

## SCALABLE 12-PORT GIGABIT ETHERNET MULTILAYER SWITCH

### BCM5691 FEATURES

- 12 10/100/1000 Mbps Ethernet ports supporting both copper and fiber connections
- Integrated high-performance SerDes
  - Gigabit Ethernet SerDes per port
  - 4-pins per port SGMII interface to Gigabit Ethernet PHYs
- 32 million packets/second (line rate) aggregate switching capacity
- Supports 8 classes of service (CoS) per port
- Port trunking and mirroring supported across stacked switches
- Fully integrated data and address memory on-chip
- Advanced packet flow control:
  - Head-of-line blocking prevention
  - Full-duplex flow control (802.3x compatible)
- ContentAware™ network processing per port
  - Line rate multifield packet classification
  - Supports IEEE802.1p, ToS/DiffServ, rate limiting, policing, priority tagging, and remapping
- Support for jumbo Frames of up to 9 KB
- Advanced diagnostic features including IEEE 1149.1 JTAG boundary scan and BIST functionality
- Low-power, enhanced thermal 480-pin EPGA package

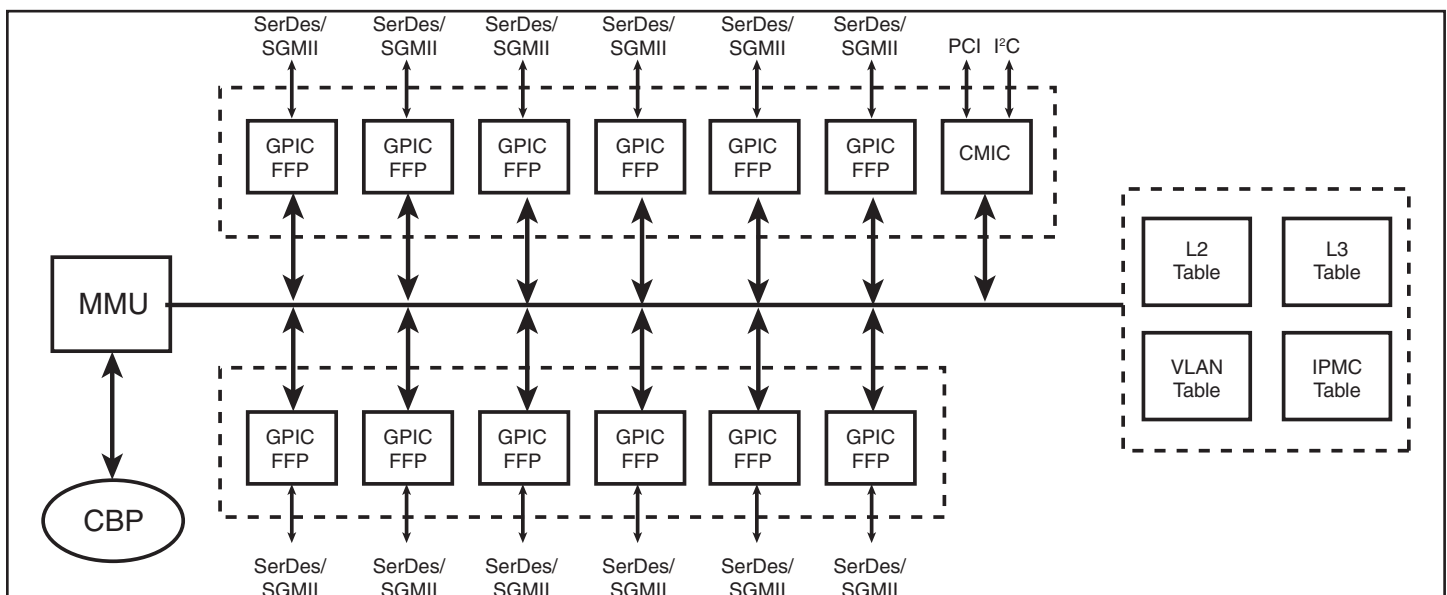
### SUMMARY OF BENEFITS

- System vendors can build scalable high-performance, high port density Gigabit Ethernet LAN switches in several form factors.
- Multiple classes of service (CoS) and very low latency enable the support of VoIP and other voice, video, and data applications.
- Built-in high-speed serial interfaces with Broadcom-unique SerDes technology eases and accelerates system design, while reducing cost and conserving board space.
- Broadcom switch API compatibility enables software reuse and faster time-to-market
- Small package and low power enables cost-effective and high-performance system design

