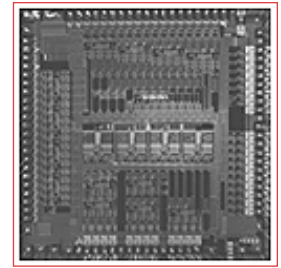# BROADCOM®

BCM5600
PRODUCT Brief

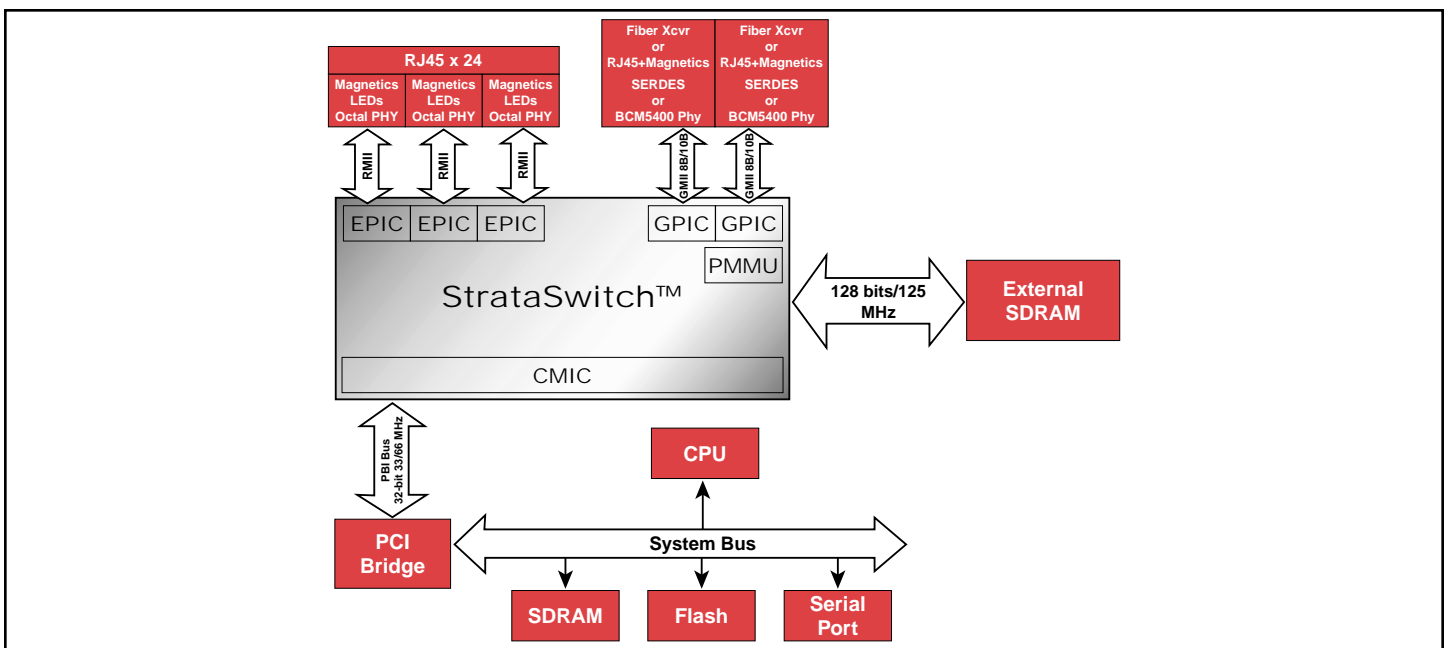# BCM5600 STRATASWITCH™ INTEGRATED MULTI-LAYER SWITCH
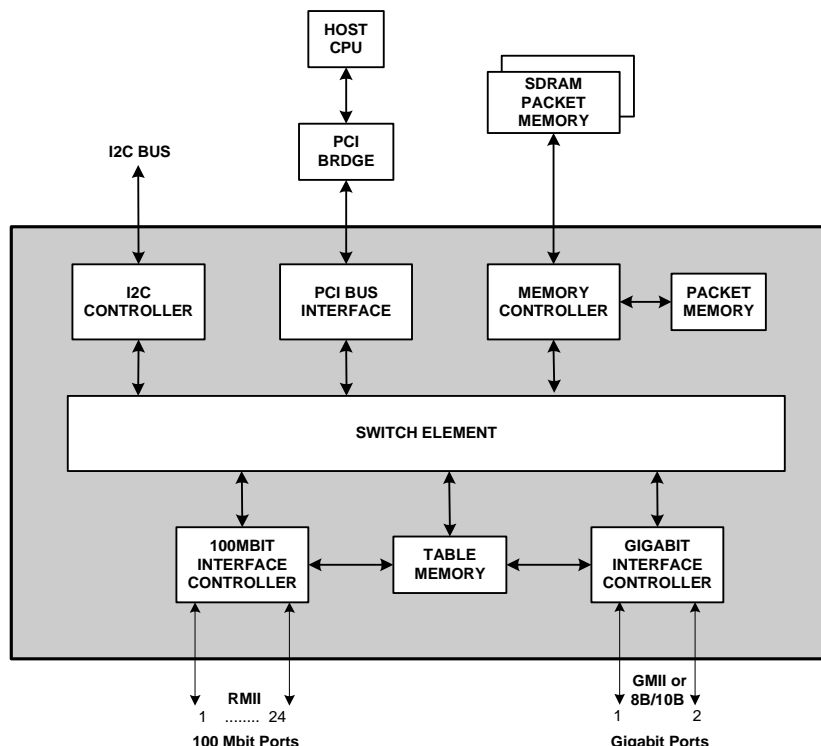
BCM5600 FEATURES

