

76 GBPS INTEGRATED MULTILAYER ETHERNET SWITCH

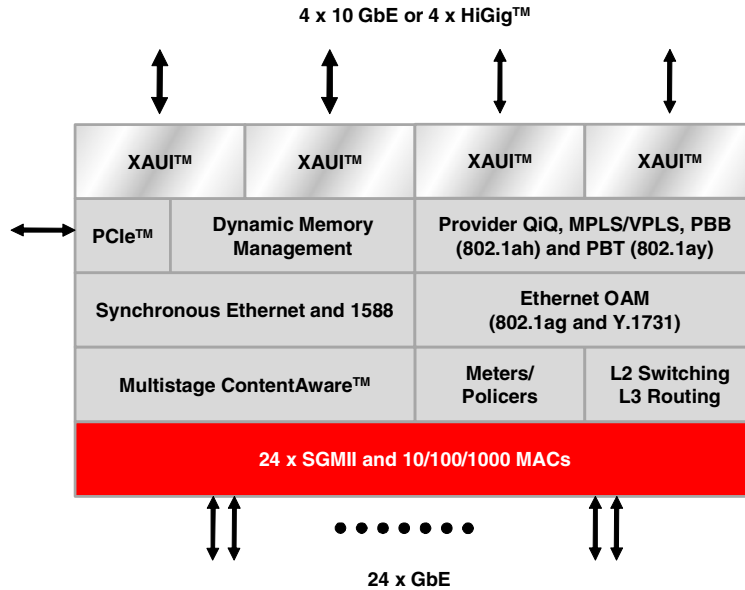
FEATURES

- **Highly integrated 24-port 10/100/1000 Mbps Ethernet switch**
- **Up to four ports of 1-, 2.5-, or 10-Gigabit Ethernet (GbE) uplink/stacking**
- **HiGig2™ stacking over 2.5-GbE (HiGig-Lite™) or 13-GbE (HiGig™[13])**
- **Nonblocking architecture, line rate for all packet sizes**
- **Fully integrated packet buffer**
 - Intelligent memory management unit (MMU) optimized for handling bursty data traffic
- **Advanced multistage TCAM-based ContentAware™ engine**
 - L2, IPv4/IPv6 L3 packet classification
 - Flow-based classification, metering, and marking of frames
 - Flexible Access Control List (ACL)
 - Parallel lookup engines
- **Full IPv4 and IPv6 L3 routing support**
- **Key Carrier Ethernet features**
 - IEEE 802.1ad provider bridging
 - Flexible VLAN translation
 - MPLS/VPLS, pseudowire
 - PBB/PBT
 - IEEE 802.1ag and Y.1731 Ethernet OAM
 - IEEE 1588 and Synchronous Ethernet
- **Support for IEEE 802.1qbb (PFC) on 10-GbE ports and SAFC on HiGig ports**

SUMMARY OF BENEFITS

- Based on industry-leading and market-proven StrataXGS® IV architecture
- Single-chip switch System-on-a-Chip (SoC) optimized for Carrier Ethernet access market
- Seamless connection to StrataXGS fabric via HiGig2 protocol
- Provider-edge features at access economics
- Dynamic memory technology delivers optimum usage of packet-buffer resources.
- Eight flexible Class of Service (CoS) queues per port assure the lowest latency to high-priority traffic. This capability supports a wide variety of delay-sensitive video and audio multicast applications.
- IPv6 support provides future-proofing
- MPLS tunneling enables L2 and L3 VPN services
- Hardware-based OAM provides carrier-grade performance management
- Flow-based classification, policing, marking, and queuing deliver carrier-class SLA
- Synchronous Ethernet provides timing accuracy for delay-sensitive applications such as voice and video
- Leverages Broadcom® unified API for software reuse and quick time-to-market

OVERVIEW



BCM56330 Block Diagram

Each BCM56330 family device is a highly integrated 24-port multilayer GbE switch with four ports of 10-GbE XAUI uplinks or four ports of 1-GbE/2.5-GbE uplinks. The GbE ports support SGMII as well as integrated SerDes for direct fiber (1000BX and 100FX) connectivity.

The BCM56330 family are purpose-built for next-generation Enterprise and Metro Ethernet access applications. This product family offers an 8-port or 24-port GbE configuration with uplinks. Two BCM56330 devices can be connected together by two ports of 13G XAUI-over-HiGig stacking protocol to create a nonblocking 48-port switch.

The BCM56330 family supports nonblocking L2 switching and L3 routing, which are key features for Carrier Ethernet and enterprise networking applications.

The BCM56330 family delivers key Metro Ethernet features:

- Standardized Services
 - Q-in-Q, 802.1ad provider bridging, MPLS/VPLS, VPWS, pseudowire, and PBB/PBT support
 - L2 and L3 VPNs
 - STP for control protocol
- Scalability
 - Supports platforms from 8 ports to 48 ports of GbE
 - 10-GbE ports for aggregation

- Reliability
 - Hardware support of STP, MSTP, and RSTP
 - IEEE 802.1ag and ITU Y.1731 Ethernet OAM for link failure detection
- Quality of Service
 - Per-flow metering capability with multistage ContentAware engine
 - VLAN shaping ensures provider-class SLA
 - Highly optimized packet buffer architecture for burst absorption and multicast traffic
- Service Management
 - IEEE 802.1ag Ethernet OAM message support
 - Multistage ContentAware engine enables class-based classification
 - VRF

The BCM56330 family can be managed by a host CPU via PCIe™ or BSC.

Ordering information:

- BCM56331 (24 GbE + 4 x 1 GbE/2.5 GbE)
- BCM56333 (16 GbE)
- BCM56334 (24 GbE + 4 x 1 GbE/2.5 GbE/10 GbE/HiGig[13])
- BCM56338 (8 GbE + 2 x 1 GbE/2.5 GbE/10 GbE/HiGig[13])

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