



PRODUCT OVERVIEW

The Marvell[®] PresterTM-FX family of crossbar switch fabrics are scalable building blocks for the development of high-performance chassis systems. The Prester-FX9110 crossbar switch provides 9-ports and supports 108 full-duplex Gigabit Ethernet (GbE) ports; the Prester-FX9210 crossbar switch is a 12-port fabric that supports 144 full-duplex GbE ports at full-wire-speed. The Prester-FX9110 and Prester-FX9210 devices take advantage of a cell-based architecture with variable cell sizes and output queue scheduling to support full speed Prester-EX and Prester-MX devices while maintaining Quality of Service (QoS) throughout the system. Used in conjunction with the Prester packet processors, Prester-FX fabric adapters, and the Alaska[®] PHY transceivers, Prester-FX crossbar switch fabrics offer advanced enterprise core features such as redundancy, hot-swap capability and stability.

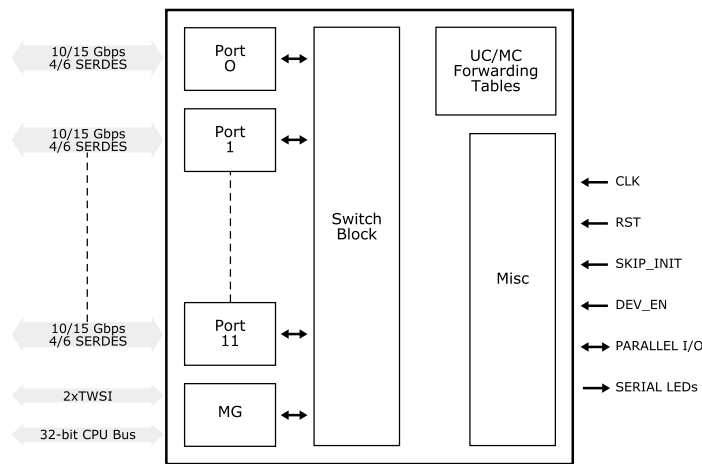


Figure 1. Prester-FX9110/Prester-FX9210 Block Diagram

FEATURES

- High performance—288 Gbps non-blocking, output-queued, cell-based crossbar
- Multiple crossbar systems
- 72 SERDES links (54 for Prester-FX9110 device; 72 for Prester-FX9210 device), each running at 2.0/2.5/3.125 Gbps
- 12 HyperG.Link fabric ports (9 for Prester-FX9110 device; 12 for Prester-FX9210 device), each composed of either four or six SERDES forming 10 or 15 Gbps effective bandwidth per port
- Proven SERDES technology
- Hot-swap support
- Fast transition to a redundant crossbar
- Stand-by mode
- Congestion control
- De-multiplexed address/data 32-bit synchronous bus and 2 Two-Wire Serial Interfaces (TWSI)

BENEFITS

- Supports up to 144 non-blocking GbE ports
- Provides increased switching capacity and redundancy in high-performance applications
- Provides additional bandwidth needed for ECC (8B/10B) link integrity protection
- Provides selectable bandwidth for a variety of chassis and stackable system configurations
- Higher density, more reliable, lower power chassis systems
- Chassis line cards may be inserted and/or removed without system power-down
- Provides system failure self-recovery
- Saves system power in redundant configurations
- Resolves fabric congestion using in-band flow control messaging with per-port granularity
- Interfaces with a variety of CPUs and management subsystems





APPLICATIONS

As illustrated below in Figure 2, a high performance, non-blocking 144 GbE enterprise core chassis switching system can be designed with twelve 12 GbE line cards. As many as 576 GbE ports may be supported in a fully configured 12-blade chassis. These solutions accelerate the proliferation of Gigabit switching in the enterprise environment. Up to multiple Prestera-FX9110/FX9210 crossbar switch fabrics can be configured to work in parallel for increased system performance and/or availability. In an active/standby configuration, shown in Figure 3, one fabric is active while the other is in standby mode, waiting to take over if the active crossbar fails or is removed from the system.

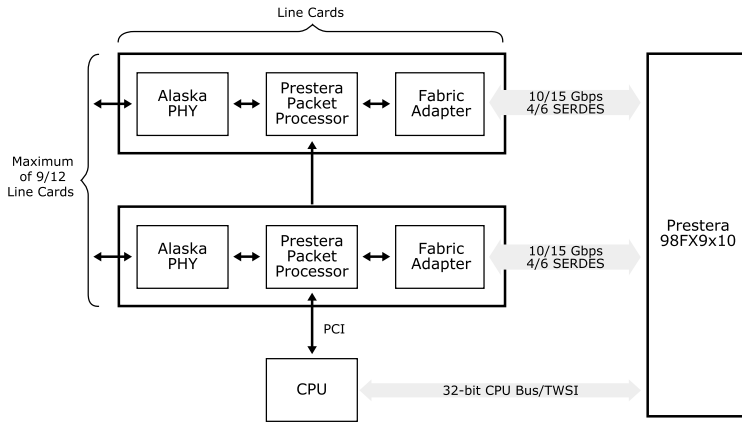


Figure 2. Prestera Single Crossbar Chassis Configuration

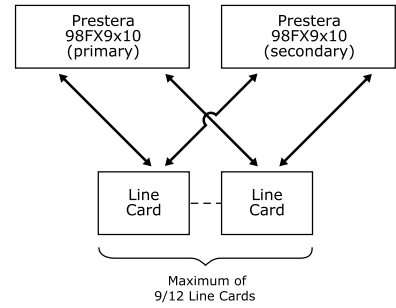


Figure 3. Prestera Active/Standby Configuration

THE MARVELL ADVANTAGE: The Marvell Prestera-FX9110/FX9210 crossbar switch fabrics are available with a complete set of hardware and software development tools to assist development engineers with product evaluation. Marvell’s worldwide field applications engineers collaborate closely with network equipment vendors to develop and deliver new competitive products to market on time. Marvell utilizes recognized world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

For more information, visit our website at www.marvell.com.



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