

## SCALABLE 12-PORT GIGABIT ETHERNET MULTILAYER SWITCH

### FEATURES

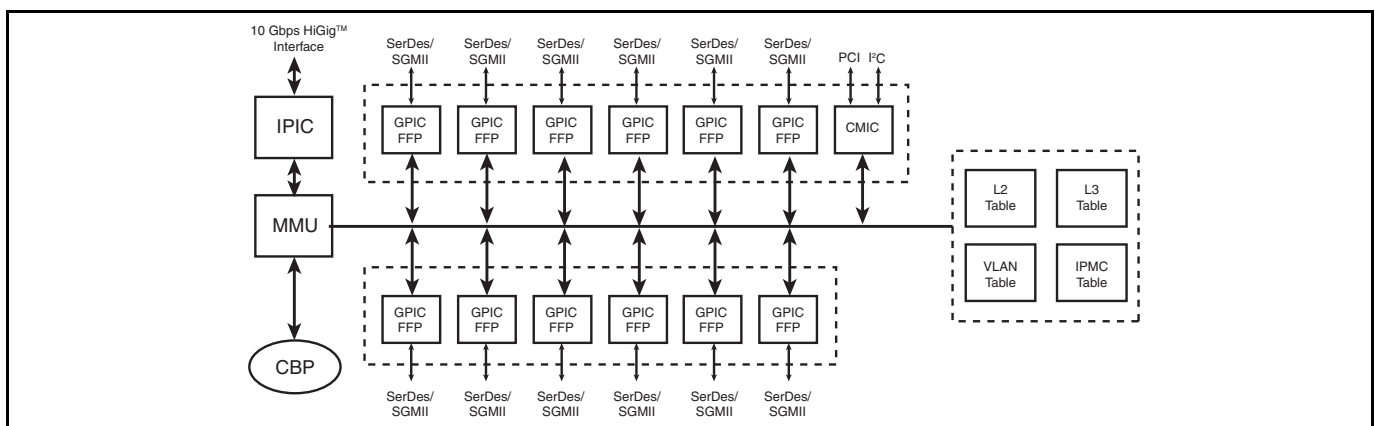
- 12 10/100/1000 Mbps Ethernet ports supporting both copper and fiber connections
- **Integrated high-performance SerDes**
  - Single 10 Gbps XAUI HiGig expansion port
  - Gigabit Ethernet SerDes per port
  - 4-pin per port SGMII interface to Gigabit Ethernet PHYs
- 32 million packets/second (line rate) aggregate switching capacity
- Supports 8 classes of service (CoS) per port
- Scalable upto 32 BCM5690 switches in a system
- 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 IEEE1149.1 JTAG boundary scan and BIST functionality**
- Low power, enhanced thermal 480-pin EBGA 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

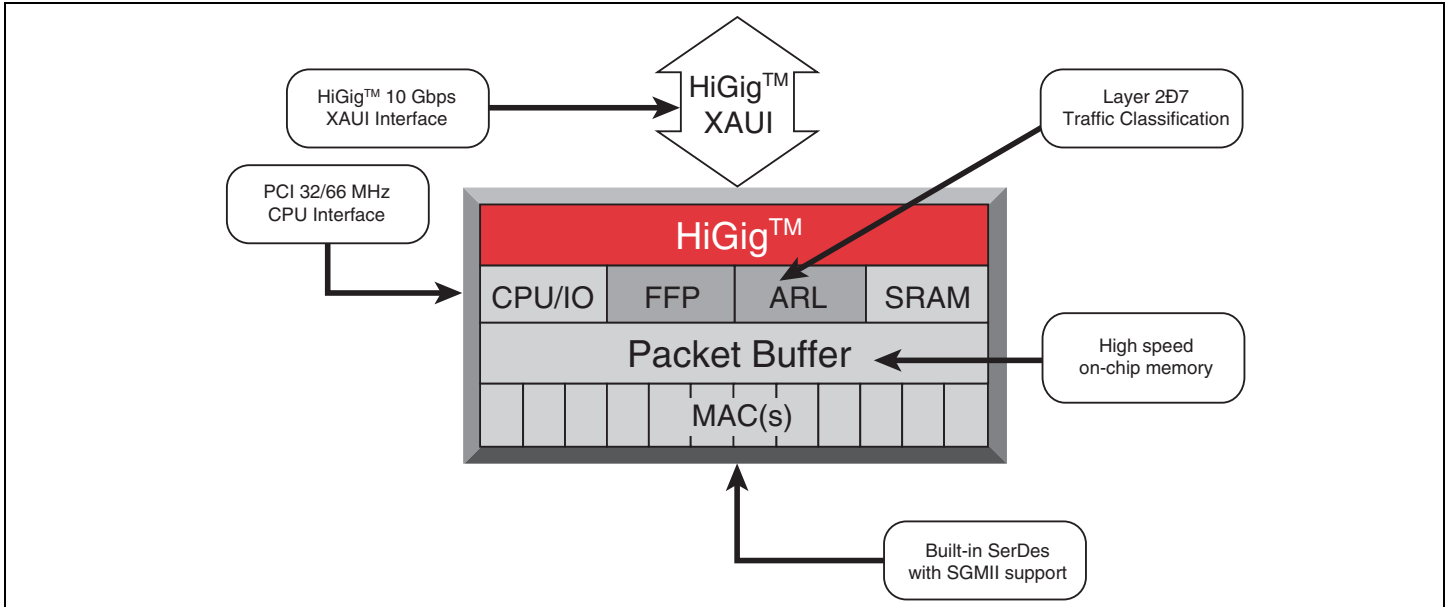
### TARGET APPLICATIONS

- Multilayer 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 with HiGig™

## OVERVIEW



The BCM5690 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 BCM5690 supports both copper and fiber physical interfaces. The BCM5690 has a fully integrated SerDes functionality consisting of a 10 Gbps XAUI HiGig Port, Gigabit Ethernet or a SGMII PHY interface.

The 10 Gbps HiGig Expansion port supports explicit priority, port trunking, and mirroring functions across switch elements. The HiGig port can be used to interconnect up to 32 BCM5690s making it extremely useful for highly-scalable network switch applications.

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 BCM5690 make it ideal for cutting-edge VoIP and firewall applications.

The BCM5690 supports advanced packet flow control such as head-of-line blocking prevention and IEEE 802.3x compatible full-duplex control. Moreover, the BCM5690 supports a fully-integrated data and address memory.

The BCM5690 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 BCM5690 embodies the scalability, integration and performance features that a next generation switch requires.

### Additional information

The system design kits available are BCM95690K24 and BCM95690K24s which include supporting documentation and software. Please contact your local sales representative for more information.

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