

StrataSwitch II™ BCM5645 INTEGRATED MULTI-LAYER SWITCH

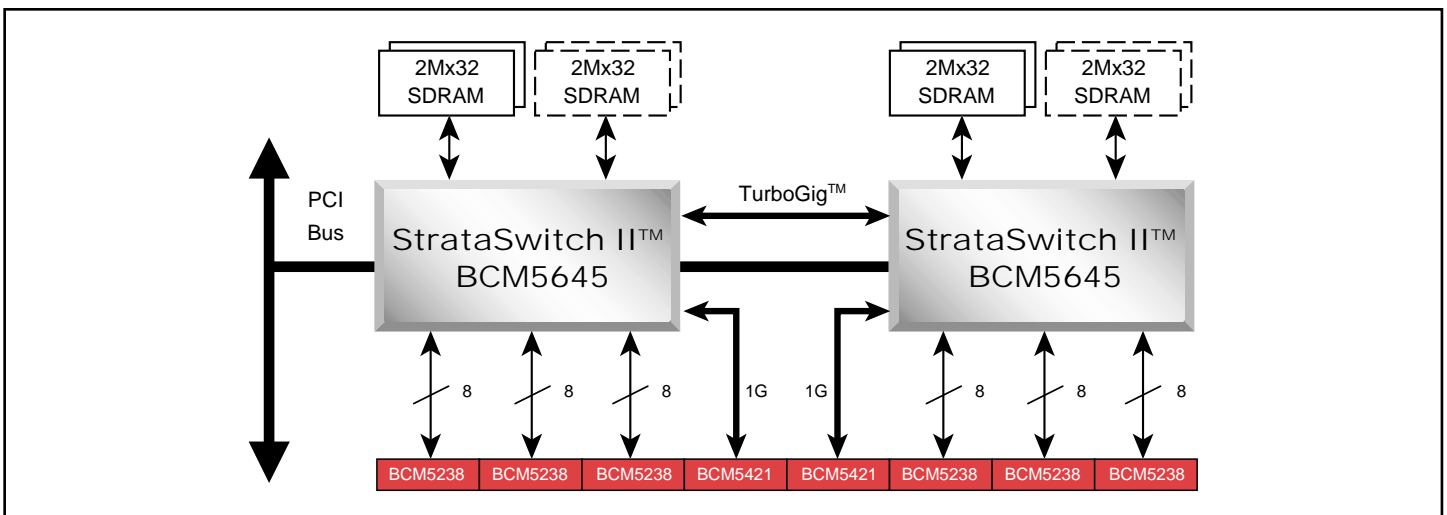
BCM5645 FEATURES

- 24 10/100 Mb and 2 10/100/1000 Mb Ethernet ports
- High-speed 2.5-Gbps TurboGig™ stacking link
- 8.9 Mpacket/second (line rate) switching
- 1-4 Classes of Service (COS); map to 802.1p priority
- Default route table with 16 entries
- Integrated 255 entry IP multicast table
- IP multicast support (IGMP snooping capable)
- Integrated (8k) L2 table with auto learning
- Integrated (2k) L3 table
- Integrated (256 KB) data packet memory
- 64- or 128-bit-wide SDRAM support
- Spanning Tree support per VLAN
- DiffServ compliant
- Stacking architecture compatible with StrataSwitch I™
- IEEE 802.1Q.D support
- Fast Filter Processor (FFP)
 - Examines up to the 80th byte of a packet
 - Supports TOS and DiffServ field modification
 - Bandwidth regulation and monitoring per network flow
 - Network data flow tracking granular to 1 Mbps

