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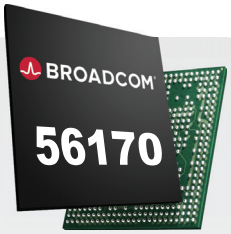
SWITCHING TECHNOLOGY PRODUCT BRIEF

BCM56170

24/48 Port MGig Campus Switch with VxLAN and 25GbE Uplinks



- Optimized for the Enterprise Edge with low-implementation cost and power.
- Higher stack/uplink bandwidth enables nonblocking 56-port switch with 8 × 10GbE/2 × 40GbE of uplinks plus 4 × 25GbE for stacking.
- Small footprint, low-power, and flexible switch based on the XGS™ architecture.
- Cost-effective solution for 24/48 port stackable managed enterprise edge 1RU switches.
- Compact and low-power managed 32-port 10GbE switch.
- L2+/L3 features include ACL, IPv4/IPv6 routing, and VLAN translation.
- eTAG, VN-Tag, HiGig support for port extender applications.
- StrataXGS® architecture and SDK support.
- Serves as a port extender, enables centrally managed networks.
- HiGig stacking for seamless stacking with other StrataXGS switch families.

BCM56170	
✓	SME
✓	Enterprise

OVERVIEW

The Broadcom® BCM56170 System-on-a-Chip (SoC) device configures to the new IEEE 802.11ac generation of access points that require 2.5 Gbps support, along with an integrated 1.25 GHz ARM Cortex-A9 processor, enterprise-level buffer and table sizes, including Layer 3 functionality. The BCM56170 family supports IEEE 802.1br to implement port-extender functionality. A port extender works in conjunction with a controlling bridge to implement a single point of control for consistent policy enforcement and management of Quality of Service (QoS). This device has up to 48 ports at 2.5 Gbps support with 8 ports of GbE, as well as four 10GbE ports for uplink or stacking.

The BCM56170 supports up to 48 ports of MGig, supporting 10GbE/25GbE uplinks and HG stacking. This is an ideal candidate for fixed configuration switches that can be used either stand-alone, or as port extenders.

The BCM56170 is also ideal for embedded applications with 32 × 10GbE or 12 × 10GbE + 48 × 2.5GbE.

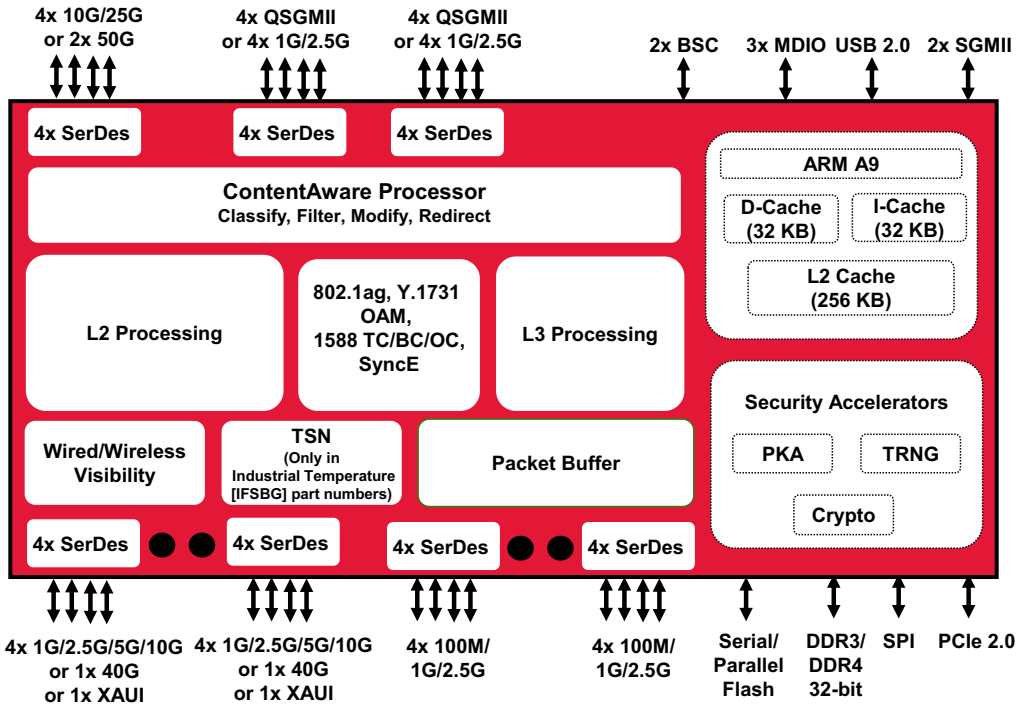
All members of the BCM56170 family offer many advanced features such as IEEE 802.1Q VLAN, VxLAN, enhanced Denial of Service (DoS) protection, routing support with VRF and uRPF, an advanced ContentAware™ engine, IEEE 802.1br Port Expansion, and IEEE 802.1p QoS. The family is packaged in a 31 mm x 31 mm package.

