VITESSE®

52-Port L2/L3 Enterprise and Industrial Ethernet Switch

Vitesse's next generation switch family delivers a flexible Enterprise and Industrial Ethernet solution.

The VSC7442 SparX-IV-52™ device is a 52 Gbps SMB/SME Industrial Ethernet switch with up to 52 Gigabit Ethernet (GbE) ports.

The device provides a rich set of Enterprise Ethernet switching features. Using multistage Vitesse TCAM technology (VCAP™), it delivers VLAN and QoS processing that enables delivery of differentiated services, security through intelligent frame processing, and egress frame manipulation.

For industrial applications, VSC7442 integrates VeriTime™, Vitesse's patent-pending distributed timing technology that delivers the industry's most accurate IEEE 1588v2 timing implementation.

A powerful 500 MHz CPU enables full management of a Layer 2 and Layer 3 Ethernet switch solution.

A comprehensive application programming interface (API) and software development package accelerates time-to-market for managed Ethernet applications. The software API package integrates easily with third-party software, preserving existing software investments.
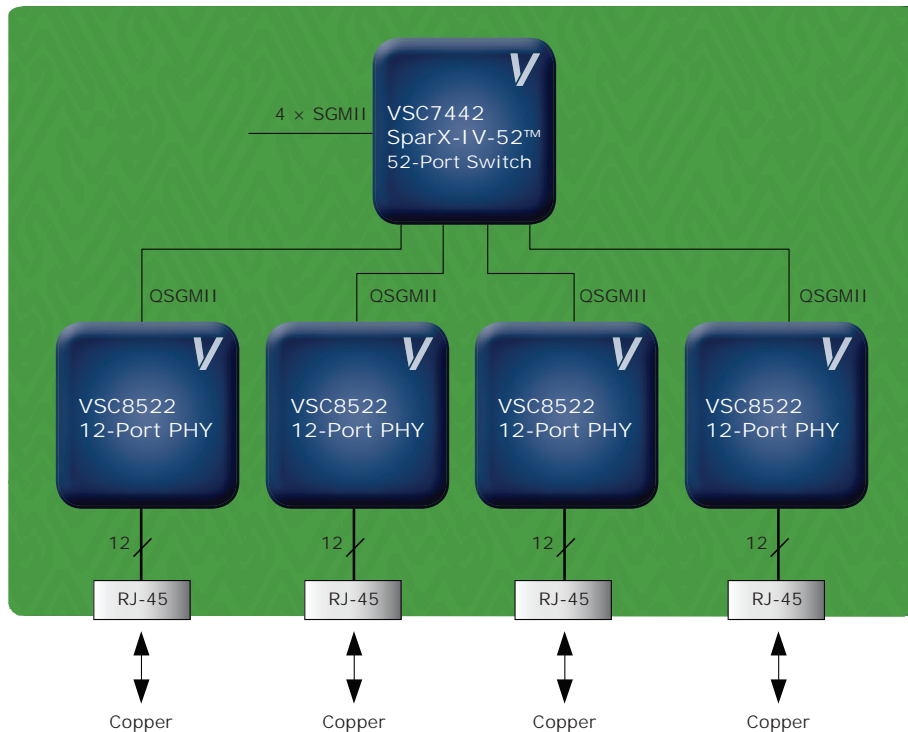
Highlights

- Single-chip 52 Gbps switching solution
- Fully managed L2 switching and L3 forwarding features
- Industrial temperature range
- Easy upgrade within SparX-IV family to higher bandwidths including 10 GbE port support

Applications

- Fully managed L2/L3 switch
- Industrial Ethernet switch

52 × 1 GbE Managed L2/L3 Switch

Features

- 12 × QSGMII ports + 4 × 1G SGMII ports (main configuration)
- Additional 10/100/1000 Mbps SGMII/SerDes node processor
- Integrated 500 MHz MIPS 24KEc CPU with MMU and DDR3/DDR3L SDRAM controller
- PCIe 1.x CPU interface
- Internal shared memory buffer (8 queues per port)
- Jumbo frame support
- Strict priority and DWRR scheduler/shaper

Layer 2 Switching and Layer 3 Forwarding

- 802.1Q VLAN switch with 32K MACs and 4K VLANs
- Push/pop/translate up to three VLAN tags on ingress and egress
- Policing with storm control and MC/BC protection
- RSTP and MSTP support
- Independent and shared VLAN learning (IVL, SVL)
- Hardware- and software-based learning
- TCAM-based classification and VCAP-II security
- Layer 3 unicast and multicast routing

Multicast

- Layer 2
- IPv4 and IPv6
- IGMP and MLD

Industrial Ethernet

- Integrated timing: VeriTime™ (1588v2) and SyncE support
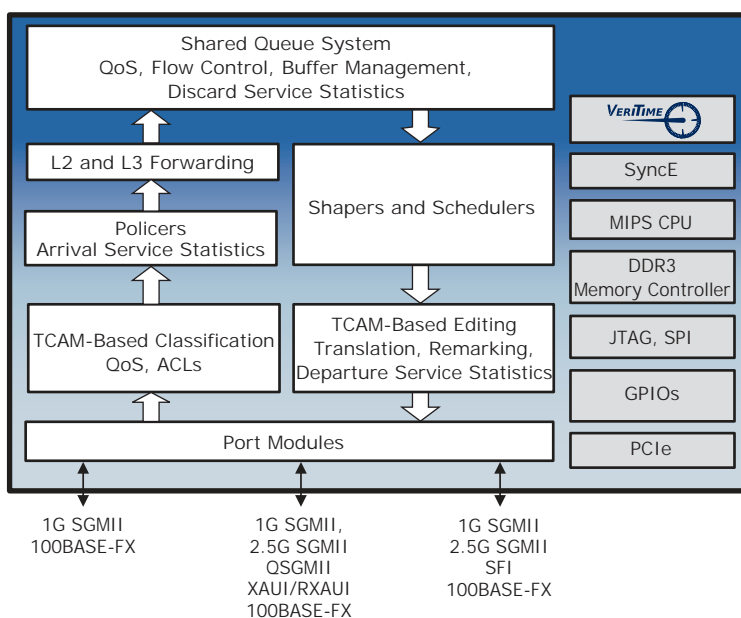- Ethernet ring protection switching (ERPS)

Key Specifications

- 27 mm × 27 mm FCBGA
- –40 °C to 110 °C operating temperature

Related Vitesse Products

Visit www.vitesse.com for information about these related Vitesse products:

- SparX-III nonstackable GbE switches with integrated copper PHYs
- VSC8512 and VSC8522 12-port copper PHYs
- Unified API, WebStaX™, and SMBStaX™ software