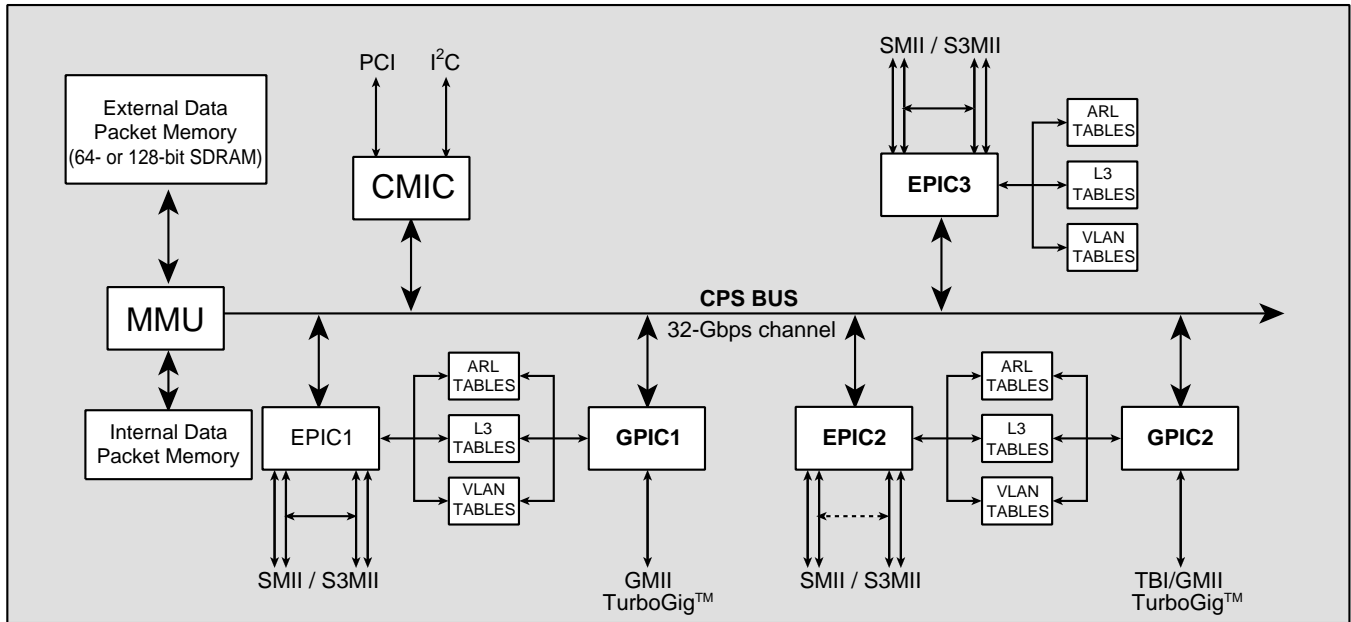
SUMMARY OF BENEFITS

- 2.5-Gbps TurboGig™ stacking link defines the next generation of performance for 48-port switching devices
- Optimized for 48FE+2GE and 24+2GE switches
- New service offerings for ISPs
 - Pay for bandwidth consumption
 - Voice over IP
 - Police over-consumption of network resources
 - Line rate switching on all ports
- Greater insight to network resource utilization through the advanced FFP features
- More efficient deployment of existing network resources through insight provided by StrataSwitch II™ feature set
- Line rate switching on all ports for:
 - Layer 2 switching
 - Layer 3 switching
 - All FFP actions — steering, forwarding, reclassifying
- Low power of device, 3W (<120 mW/ FE port), enables low-cost power supplies
- High level of integration minimizes PCB layer count and routing issues
- Flexible (128- or 64-bit) SDRAM interface supports low system cost of memory

BCM5645 Application Diagram



BCM5645 Block Diagram



The **BCM5645**, with a forwarding rate of 8.9 Mpps, defines the next generation of performance for 48-port Fast Ethernet switching solutions. Through its advanced ContentAware™ feature set, the StrataSwitch II™ product family supports advanced applications and services, at wire speed, with non-blocking performance.

The **BCM5645** uses 60 million transistors and 1 MB of internal memory to integrate the functionality of large 48-port board designs into two chips. This level of integration allows the **BCM5645** -based switch to sustain line rate on all 48 Fast Ethernet and 2-Gigabit Ethernet ports for Layer 2, and Layer 3 switching and all L2-L7 processing applications.

The StrataSwitch II™ Fast Filter Processor (FFP) delivers line rate packet processing to support policy management, VoIP, and firewall applications.

The data packet memory can be extended from 4 MB to 64 MB using commodity SDRAM in either a 128-bit wide interface or a 64-bit-wide interface.

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The StrataSwitch™ family supports using the gigabit ports or TurboGig™ in a stacking link mode, giving you tremendous scalability configuring your switching system.

The **BCM5645** also provides a wide range of choices in levels of manageability and solution costs. For example, the **BCM5645** provides a low-cost I²C interface for unmanaged applications, as well as a 33-MHz PCI interface for higher management and network service requirements.

The flow metering and monitoring of the StrataSwitch II™ enables many new applications and services. ISPs can benefit from the metering capabilities of the StrataSwitch II™, eliminating unregulated bandwidth from over-consuming their network. Using the monitoring features of the FFP, IT managers can gain tremendous insight to the utilization of their current network resources and optimize those resources accordingly.



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