



## 80-GIGABIT SWITCH CHIP

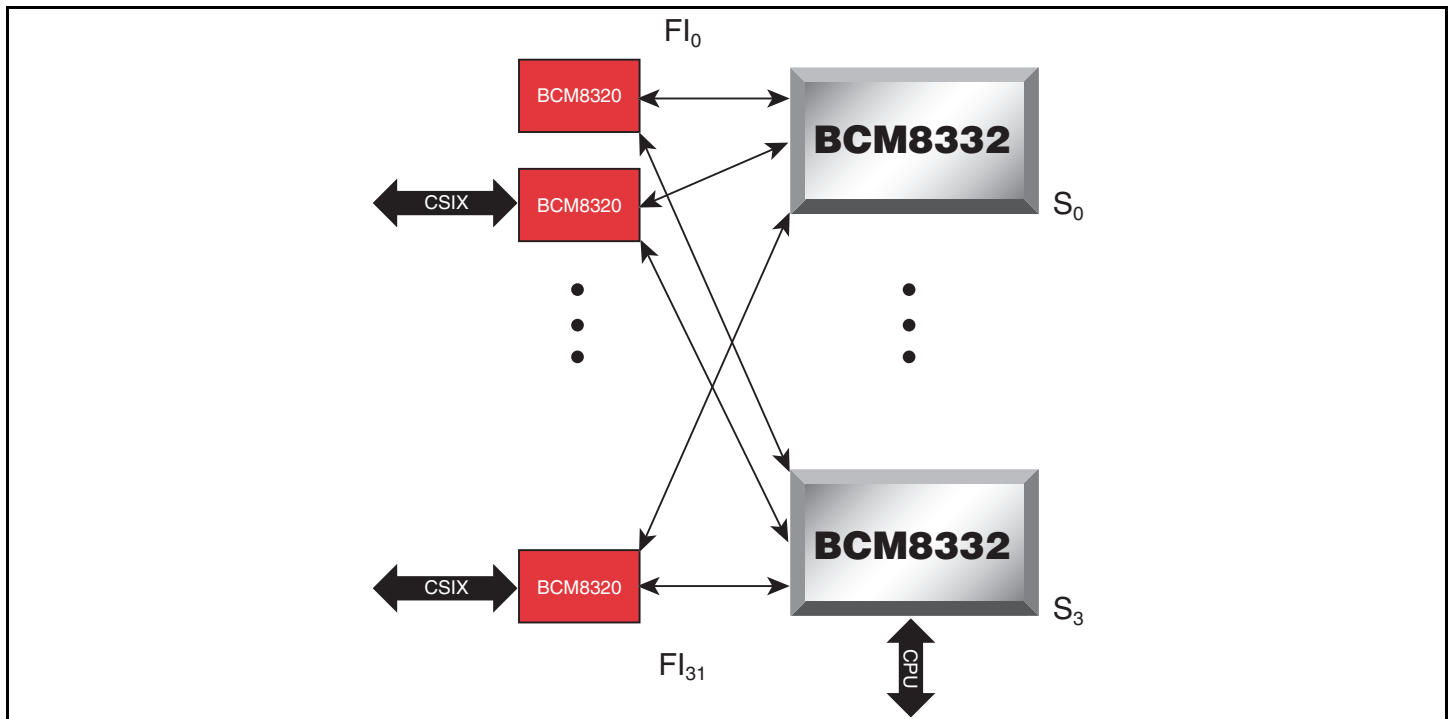
### FEATURES

- Highly integrated, scalable switch fabric
- Single-chip bandwidth of up to 80 Gbps
- System scalable to 640 Gbps
- 96-byte or 112-byte payloads
- Flexible fabric speedup and redundancy schemes
  - Additional speedup to handle Cell Size + 1 byte case
  - Link failure causes graceful reduction in speedup
- Support for 16k Multicast Groups
  - Full Multicast group ID carries through the fabric
- Two-level Weighted Round Robin (WRR) or WRR/strict priority scheduler
- Support for 128 weights per output tap
- Proven high-speed 3.125-Gbps SerDes Technology
- 16-bit CPU interface @ up to 100 MHz

