Intel® NetStructure™ Standalone Gigabit Switches

Intel Gigabit Solutions boost the performance of demanding Internet applications

Achieve Gigabit connectivity for the high-traffic workstations, workgroups, and servers on your LAN – flexibly and affordably, without rewiring – with Intel's next generation of high-density Gigabit Ethernet switches. Aggregating workgroups and server farms over existing copper wiring or fiber enables e-Business applications to run faster with fewer bottlenecks and non-blocking performance.

Choose from these Intel® Gigabit Switches:

■ **Intel® NetStructure™ 470T Switch –** Flexible media support with six 1000BASE-T ports for Gigabit over copper performance plus two hot-swappable GBIC ports for fiber connectivity.

■ **Intel® NetStructure™ 470F Switch –** Fixed-media support with eight 1000BASE-SX for fiber optic connections.

■ **Intel® NetStructure™ 480T Routing Switch –** Intelligent Layer 2/3/4 switching with twelve 1000BASE-T ports and four GBIC ports to overcome distance limitations.

These new Intel Gigabit Switches deliver non-blocking switching performance and advanced traffic management features such as 802.1p priority queuing and 802.1Q VLAN support. They feature an integrated management agent that provides an embedded Web server, SNMP, RMON, and console/telnet capabilities, and they can be managed using Intel® Device View. The 480T Routing Switch also offers Layer 2, 3, and 4 traffic profiling and bandwidth shaping to ensure QoS in the most complex environments.

Features	Benefits
Non-blocking performance, Gigabit switching	Enables network to handle demanding e-Business applications at wire speed
Flexible media support options with GbE over copper and hot-swappable GBICs supporting 1000BASE-SX, 1000BASE-LX, 1000LH	Aggregate Fast Ethernet switches and server farms using existing CAT 5 cabling to prevent costly rewiring; or overcome distance limitation using fiber optics connections
Embedded Web server, Intel Device View, SNMP, RMON, telnet/command line management	Flexible management under any operating system
Link aggregation	Build faster, more reliable networks with bigger pipes and redundant links
Standards-based technology	Interoperability lets you choose best-in-class products
Part of an end-to-end Gigabit networking solution	The benefits of industry-leading Intel networking technology

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Intel® NetStructure™ 470T/470F Switches

Entry-level Gigabit switches for aggregating demanding workgroups and e-Business servers

Achieve Gigabit Ethernet performance with a cost-effective switching solution that aggregates Fast Ethernet workgroups and provides Gigabit connectivity to server farms and high-end workstations. The 470T and 470F switches use your existing CAT 5 or fiber cabling, preventing the need for costly rewiring. As part of Intel's scalable family of Gigabit Solutions, these standalone Gigabit switches offer the non-blocking switching performance and features required for demanding e-Business applications.

Available in these port options:

470T – Flexible media support: Six 100/1000BASE-TX ports and two GBIC ports for 1000BASE-SX, LX or 1000LH support. Use existing CAT 5 cabling for quick migration to Gigabit Ethernet. Uplink to other floors and buildings up to 70km away with noise-reducing fiber GBIC connections.

470F – Fixed-media support: Eight 1000BASE-SX ports supporting multimode for fiber connections.

Non-blocking Gigabit switch fabric —
Reduce network bottlenecks by aggregating Fast Ethernet workgroups with Gigabit Ethernet. Deliver Fast Ethernet down to the desktop while enabling e-Business data center applications. Provide Gigabit connectivity to server farms and high-end workstations that need it.

802.1p traffic prioritization, 802.1Q VLAN support —
Prioritize traffic with 802.1p using specific queues for faster handling of time-sensitive data, such as streaming media or Voice over IP. Segment groups of like users with 802.1Q VLANs to reduce network traffic.

Media flexibility for existing infrastructures —
Interoperable with other standards-based products and compatible with CAT 5 cabling; 100/1000 copper ports simplify your transition to Gigabit technology without costly rewiring. Gradually migrate Fast Ethernet servers to GbE over existing category 5 cabling.

Features	Benefits
Non-blocking performance, Gigabit switching	Enables network to handle demanding e-Business applications at wire speed
Flexible media support options with copper and hot-swappable GBICs 1000BASE-TX, SX, LX, 1000LH	Aggregate Fast Ethernet switches and server farms using existing CAT 5 cabling to prevent costly rewiring; or overcome distance limitation using fiber optics connections
802.1p traffic prioritization, 802.1Q VLAN support	Allocate bandwidth for specific user needs in a scalable, interoperable solution. Prioritize mission-critical traffic while logically grouping network resources and users.

