and then target them to both Enterprise and CESR applications with specialized line cards.

For CESR applications, the SBX fabric feature set meets the stringent QoS and high-availability requirements demanded by the carriers when offering network wide SLAs to end customers.

For Enterprise Core platforms the high density and scale of the fabric along with the QoS features address the needs of the next-generation core platforms.

Complete solutions are offered along with the BCM88130 by providing a family of queuing engines and forwarding engines that offer programmability and high density switching.

- Combined bandwidth management engine and switching engine
- Manages all fabric nodes across a chassis architecture
  - Administers per queue SLAs
  - Global VOQs and COS (BW, WRED)
  - Lossless switchover, auto switchover
- 600 Gbps
- 96 SerDes links at 6.5 Gbps each
- Load balanced and 1+1 redundant architectures
- Self-routing cross-connect
- Link and system monitoring
- SerDes multiplexing and rate/coding conversion

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