Marvell Prestera 98DX3336/3236

Next-generation Packet Processor for Carrier, Industrial, Campus, SMB/SME Access Switching Applications

PRESTERA®
packet processors

PRODUCT OVERVIEW

The Marvell® Prestera® 98DX333x and Marvell Prestera 98DX323x series of devices are a new generation of highly integrated, high-performance and low-power packet processors that enable intelligent switching, security and performance at the access/edge of next-generation networks.

The Marvell Prestera DX3300-based systems enable feature-rich and secure GbE and 10GbE access networking platforms for campus, industrial and carrier networks. Armed with dual-core on-chip ARM CPUs, the Marvell Prestera DX3300 family of devices is capable of meeting demanding yet cost-sensitive performance needs by enabling host management and embedding additional value-added security or monitoring applications. Native integration of PHYs enables direct-attached copper or fiber-based 10GbE network connections, as well as multi-system stacking. Support for the IEEE 802.1BR tunneling schemes enables centralized management architectures and a port extender model of deployment.

The Marvell Prestera DX3200 family of devices continues to address the needs of cost-sensitive Gigabit Ethernet access for unmanaged and intelligent access networking solutions by providing an extremely power-efficient design, without compromising on the full complement of features needed in such networks.

The new Marvell Prestera DX devices support an aggregate bandwidth of up to 84Gbps and offer 10G/20G ports for uplinks, stacking or cascading. Two devices can be cascaded to build non-blocking 48 x GbE + 4 x 10GbE or 48 x GbE + 2 x 10GbE + 2 x 20GbE switch systems.
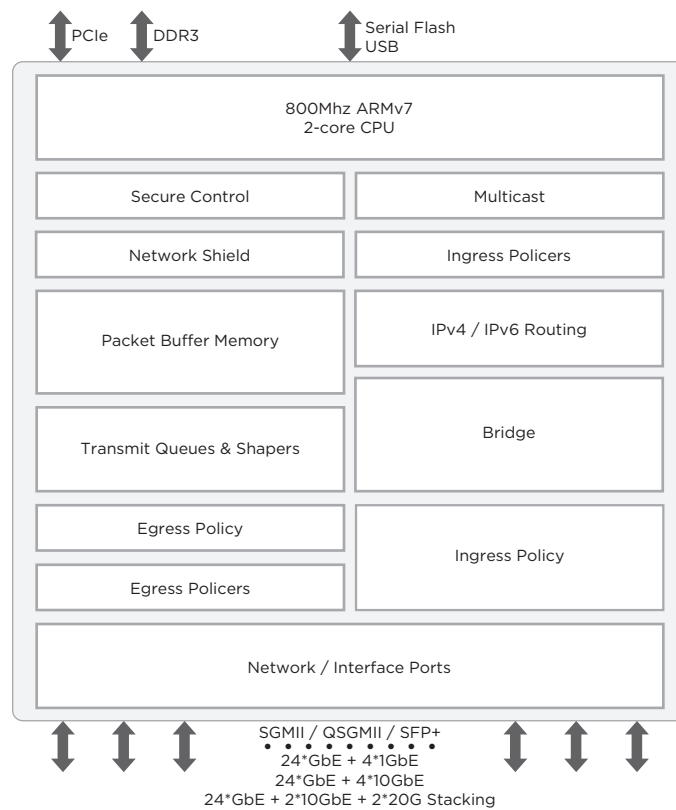

Fig 1. Marvell Prestera 98DX3336 Device Block Diagram

SPECIAL FEATURES	BENEFITS
• Integrated dual-core ARM v7 CPU	• Host processing • Value added features - OAM, PTP, PoE, DPI offload etc.
• CarrierSpan®-enabled	• Flexible L2 and L3 tunneling capabilities - For carrier Ethernet and industrial applications
• Port-Extender Capability	• 802.1BR-compliant bridge port extension capability - Ability to extend and expand a port on a centralized managed switch
• Integrated PHYs	• SFP+ (10G) / QSFP-based uplink/stacking port support - Enables simpler designs with fewer devices

• 20G Stacking / Cascading ports	• Provides up to two 20G stacking ports or 40G cascading bandwidth
	  - High-bandwidth stacking ports with QSFP
	  - Non-blocking 48-port designs with 10G/20G uplink ports

• Small-footprint and low-power	• Lower system cost through optimized PCB and system design
	  - 21mm x 21mm package offers smaller PCB footprint
	  - Heat-sink-less and fan-less design for optimal system cost

APPLICATIONS

The Marvell Prestera DX family is purpose-built for access solutions in the Carrier Ethernet, Campus, Industrial and Small-Medium Business/Enterprise (SMB/SME) applications. Its integrated service processors are ideal for security, OAM and value-added applications to enable next-generation services going beyond traditional L2 and L3 forwarding. It does this by including 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.) Support for the 802.1BR standard enables port-extender designs.

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. A simple and efficient programming model enabled by Marvell's Core Prestera Software Suite reduces design complexity and system development schedules, while accelerating network and service deployment. Software and hardware solutions for Prestera 98DX323x and 98DX333x products are available from third-party vendors.
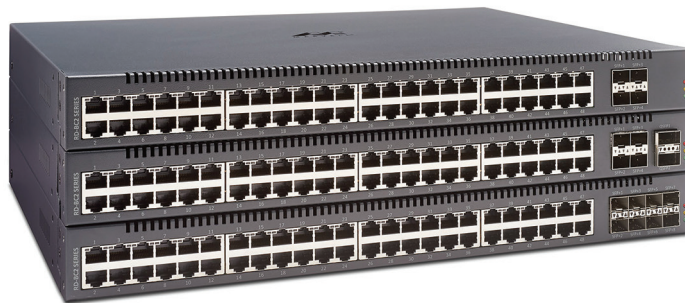
Fig 2. Reference Design