



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

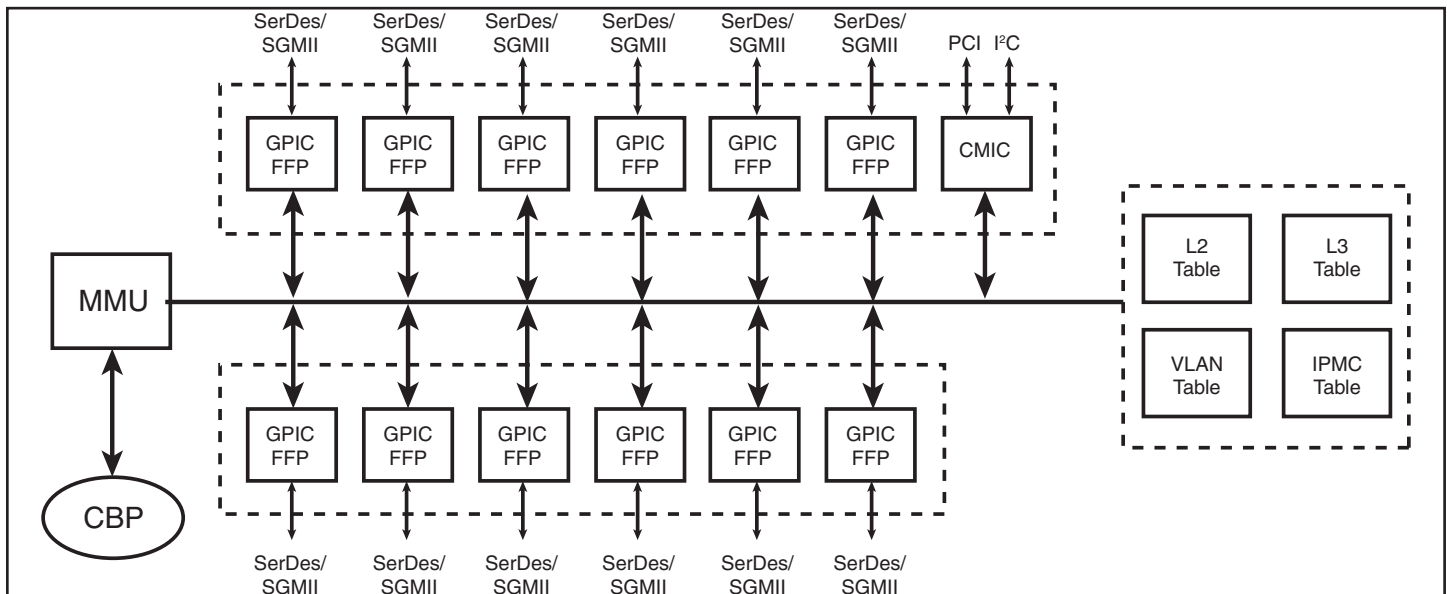
SUMMARY OF BENEFITS

- 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

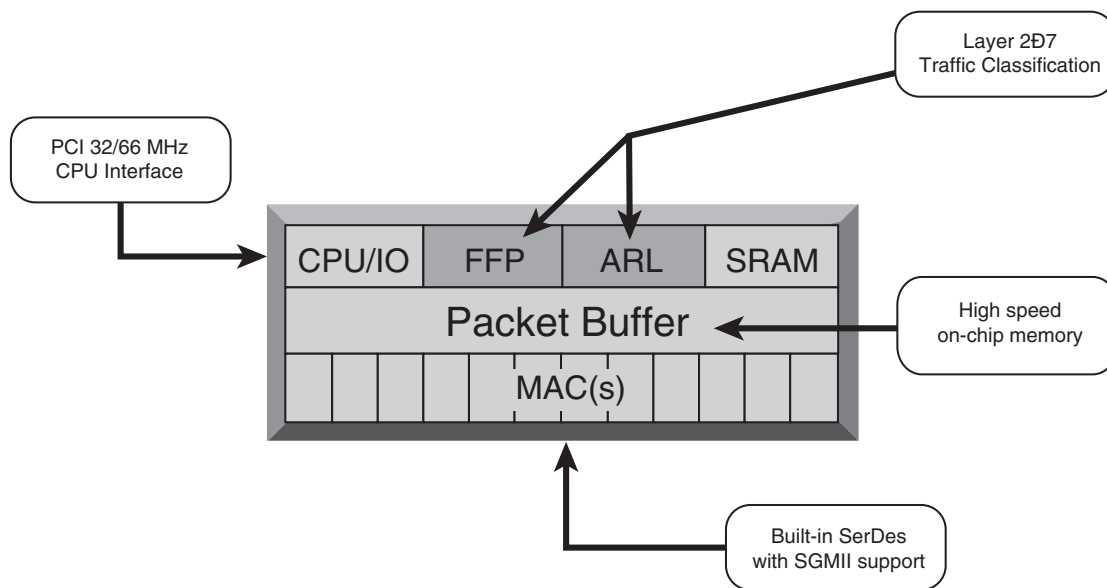
TARGET APPLICATIONS

- 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 I²C 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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