Intel® Media Switch IXE2424 10/100+Gigabit L2/3/4 Advanced Device & IXE2426 10/100+Gigabit L2 Device

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Product Description

The Intel® Media Switch IXE2424 10/100+Gigabit L2/3/4 Advanced Device and the IXE2426 10/100+Gigabit L2 Device facilitate the design of high port density, high-performance, and media-ready Fast Ethernet switching systems. Each single-chip device offers 24 10/100Mbps ports and four Gigabit ports as well as integrated 10/100 and Gigabit Media Access Controllers (MACs). The IXE2424 offers Layer 2/3/4 switching and routing while the IXE2426 offers Layer 2 switching capabilities.

The advanced features provided in the IXE2424 device enable you to design systems that deliver high-bandwidth voice, video, and data applications at wire speed. These designs can handle content-rich networks through its extensive functionality, which includes MPLS, Diffserv, WRED, and Quality of Service (QoS).

By combining either of these chips with other Intel Media Switch Devices, you can design high port density switching systems for Ethernet networks. The Intel Media Switch family offers a comprehensive solution—including silicon, software, and reference platforms—for faster time-to-market.

Intel is a leading supplier of communications building blocks, adding value at many integration levels. Intel's continuous innovation and advancements in Ethernet connectivity and processing in the network help deliver a wide choice of solutions that accelerate development and increase revenue opportunity.

Intel® Carrier-Class Ethernet

Many networking and telecom applications require high-performance Ethernet components capable of operating under harsh environmental conditions. The extended temperature version of the IXE2424, the IXE2424EE, supports operation over the entire extended temperature range from –40° to +85°C and is one of the Intel® Carrier-Class Ethernet products. In addition to extended temperature range, Intel Carrier-Class Ethernet products provide features that increase reliability. Each device has an operation lifetime of at least 10 years with less than 100 failures per billion hours. All Intel Carrier-Class Ethernet devices will be available a minimum of 5 years from product introduction.

The Intel Carrier-Class Ethernet product portfolio includes solutions for Ethernet physical layer, switching, and repeater technologies at a variety of speeds. These products are ideal for applications where equipment must function reliably in uncontrolled environmental conditions, such as base stations, telecom/network switches, factory floor equipment, and industrial computers.

Applications

Key applications for the IXE2424 and IXE2426 devices include:

- Workgroup and enterprise 24+4 Layer 2/3/4 switch/router or 24+4 Layer 2 switch with Gigabit uplinks and advanced bandwidth management
- Cascadable, high-port count Layer 2/3/4 switch/router or Layer 2 switch when using one or all Gigabit ports for cascading
- 24+4 MPLS label edge switch or switch/router

Intel® Media Switch IXE2424 and IXE2426 10/100+Gigabit Device Diagram
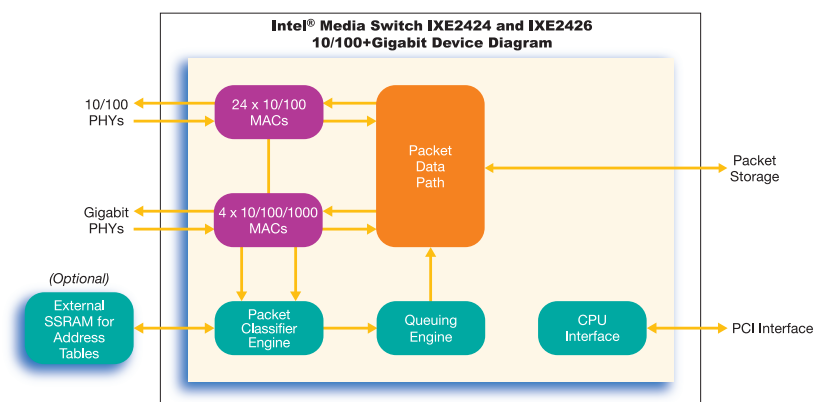
Features	Benefits
■ Single-chip, 24-port 10/100 and 4-port Gigabit Ethernet Layer 2/3/4 switch/router (IXE2424) or Layer 2 switch (IXE2426)	■ High integration, compact footprint, and low power dissipation enable the design of high port density systems at the lowest per-port cost
■ Wire-speed performance across all ports in switching & IP/MPLS routing modes (IXE2424) or switching mode (IXE2426)	■ Delivers congestion-free performance through Enterprise switches during peak load periods
■ Hardware assistance for several Layer 2/3/4 or Layer 2 protocols such as STP, Multiple Spanning Trees (802.1s), Rapid Reconfiguration (802.1w), Port-Based Network Access Control (802.1x), GVRP and GMRP	■ Reduces complexity and cost of CPU subsystem, which can be significant in stacks or chassis designs
■ Link aggregation up to eight ports per group	■ Enables meshed configurations with redundant paths for fail-safe networks
■ Fully compliant with VLAN implementation standards based on ports, tags, and addresses	■ Enables flat plug-and-play networks that are easy to maintain
■ Support for MAC-based and switch-based statistics gathering on chip	■ Enables effective network management using counters with SNMP
■ Connections to other devices using standards-based interfaces such as SERDES/GMII, SMII, PCI, I²C and SSRAM	■ Simplifies system design and provides flexibility when used with other devices
■ Low-cost mode of operation	■ Enables a low-cost 24+4 Layer 2-only switch with no external address SSRAM ■ Provides support for up to 6K Layer 2 addresses and 64 802.1Q VLANs without external SSRAM

Advanced Features (IXE2424 only)	Benefits
■ Advanced traffic prioritization, QoS, Diffserv, WRED, and bandwidth management capabilities	■ Enables the convergence of voice, video, and data traffic over Ethernet/IP networks
■ Advanced multicast, broadcast, and filtering capabilities	■ Enables video and voice multicasting over IP networks ■ Protects from broadcast storms ■ Enables high-performance intranet firewalls
■ Support for multiple IP networks on a single port, as well as multiple ports on the same network	■ Accommodates adds, moves and changes in network topology
■ Support for MPLS label edge router and label switch router configurations	■ Enhances and simplifies packet forwarding through routers using MPLS labels for forwarding decisions
■ IXE2424EE version supports extended temperature range of –40° to +85°C	■ Operates at the very high and low temperatures required for telecommunications applications

Support Collateral/Tools

Item	Description	Order Number
Manuals	■ Intel® Media Switch IXE2426 or IXE2424 Device Developer's Manual	Contact local sales rep
	■ Intel® Media Switch IXE2424/IXE2426 10/100+Gigabit Device Software Programmer's Manual	Contact local sales rep
Guides	■ Intel® Media Switch IXE2424/IXE2426 10/100+Gigabit Device Software Porting Guide	Contact local sales rep
	■ Intel® Media Switch IXC2424 Device Reference System User Guide	Contact local sales rep

Intel Access

Developer's Site	http://developer.intel.com
Networking Components Home Page	http://developer.intel.com/design/network
Other Intel Support: Intel Literature Center	http://developer.intel.com/design/litcentr (800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada) International locations please contact your local sales office.
General Information Hotline	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

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