- **24 10/100 + 2 100/1000 Mbps ports - Full Wire Speed**
- **Layer 3 IP Switching**
  - 2k IP address cache
- **Layer 2 through Layer 7 Filtering and ContentAware™ Packet Classification**
- **Integrated StrataSwitch™ Stacking Link**
- **Four Classes of Service (CoS)**
- **Head Of Line Blocking Prevention**
- **Auto Packet Aging and L2 Address Learning**
  - 8k L2 entries on chip
- **Port Trunking or Link Aggregation**
- **Port Mirroring**
- **Back-Pressure Handling**
- **Packet Rate Control (802.3x)**
- **IEEE 802.1Q Support for 63 Virtual Bridged Local Area Networks**
- **IEEE 802.1p Support for Traffic Class Expediting and Conditioning and Dynamic Multicast Filtering**
- **IEEE 802.1D Support for Spanning Tree**

SUMMARY OF BENEFITS

- **Complete workgroup switch-on-a-chip integrating 24 dual-speed 10/100 and 2 100/1000 Media Access Controllers (MACs) supporting RMII, GMII and TBI interfaces, including multi-layer forwarding and filtering logic and internal ARL tables and packet buffering.**
- **Filters and forwards traffic at the full wire speed on all 26 ports at all layers of functionality. This equates to 9 Gbps of bandwidth and 6.6 Mpps (Mega-packets per second) of filtering capacity.**
- **ContentAware™ traffic classification and conditioning enables the prioritization of latency sensitive traffic such as voice and video.**
- **Provides a mechanism to bundle together up to eight ports of the same speed to form a port bundle or a trunk group. Can establish up to six trunk groups.**
- **The StrataSwitch™ stacking link is a high-speed expansion interface, enabled via the gigabit ports, which connects multiple BCM5600 devices.**

StrataSwitch™ 24 + 2 Multi-Layer Switching Solution

The Broadcom® **BCM5600 S**trataSwitch™ is a complete L2 and L3 switch-on-a-chip solution for easy and rapid development of multi-layer switching applications. It integrates 24 10/100 Mbit Fast Ethernet ports and 2 gigabit Ethernet ports. The gigabit ports can be optionally configured as StrataSwitch™ stacking links to support up to 30 stacked **BCM5600** devices.

The **BCM5600** interfaces to a host CPU via the PCI bus running at speeds up to 66 MHz. Bus mastering is supported for efficient exchange of packet data between CPU memory and the **BCM5600**.

The **BCM5600** integrates internal memory in the CBP (Cache Buffer Pool) for the packet buffer cache. Additional SDRAM can be attached to the GBP (Global Buffer Pool) via the memory bus at speeds up to 125 MHz. Up to 64 MB of external SDRAM is supported in 4, 8, 16, 32, or 64 MB configurations. The **BCM5600** contains the memory needed to host the various tables required for Layer 2 and 3 switching.

The **BCM5600** provides two full-duplex gigabit ports that interface to external physical layer devices via the GMII or the 8B/10B interface. The gigabit ports support both copper and fiber media. In applications with a single BCM5600, both ports can be used as gigabit uplinks to produce a non-blocking 24 10/100 Mbit and 2 gigabit switch.

The **BCM5600** supports up to four CoS queues per egress port. Traffic can be assigned to these CoS queues based on the 802.1p priority field in Layer 2, the MAC address table, or the results of the fast filter processor. The fast filter processor inspects the first 64 bytes of each incoming packet and parses the fields using up to eight filter masks. These parsed fields are compared with a rules table containing 640 entries.

The **BCM5600** supports standard switch features such as port trunking, port mirroring, and per port RMON. Advanced switch features include port trunking/mirroring across stacked switches, broadcast/multicast rate control, and egress traffic conditioning.

For more information please contact us at:
Phone: 949-450-8700, FAX: 949-450-8710
Email: info@broadcom.com

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BROADCOM CORPORATION
16215 Alton Parkway, P.O. Box 57013
Irvine, California 92619-7013