



## 24-PORT GBE SWITCH WITH 4-PORT GBE/2.5GBE HGL PORTS

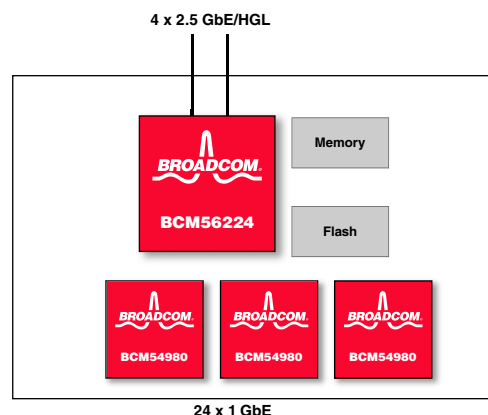
### FEATURES

- Highly integrated 28-port 10/100/1000-Mbps Ethernet switch device
- Four ports for 2.5 Gigabit Ethernet (GbE) uplink/stacking
- HiGig™ stacking over 2.5 GbE (HGL)
- Integrated 32-bit MIPS® processor
  - Traffic prioritization to and from CPU
  - Internal 32-bit 133 MHz bus to switch
- Fully integrated packet buffer
- Advanced TCAM-based ContentAware™ engine
  - L2, IPv4/IPv6 L3 packet classification
  - Ingress per flow metering
  - Flexible Access Control List (ACL)
  - Parallel lookups
  - Extensible key matching
- Full IPv4 and IPv6 L3 routing
- Hardware-based Denial of Service (DoS) attack prevention
- MAC-based, protocol-based, and subnet-based VLAN
- Q-in-Q, VLAN translation support

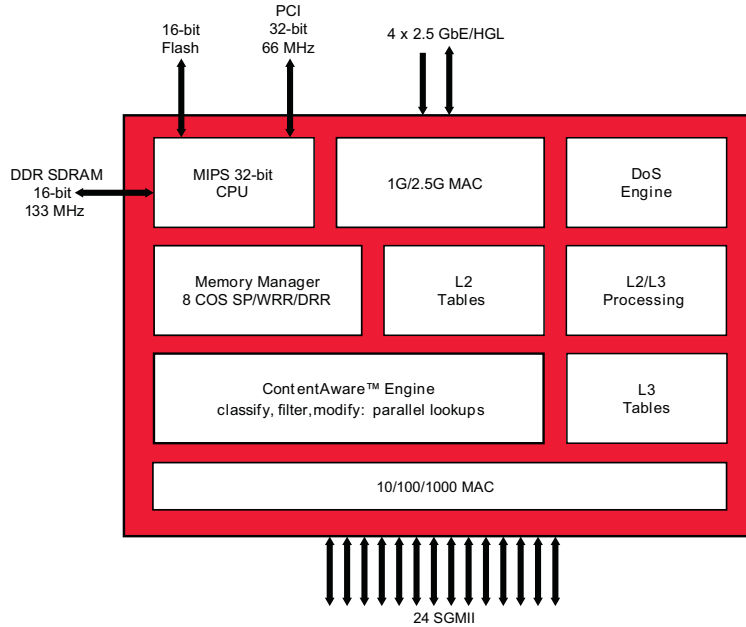
### SUMMARY OF BENEFITS

- Based on industry-leading and market-proven StrataXGS®-III architecture
- Single chip switch system-on-a-chip (SoC) optimized for the value enterprise market
- BOM optimized with integrated CPU
- Cost-optimized HGL stacking over CAT-7 cables is highly suitable for Small and Medium-sized Enterprise (SME)
- Wire speed performance
- Eight flexible Class of Service (CoS) queues per port assures the lowest latency to high-priority traffic. This capability 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.

### BCM56224 Typical Application



# OVERVIEW



**BCM56224 Block Diagram**

The BCM56224 is a highly integrated and cost-effective multilayer Ethernet switch from the Broadcom StrataXGS® product line. It is a single-chip solution with a high-performance 32-bit MIPS CPU and 28 GbE ports, where four of the GbE ports can also be configured to run as 2.5 Gb uplinks.

The BCM56224 is a member of the Enterprise Value GbE product line. The BCM56224 incorporates 28 GbE ports that can operate at 10/100/1000 Mbps; four 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 BCM56224 to create a larger stacking system.

With high integration and high port density, the BCM56224 is ideal for enterprise applications in stand-alone and stackable configurations. The BCM56224 enables cost-effective GbE to the desktop in the enterprise and is also ideal for embedded switch applications like a Blade server switch, ATCA chassis, IPDSLAM, 3G wireless base station, and others. The BCM56224 conducts wirespeed L2 switching and L3 routing for cost-effective highly manageable enterprise networks.

The BCM56224 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 TCAM-based ContentAware™ classification engine of the StrataSwitch® and StrataXGS devices is further enhanced in the BCM56224 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 BCM56224 integrates sophisticated metering, statistics, and traffic management features, optimizing the Quality of Service (QoS) in the enterprise networks for voice, video, and data convergence. The BCM56224 also provides rate-adjustable hardware-based sFlow® implementation and flexible multiple-session remote port mirroring functionality for efficient network management.

The BCM56224 switch integrates a high-performance 32-bit MIPS CPU, ideal for low-cost SoCs in fixed or stackable configurations. The highly integrated BCM56224 is cost-optimized for system level BOMs.

The BCM56224 can also be managed by an external CPU via one of these host interfaces:

- 32-bit PCI bus
- 16-bit EB bus
- GbE with GMII

Bus mastering and advanced DMA are supported for efficient exchange of packet data between CPU memory and the BCM56224.

Product ordering information:

- BCM56224 (24 GbE + 4 × 1 Gb/2.5 Gb)

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56224-PB00-R 09/07/07

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