VSC7468

80 Gbps Carrier Ethernet Switch with ViSAA™, VeriTime™, MPLS/MPLS-TP, and Layer-3 Routing Support

Microsemi's Carrier Ethernet switch family offers the highest performance, market-ready solution for MEF CE 2.0 services.

The VSC7468 Jaguar-2™ device targets IP Edge demarcation and aggregation equipment to deliver Enterprise and mobile backhaul services. VSC7468 is based on Virtualized Service Aware Architecture (ViSAA™), a silicon implementation that offers an unmatched level of Service Edge and Carrier Ethernet Networking features. ViSAA achieves wirespeed performance for even the most feature-rich Carrier Ethernet (CE) services. VSC7468 also integrates VeriTime™, Microsemi's patent-pending distributed timing technology that delivers the industry's most accurate IEEE 1588v2 timing implementation to meet today's LTE/LTE-A requirements.

The VSC7468 Carrier Ethernet switch contains up to thirty-two 10/100/1000 Mbps SGMII/SerDes ports, twelve 10/100/1000 QSGMII ports, and four 10 Gbps XAUI/SFI ports. VSC7468 provides a rich set of Carrier Ethernet switching features such as hierarchical QoS, hardware-based OAM (Ethernet and MPLS/MPLS-TP) and Service Activation Testing, protection switching, and Synchronous Ethernet. Using Provider Bridging (Q-in-Q) and MPLS/MPLS-TP technology, VSC7468 delivers MEF CE 2.0 EVCs. It features advanced TCAM classification in both ingress and egress. Per-EVC features include advanced L3-aware classification, a rich set of statistics, OAM for end-to-end performance monitoring, and dual-rate policing and shaping.

VSC7468 supports IPv4/IPv6 Layer-3 (L3) routing with up to 4K IPv4 (1K IPv6) unicast LPM entries and 2K IPv4 (512 IPv6) L3 multicast groups. L3 security features include source guard and reverse path forwarding tasks.

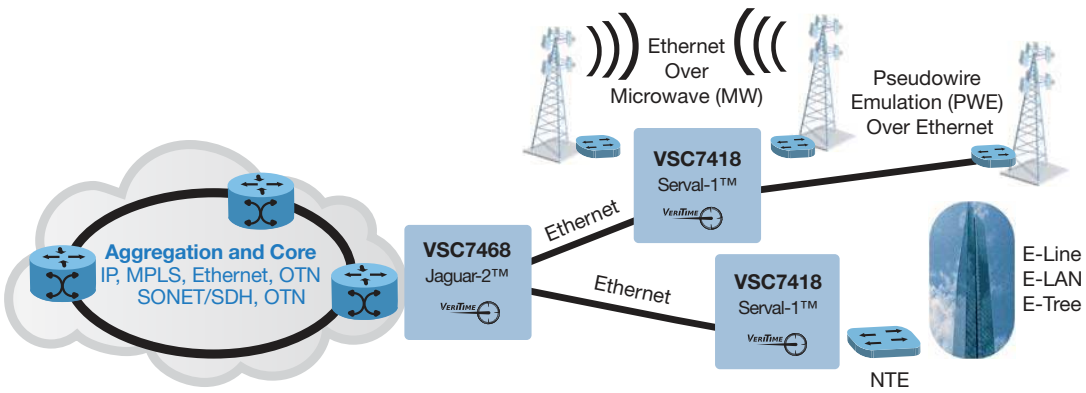
VSC7468 supports Microsemi's application programming interface for easy integration with third-party application software. The device also supports Microsemi's CEServices application software, dramatically reducing customer time-to-market.

Highlights

- Virtualized Service Aware Architecture (ViSAA™)
- MPLS/MPLS-TP and Layer-3 routing support
- MEF UNI and NNI functionality
- Hardware-based Ethernet OAM, performance monitoring, and Service Activation Testing (RFC 2544 and Y.1564)
- Single chip 48 × 1-GbE solution
- Hierarchical QoS for priority queuing and subscriber separation
- Service protection (linear, ring)
- Integrated timing: VeriTime™, SyncE

Applications

- Wireless and mobile backhaul
- Ethernet/MPLS demarcation
- Network Interface Device
- Ethernet Access Device



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Features

- 4 × 10 GbE ports with integrated 10 Gbps SerDes
- 32 × 1 GbE SGMII/SerDes ports (up to 24 × 2.5 GbE)
- 48 × 1 GbE (12 × QSGMII) + 3 × 10 GbE supported
- PCIe for control/status register access
- Integrated shared packet memory
- Fully nonblocking wire-speed switching performance
- 8 QoS classes with thousands of H-QoS queues
- Energy Efficient Ethernet (EEE)
- Priority-based flow control
- Integrated MIPS 24KEc CPU with DDR3

Layer-2 Switching

- 802.1Q VLAN switch with 32K MACs and 4K VLANs
- Classify and modify up to three VLAN tags
- Policing with storm control and MC/BC protection
- RSTP and MPLS/MSTP support
- Hardware-based and software-based learning
- Link aggregation (IEEE 802.3ad)
- Independent and shared VLAN learning (IVL, SVL)
- Jumbo frame support

Layer-3 Routing

- 4K/1K IPv4/IPv6 table entries (LPM and hosts)
- 2K/512 IPv4/IPv6 (S, G, V) or (*, G, V)
- 128 router legs
- Simultaneous L3 routing with Provider Bridging and MPLS/MPLS-TP service switching

VeriTime™ Features

- L2 IEEE 1588v2 (master or slave)
- Boundary clock and transparent clock

ViSAA™ and Carrier Ethernet Features

- Provider Bridging (Q-in-Q) and MPLS/MPLS-TP
- Linear and ring protection switching
- MEF CE 2.0 ready: 8 CoS EVCs with per-EVC OAM, dual-rate policing and shaping, queueing, and statistics
- Advanced security and per-service classification available through multistage TCAM engines
- Hardware-based Ethernet and MPLS/MPLS-TP OAM: Up-MEPs and Down-MEPs, Four layers of nested MEPs
- RFC 2544 and hardware-based Y.1564 service activation test
- L1 Synchronous Ethernet

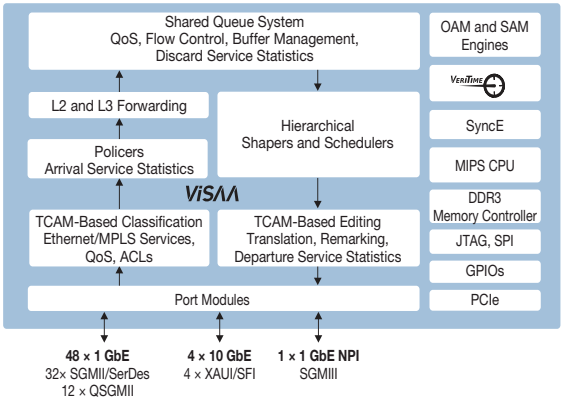
Key Specifications

- 27 mm × 27 mm FCBGA
- Low power dissipation
- Operating temperature –40 °C to 125 °C

Related Products

Visit www.microsemi.com for information about these related products:

- VSC7438 Serval-2™ and VSC7464 LynX-2™ Carrier Ethernet switches with ViSAA™, VeriTime™, MPLS/MPLS-TP, and Layer-3 routing
- VSC7418 Serval-1™ and VSC7416 Serval Lite™ Carrier Ethernet switches with ViSAA™, VeriTime™, and MPLS/MPLS-TP
- Microsemi Unified API and Microsemi CEServices application software



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