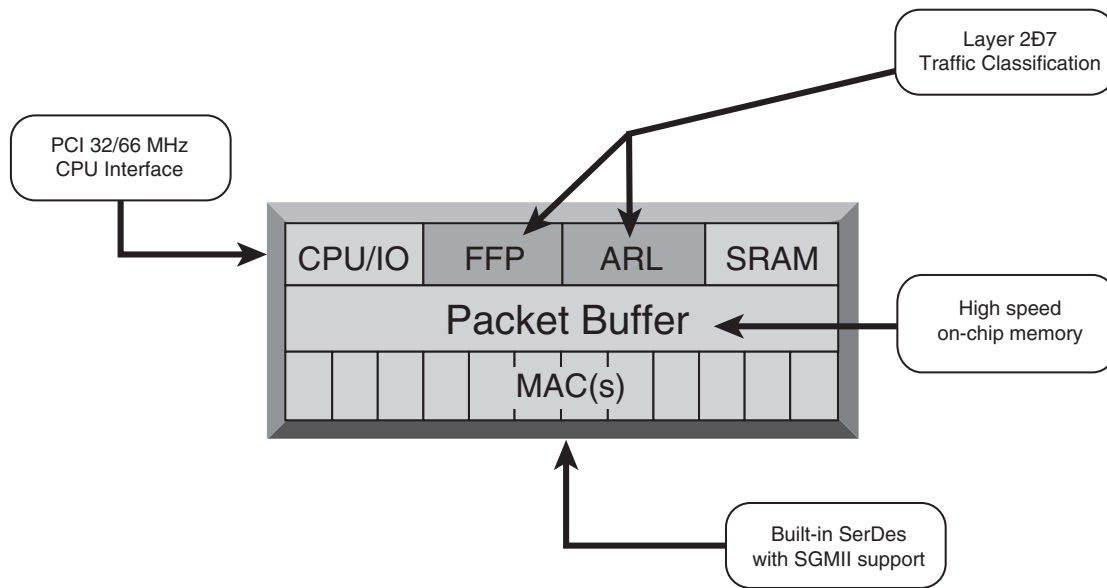
### TARGET APPLICATIONS

- Multi-layer switch in modular Gigabit Ethernet switches
- High-port-count stand-alone or stackable Gigabit Ethernet switches
- Chassis and in-server switch blade applications

### 12-Port Gigabit Ethernet Multilayer Switch



**BCM5691 Block Diagram**



The **BCM5691** network switch is a scalable, modular chip solution with 12 ports. Each of these flexible ports supports Gigabit Ethernet or 10/100 Mbps Ethernet. Additionally, the **BCM5691** supports both copper and fiber physical interfaces. The **BCM5691** has a fully integrated SerDes functionality consisting of a Gigabit Ethernet or a SGMII PHY interface.

The advanced fast filter processor (FFP) provides ContentAware™ network processing per port. The FFP supports ToS/DiffServ, rate limiting, policing, priority tagging and remapping. The advanced packet filtering and classification functions of the **BCM5691** make it ideal for cutting-edge VoIP and firewall applications.

The **BCM5691** supports advanced packet flow control such as head-of-line blocking prevention and IEEE 802.3x compatible full-duplex control. Moreover, the **BCM5691** supports a fully-integrated data and address memory.

The **BCM5691** switch supports an I<sup>2</sup>C controller for communicating with external devices such as serial EEPROM, flash memories, and parallel port devices.

The modular switching architecture of the **BCM5691** embodies the scalability, integration and performance features that a next generation switch requires.

**Additional information**

The system design kit available for this device is BCM95691K12 which includes supporting documentation and software. Please contact your local sales representative for more information

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