MARVELL® PRESTERA® 98EX54xx

Multi-Layer 10/25/50/100G Ethernet Switches for Datacenter, Private Cloud, and Enterprise Network Applications

PRODUCT OVERVIEW

The Marvell® Prestera® 98EX54xx family is a new generation of highly-integrated packet processors enabling single and multi-chip solutions for public and private data center networks as well as Enterprise network applications. Ideally suited for data center transitions from 10/40GbE towards 25/50/100GbE uplink port speeds, the 98EX54xx family supports advanced data center and Enterprise features, such as virtual overlay networking with programmable tunnel header encapsulation, NFV service function chaining, low latency cut-through switching, and advanced congestion mechanisms. The 98EX54xx family supports OpenSwitch switch driver plugin and OCP's switch abstraction interface (SAI) software stack on top of Prestera software drivers.

The family has sophisticated QoS features to optimize QoS between data center cloud applications, such as metering, counting, scheduling, and shaping. It also supports advanced traffic monitoring features such as sFlow, IPFIX, and remote port analyzing. The hardware OAM engines auto-generate and receive OAM traffic to monitor cloud end-to-end service connectivity and provide high accuracy delay and packet loss measurement.

To facilitate efficient network self-healing and troubleshooting, these processors possess extensive traffic counters across all processing and forwarding/filtering engines. They also support the Marvell extended-bridging (eBridge) architecture, a unified architecture implementing a hardware-based virtualization of interfaces and switching domains. This architecture enables the key data center technologies, such as the standard virtual overlay encapsulations (for example, VXLAN, NVGRE).

KEY FEATURES AND BENEFITS

FEATURES	BENEFITS
Port configuration	• 48 ports of 10GbE and six ports of 100GbE uplinks for 25GbE crafted to ToR applications
Analytics	• Marvell's unique time-stamp analytic which supports Packet Conservation Algorithm for Internet (iPCA)
Virtualization	• Enhanced QoS and virtual output queues (VOQ) support • eBridge Architecture
Virtual overlay	• NVGRE, VXLAN-GPE, Network Services Header (NSH), Geneve, Shortest Path Bridging (SPB), TRILL and GRE
Server virtualization	• IEEE 802.1Qbg EVB and 802.1BR Port Extender
Host interface	• PCIe

BLOCK DIAGRAM

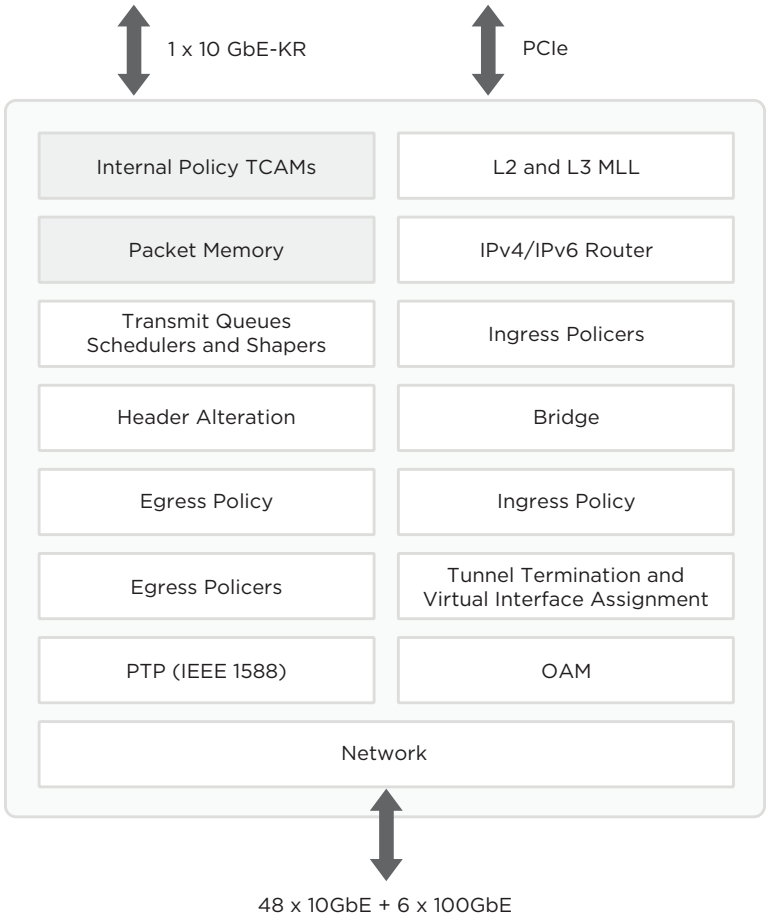

Figure 1: Marvell Prestera 98EX54xx Switch

TARGET APPLICATIONS

- ToR and Blade-Switch for 10GbE servers
- Port Extender
- Aggregation switches with interface modularity
- Enterprise Chassis supporting multiple line cards

ABOUT MARVELL: Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, network infrastructure, and wireless connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell's semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets. For more information, visit www.marvell.com.

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