Marvell Prestera 98DX2101/2122/4101/4121/4122
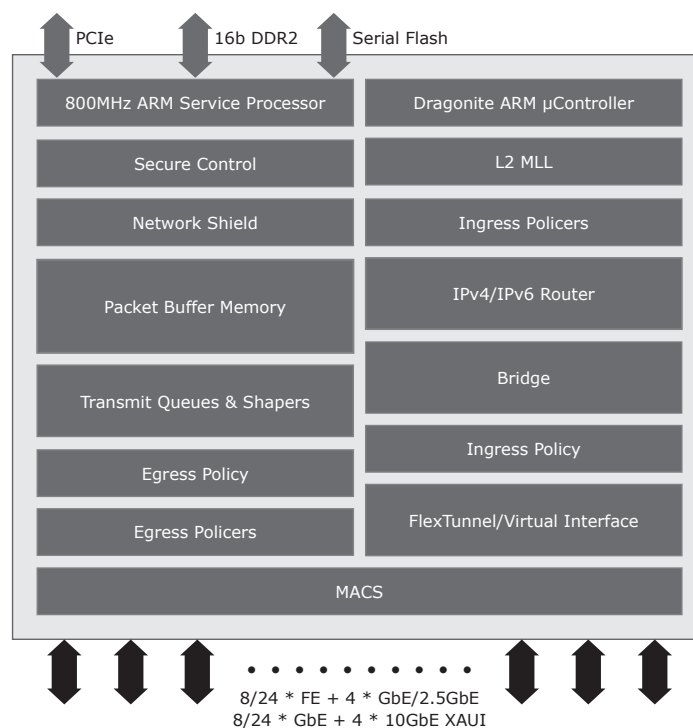## Multi-Layer GbE Switches for Carrier Ethernet and SME Applications

PRODUCT OVERVIEW

The Marvell® Prestera® 98DX2101/2122/4101/4121/4122 family of multi-layer Fast and Gigabit Ethernet switch devices are a new generation of highly integrated, cost-effective, high-performance, and low-power packet processors. It has built-in enhanced security features based on Marvell's Network Shield Technology and Security Control Technology that provides strong hardware-based, wire-speed network security of identifying, authorizing, monitoring, and responding to data traffic to prevent a variety of network attacks such as Denial of Service (DoS), Distributed DoS, Spoofing, Virus, etc. These technologies also prevent attacks on the system itself.

The Prestera 98DX21xx and 98DX41xx family includes highly flexible ingress and egress TCAM-based policy lists for secure access control, service-based VLAN assignments and user-based networking, as well as the IPv4 and IPv6 routing and tunneling features. It has sophisticated traffic policers that including metering, counting, statistics, scheduling, and shaping to optimize Quality of Service for converged data, voice, and video traffic. It also supports eFlow, IPFix, and remote port analyzing for network traffic monitoring and management. This family is feature- and software-compatible with previous generations of the Prestera DX family of devices and provides one consistent architecture for Fast and Gigabit Ethernet switch devices.

BLOCK DIAGRAM

PCIe   16b DDR2   Serial Flash

800MHz ARM Service Processor	Dragonite ARM µController
Secure Control	L2 MLL
Network Shield	Ingress Policers
Packet Buffer Memory	IPv4/IPv6 Router
Transmit Queues & Shapers	Bridge
Egress Policy	Ingress Policy
Egress Policers	FlexTunnel/Virtual Interface
MACS	

8/24 * FE + 4 * GbE/2.5GbE
8/24 * GbE + 4 * 10GbE XAUI

KEY FEATURES AND BENEFITS

SPECIAL FEATURES	BENEFITS
• Dual 800MHz ARM CPU includes L1/L2 cache	• Enable next generation Metro and Enterprise solution
• Dedicate router TCAM	• Enable Layer3 Wire-Speed IPv4/IPv6 UC/MC Routing Engine
• VRF, VRF-Lite support	• Segregates customer traffic into separately routed segments
• MPLS tunneling	• Transits traffic over devices that doesn't know the final destination
• MPLS local protection	• Supports both 1:1 and 1+1 LSP Protection
• Simplifies OAM control plane	• Scalable single OAM solution across all switching products
• 256 VPLS VSI and 1K PWs	• Provides Ethernet based multipoint-to-multipoint communication
• Clock synchronization	• Supports SyncE and IEEE 1588 (with PHY)

▶ APPLICATIONS

The Marvell Prestera 98DX2101/2122/4101/4121/4122 family is purposely built for carrier Ethernet and small-medium business and enterprise applications. Its integrated service processors are ideal for security, OAM, and value-added applications to enable next-generation metro Ethernet access and enterprise solutions looking to grow beyond L2 and L3 forwarding market segments and include support for the latest L2 and L3 VPN services following IETF (VRF, RFC2547), IEEE(802.1ad, 802,1ag), and DSL Forum standards (Q-in-Q).

To shorten system manufacturers' design cycles and accelerate time-to-market, Marvell provides complete Prestera DX development platforms and reference designs with device drivers, schematics, layout files, and other documentation. Software and hardware solutions for Prestera 98DX41xx are available from third-party vendors.
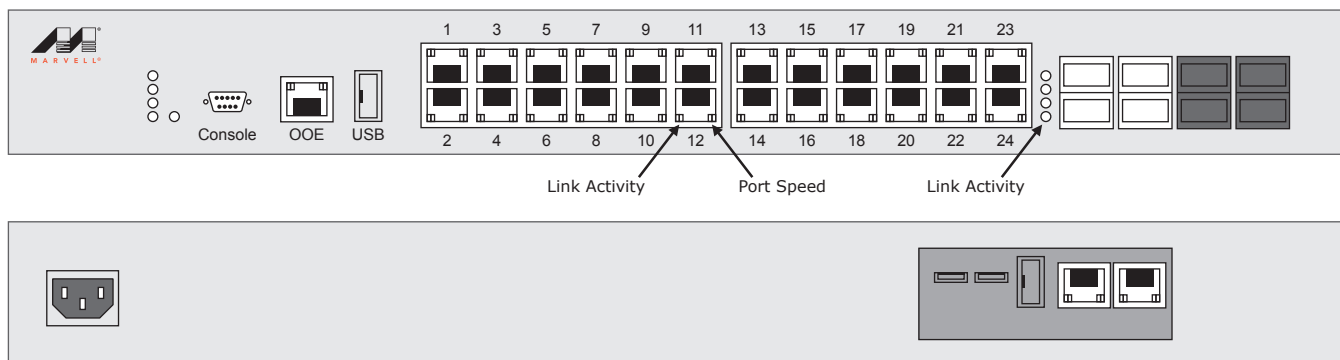
THE MARVELL ADVANTAGE: Marvell chipsets come with complete reference designs which include board layout designs, software, manufacturing diagnostic tools, documentation, and other items to assist customers with product evaluation and production. Marvell's worldwide field application engineers collaborate closely with end customers to develop and deliver new leading-edge products for quick time-to-market. Marvell utilizes world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

ABOUT MARVELL: Marvell is a leader in storage, communications, and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, processor, wireless, power management, and storage solutions that power the entire communications infrastructure, including enterprise, metro, home, storage, and digital entertainment solutions. For more information, visit our Web site at www.marvell.com.