BENEFITS

- Single-chip 48-port MGig managed switch platform optimized for embedded control plane as well as enhanced enterprise networks.
- High performance HGd[50] stacking.
- Eight flexible Class of Service (CoS) queues per port assure the lowest latency to high-priority traffic.
- IPv6 support provides future-proofing.
- Leverages the Broadcom unified API for software reuse and quick time-to-market.

FEATURES

- MGig MultiGigabit Ethernet port with 1.0 Gbps, 2.5 Gbps, 5.0 Gbps, and 10 Gbps supported link speeds.
- Support for direct connect to IEEE 802.3bz PHY devices for NBASE-T (2.5 Gbps) and MGBASE-T (5.0 Gbps) connectivity.
- 2.5 Gbps support for emerging IEEE 802.1ac wireless access points.
- Diverse selection of natively supported interfaces (KX, KR, XFI, SFI, XAUI, 1000BASE-X, 2500BASE-X, SGMII, QSGMII).
- VxLAN support for next-generation wireless LAN and SDN support.
- VRF to support isolated Layer 3 domains in a multi-tenant environment.
- Non-blocking architecture with 350 Gbps line-rate performance.
- Support for port extender applications (eTAG, VN-Tag, HiGig).
- Priority-based Flow Control (PFC).
- Timestamping support with IEEE 1588 transparent clock (TC) and Synchronized Ethernet (SyncE) as well as OAM (IEEE 802.1ag).
- Intelligent memory management unit (MMU) optimized for handling bursty data traffic.
- Layer 2, IPv4/IPv6 Layer 3, Layer 4, and User Defined Field (UDF) based packet classification.
- Full IPv4 and IPv6 L3 routing support.
- Enhanced DoS attack detection and statistics gathering.
- Energy Efficient Ethernet (EEE) support.
- Support for Time Sensitive Networking (TSN) features/IEEE 802.1Qbu/ 802.3br.
- High-performance ARM Cortex-A9 processor.
- Flexible TCAM-based three-stage ContentAware engine for ACL and QoS.
- Enterprise-class scalability.
- Low-power 28 nm CMOS process.



BCM56170 Block Diagram

ORDERING INFORMATION	Package	Description
BCM56174A0KFSBG	31 mm × 31 mm BGA	32× 1GbE + 4× 10GbE/1× 40GbE + 2× 40GbE/8× 10GbE
BCM56172A0KFSBG	31 mm × 31 mm BGA	24× MGig + 4× 25GbE + 4× 25GbE/2× 50GbE or 48× 1GbE + 4× 10GbE/1× 40GbE + 4× 25GbE/2× 50GbE
BCM56170A0KFSBG	31 mm × 31 mm BGA	32× 10GbE/8× 40GbE or 52× MGig + 4× 25GbE/2× 50GbE + 8× 10GbE/2× 40GbE
BCM56174A0IFSBG	31 mm × 31 mm BGA	32× 1GbE + 4× 10GbE/1× 40GbE + 2× 40GbE/8× 10GbE (TSN feature available)
BCM56172A0IFSBG	31 mm × 31 mm BGA	24× MGig + 4× 25GbE + 4× 25GbE/2× 50GbE or 48× 1GbE + 4× 10GbE/1× 40GbE + 4× 25GbE/2× 50GbE (TSN feature available)
BCM56170A0IFSBG	31 mm × 31 mm BGA	32× 10GbE/8× 40GbE or 52× MGig + 4× 25GbE/2× 50GbE + 8× 10GbE/2× 40GbE (TSN feature available)

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Broadcom (NASDAQ: AVGO) is a diversified global semiconductor leader built on 50 years of innovation, collaboration and engineering excellence. Broadcom's extensive product portfolio serves multiple applications within four primary end markets: wired infrastructure, wireless communications, enterprise storage and industrial & others. Broadcom is changing the world by Connecting everything®.