Marvell® Prestera® 98EX55xx Multi-Layer Ethernet Switches

A highly integrated packet processors for public and private data center networks

PRODUCT OVERVIEW

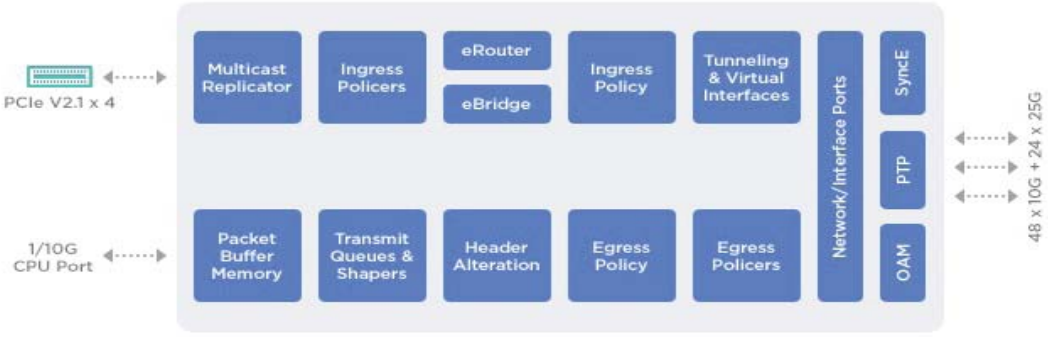
The Prestera® 98EX55xx family of multi-layer Ethernet switch devices are a new generation of highly-integrated packet processors for public and private data center networks. Ideally suited for data center transition from 10/40GbE towards 25/50/100GbE port speeds. It's optimized for Top of Rack switch for 10GbE server and storage connectivity.

The 98EX55xx supports advanced data center features, such as virtual overlay networking with programmable tunnel header encapsulation, NFV service function chaining, low latency cut-through switching, dynamic load balancing, and advanced congestion mechanisms.

The 98EX55xx provide an ideal platform for SDN and OpenFlow 2.0 applications, utilizing multiple TCAM lookups for generic match/action rules, large L2/L3 forwarding tables, and programmable header editor. The Marvell® Forwarding Path Abstraction (FPA) software suite enables seamless integration with the leading OpenFlow agents and controllers.

To facilitate effi cient network self-healing and troubleshooting, the 98EX55xx supports extensive counters across its processing engines for advanced telemetry and analytics functionality

BLOCK DIAGRAM



Marvell 98EX55xx

KEY FEATURES AND BENEFITS

FEATURES	BENEFITS
Port Interface	• 24 ports of 25 GbE or 6 ports of 100 GbE • 48 ports of 1/2.5/5/10 GbE • 1 port of 10 GbE Port for CPU management
Bandwidth	• 1.08Tbps throughput with wire-speed processing of up to 600 million packets per second
Management I/O	• PCIe interface Gen 2.1 x4 • 1 Ethernet port of up to 10GbE for control traffic to the CPU
Highly Integrated	• Large forwarding tables • Large packet buffer memory • Shared TCAMs resources with Flexible TCAM sizes • High-speed SERDES
Forwarding Engines	• Low latency cut through switching • Layer-2 and Layer 3 Wire-Speed Switching and routing engines • Server Virtualization – IEEE 802.1Qbg EVB, 802.1BR Port Extender • NFV Service Function Chaining – Network Service Header (NSH) • Virtual overlay networking – NVGRE, VXLAN-GPE, GENEVE, SPB, TRILL, GRE • Data Center Bridging (DCB) standards – Priority-based • Flow Control (PFC), Congestion Notification (CN), and Enhanced Transmission Selection (ETS). • Explicit Congestion Notification (ECN) marking, including support for DC-TCP and Phantom Queues • Dynamic load balancing for optimizing elephant-flow distribution • Highly flexible TCAM Classifications engine • FCoE forwarding • Hardware-based Operations, Administration, and Maintenance (OAM) engine
Data center Interconnect (DCI)	• Universal gateway one-pass bridging/routing to support inter-working between virtual network domains • MPLS-based services, such as VPWS, VPLS, EVPN • EVPN/VPLS/MPLS-over-GRE services • Ethernet-over-GRE services.
Software development kit	• Prestera Software Suite (CPSS) driver support • Compatible with Prestera®-CX/DX/EX APIs and concepts • Offering Switch Abstraction Interface (SAI) standardized APIs • Ideal platform for SDN and OpenFlow 2.0 applications

TARGET APPLICATIONS

- Public and private data center networks
- Top of Rack switch for 10GbE servers network
- High end aggregation switch for the enterprise network

MARVELL

To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

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