### SUMMARY OF BENEFITS

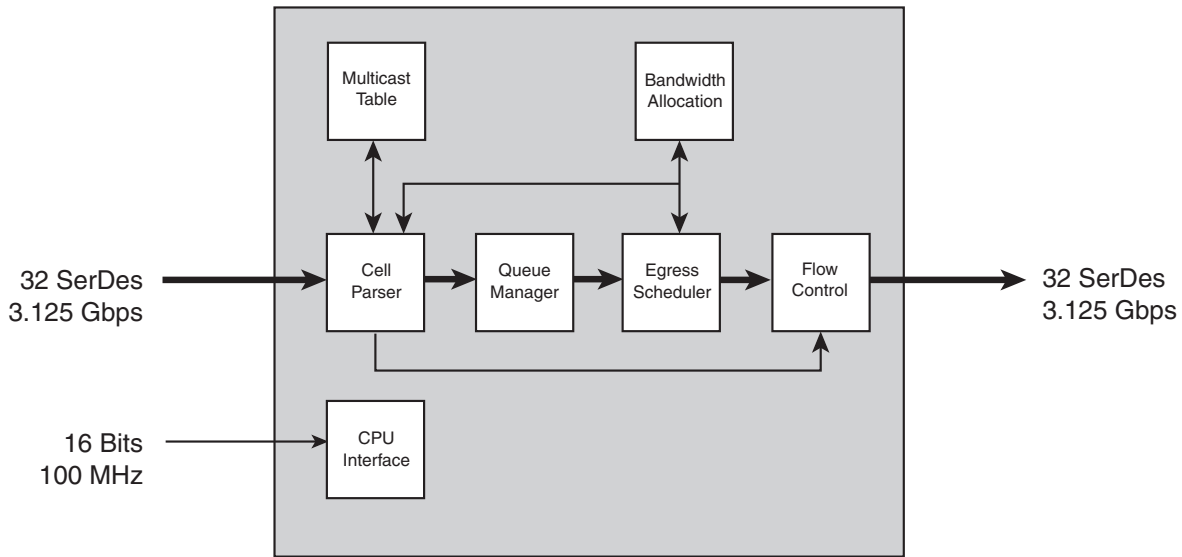
- Guaranteed Class of Service through the system—Fabric Interface chip (BCM8320) schedules based on destination, while the fabric switch chip (BCM8332) schedules based on source. QoS can be set on a source/destination basis with no interference from other channels.
- Excellent Redundancy: All links that are used are always active. N-1, N+1, and N/2 redundancy modes are all supported—no software intervention is necessary.
- Automatic link failure detection—no software intervention is necessary.
- Integrated SerDes provides a cost-effective and power-conscious solution.

### BCM8332 320-Gigabit Switching Solution



## OVERVIEW

### BCM8332 Block Diagram



The BCM83XX switch fabric chipset is highly integrated and scalable, switch fabric consisting of the BCM8320 Fabric Interface chip and the BCM8332 Switch chip. The BCM83XX switch fabric is ideal for applications such as Metro packet aggregation, storage area networks, cellular packet infrastructure and WAN core switching.

The BCM8332 has 32 3.125-Gbps SerDes links to the BCM8320. The proven 3.125-Gbps integrated SerDes provides a cost- and power-effective solution while minimizing the number of backplane connections to the switch fabric.

By using additional BCM8332 devices, the speedup of the BCM83XX Switch Fabric can be increased up to four times. Unlike standard crossbar architectures, the BCM83XX switch fabric does not need speedup to maintain line rate traffic. However, a selectable speedup is

offered to handle Cell Size + 1 byte traffic cases as well as compensate for embedded system level headers.

The BCM83XX switch fabric provides exceptional fault tolerance and redundancy including the options of N-1, N+1 and N/2 redundancy modes. Any link failure causes a graceful degradation in speedup and allows continuous operation during a failure or switch board replacement. Link failure detection is done in hardware and does not require software intervention.

The BCM83XX switch fabric can support 16,000 multicast groups and performs all replication in the switch fabric.

The BCM83XX switch fabric allows guaranteed Class of Service through the system. Any input port can be guaranteed a traffic rate to any egress port regardless of the rest of the traffic in the system.

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