



## BCM56210 SERIES OF INTEGRATED MULTILAYER SWITCH SOC

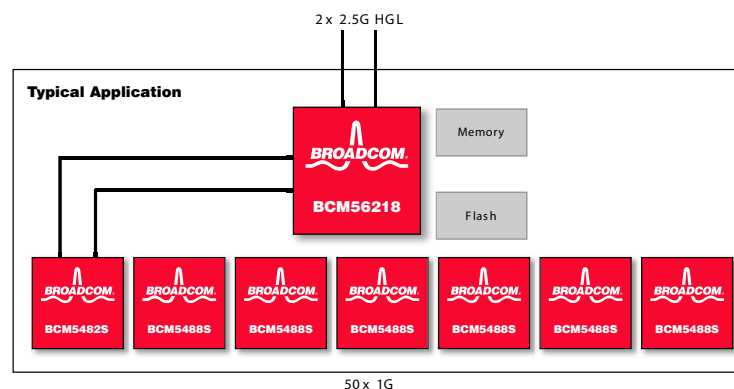
### FEATURES

- Highest silicon integration 28/52-port 10/100/1000 Ethernet switch device
- Two ports can run as 2.5 Gb uplinks/stacking ports
- HiGig™ stacking over 2.5 Gb (HGL)
- Integrated 32-bit MIPS® processor
- Traffic prioritization to and from CPU
- Internal 32-bit 133-MHz ~ 266-MHz bus to switch
- Fully integrated packet buffer
- Advanced TCAM-based ContentAware™ engine
  - L2, IPv4/IPv6 L3 packet classification
  - Per flow rate shaping
  - Ingress metering
  - Flexible ACL
  - Parallel lookups
  - Extensible key matching
- IPv4 and IPv6 L3 policy-based forwarding
- Hardware-based DoS attack prevention
- MAC-based, protocol-based, and subnet-based VLAN
- Q-in-Q support

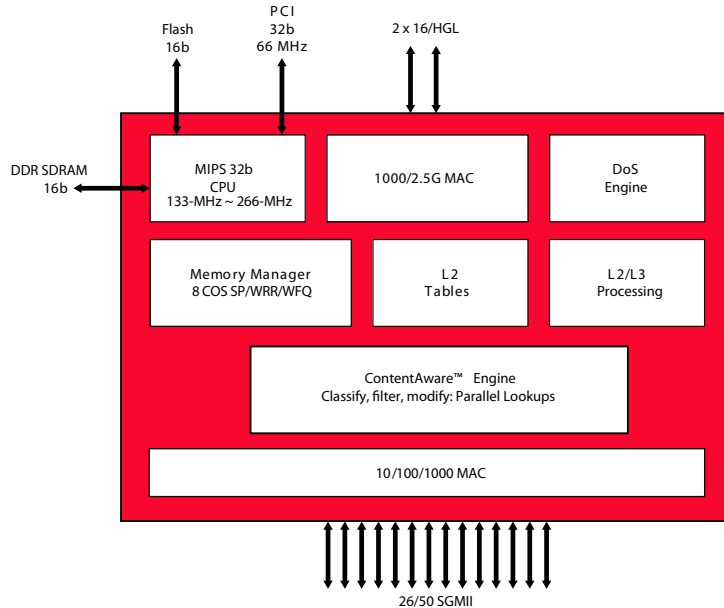
### SUMMARY OF BENEFITS

- Based on industry-leading and market-proven XGS-III architecture
- Single-chip switch SoC, optimized for the value enterprise market
- Bill of materials (BOM), optimized with integrated CPU
- Cost-optimized HGL stacking over CAT-7 cables is highly suitable for SME.
- Wirespeed performance
- Eight flexible Class of Service (CoS) queues per port assure the lowest latency to high-priority traffic. This supports a wide variety of delay-sensitive video and audio multicast applications.
- IEEE 802.3ad link aggregation increases effective bandwidth and provides link redundancy.
- Storm and bandwidth/rate control provide improved traffic profile management.
- IPv6 support provides future-proofing.
- Supports essential features for access applications
- Broadcom switch API compatibility enables software reuse for faster time-to-market.
- Series of devices from 28-port to 52-port configurations

### 48-Port GbE Switch Application



# OVERVIEW



## BCM56210 Reference Design

The BCM56210 is the sixth generation of the highly integrated and cost-effective Broadcom StrataXGS<sup>®</sup> product line. It is a single-chip solution with a high-performance 32-bit MIPS CPU and 28/52 GbE ports, where two of the GbE ports can also be run as 2.5 Gb uplinks.

The BCM56210 series is a member of the Evaluate GbE product line. The BCM56210 series incorporates 28/52 GbE ports that can operate at 10/100/1000 Mbps; two of them can operate at 2.5 Gb, ideal for low cost stacking or uplink. The HGL uplink interface is used to connect to other devices via low-cost standard CAT-7 cables in the BCM56210 series to create a larger stacking system.

With high integration and high-port density, the BCM56210 series is ideal for enterprise applications in stand-alone and stackable configurations.

The BCM56210 series enables cost-effective Gigabit Ethernet to the desktop in the enterprise. The BCM56210 series is also ideal for embedded switch applications like a blade server switch, ATCA chassis, IPDSLAM, 3G wireless base station, and others. The BCM56210 series supports policy-based L3 forwarding for cost-effective highly manageable enterprise networks. The BCM56210 series performs IPv6 routing and transition services in hardware, allowing IT managers to deploy L3 switches that are future-proof. This hardware-based scheme supports highly manageable L3 networks and enables cost-effective transition from IPv4 to IPv6.

The ContentAware classification feature of the StrataSwitch<sup>®</sup> and StrataXGS devices is further enhanced in the BCM56210 series with increased flexibility and programmability. The ContentAware engine can be used for applications such as policy-based routing, access control list management, and dynamic adaptation to changes in virus threats.

The BCM56210 series has built-in security functions for highly secure enterprise networks including BroadSAFE<sup>™</sup>. Utilizing hardware-based identity management and authentication coupled with key management software that directs and manages clients, BroadSAFE security provides exceptionally strong network security without impacting network performance.

The BCM56210 series integrates sophisticated metering, statistics, and traffic management features, optimizing the QoS in the enterprise networks for voice, video, and data convergence. The BCM56210 series also provides rate-adjustable hardware-based sFlow implementation and flexible multiple-session remote port mirroring functionality for efficient network management.

The BCM56210 series switches integrate a high-performance 32-bit MIPS CPU, ideal for low-cost SoCs in fixed or stackable configurations. The highly integrated BCM56210 series is cost-optimized for system level BOMs.

The BCM56210 series can also be managed by an external CPU via one of these host interfaces:

- 32-bit PCI bus
- 16-bit EB bus

Bus mastering and advanced DMA are supported for efficient exchange of packet data between CPU memory and the BCM56210 series switches.

Product ordering information:

- BCM56218 (48 GbE + 4 x 1 Gb/2.5 Gb + integrated CPU)
- BCM56214 (24 GbE + 4 x 1 Gb/2.5 Gb + integrated CPU)
- BCM56216 (16 GbE + 4 x 1 Gb/2.5 Gb + integrated CPU)

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