Intel® NetStructure™ 480T Routing Switch

Intelligent Data Center Gigabit Switch that provides controlled bandwidth for e-Business applications

Combine Gigabit Ethernet speed and intelligent traffic management in a switching solution that cost-effectively aggregates server farms and/or campus and desktop switches. The 480T Routing Switch offers Layer 2/3/4 switching at wire-speed performance to support demanding e-Business environments enabling Fast Ethernet to the desktop.

QoS features allocate network resources intelligently —
Bandwidth shaping, plus eight 802.1p priority queues for guaranteed bandwidth and prioritization based on specific user profile (IP or MAC address, port or VLAN, TCP or UDP port).

Layer 2, 3 and 4 wire-speed switching —
Achieve full wire speed whether in flat Layer 2 networks or complex Layer 3 and Layer 4 networks.

Flexible media support to match your network environment —
Overcome distance limitations via SX, LX and LH GBIC fiber modules. Use existing CAT 5 cable to aggregate server farms and workgroups and scale up to Gigabit speeds as needed. 1000BASE-T ports simplify the transition and maximize the investment in your infrastructure.

Features	Benefits
Flexible media support options with GbE over copper and hot-swappable GBICs supporting 1000BASE-SX, 1000BASE-LX, 1000LH	Aggregate Fast Ethernet switches and server farms using existing CAT 5 cabling to prevent costly rewiring; or overcome distance limitation using fiber connections
Layer 2/3/4 switching plus intelligent traffic management with eight 802.1 priority queues and traffic shaping	Specify port bandwidth, buffer memory, and priority queue for streaming media, Voice over IP and other high-priority classes of traffic
802.1p traffic prioritization, 802.1Q VLAN support	Allocate bandwidth for specific user needs in a scalable, interoperable solution. Prioritize mission-critical traffic while logically grouping network resources and users.
Supports RIP, RIP II and OSPF, with software only upgrade to IPX Layer 3 routing	IP routing supports standards-based IP and IPX routing for worldwide compatibility. Supports: RIP, RIP II, and OSPF routing protocols
Enterprise Standby Routing Protocol (ESRP)	Provides resilient, redundant routing services to clients on the network
IGMP, DVMRP, PIM multicast control	Intelligently control multicast traffic on the network to increase network performance
Classless interdomain routing	Aggregates multiple routes, saving routing table space and lessening the burden of updating external routes
Dual power supply option	Reliability and redundancy for increased network uptime

SPECIFICATIONS	Intel® 470T Switch	Intel® 470F Switch	Intel® 480T Routing Switch
PORTS	Six 100/1000BASE-T Two GBICs	Eight 1000BASE-SX (fixed – non-GBIC)	Twelve 100/1000BASE-T Four GBICs
SUPPORTS 1000BASE-SX, 1000BASE-LX OR 1000LH GBICS	■		■
SPEED	100/1000 auto-negotiating	Fixed 1000Mbps	100/1000 auto-negotiating
LINK AGGREGATION CAPABILITY	Supports up to 4 trunk groups, each supporting up to 4 members	Supports up to 4 trunk groups, each supporting up to 4 members	Two or more ports; ports can be of different speeds
CPU	50MHz RISC processor	50MHz RISC processor	200MHz RISC processor
TRAFFIC PROFILING AND BANDWIDTH ALLOCATION			Layers 2, 3, 4 Traffic profiling, IP ToS
ADJUSTS FOR MDI OR MDI-X PORTS (NO CROSSOVER CABLES NEEDED)	■		■
CABLING	Standard CAT 5/Multimode and Singlemode fiber (GBICs)	Multimode fiber	Standard CAT 5/Multimode and Singlemode fiber (GBICs)
IP/IPX ROUTING			RIP, RIP II, OSPF (IP); RIP, RIP II (IPX) routing protocol
SWITCHING FABRIC	16Gb	16Gb	32Gb
MULTICAST SUPPORT	1GMP	1GMP	1GMP, PIM, DVMRP
802.1P PRIORITY CLASSIFICATION	2 priority queues	2 priority queues	8 priority queues
802.1Q FRAME TAGGING	■	■	■
WEB, TELNET, CLI, SNMP, RMON	■	■	■
EMBEDDED WEB SERVER	■	■	■
REDUNDANT POWER SUPPLY			Available as single or dual PSU Version

FOR PRODUCT INFORMATION

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ORDER CODES

Intel® Netstructure™ Standalone Gigabit Switches and Accessories:

Intel® NetStructure™ 470T Switch	ES470T
Intel® NetStructure™ 470F Switch	ES470F
Intel® NetStructure™ 480T Routing Switch	ES480TR
Intel® NetStructure™ 480T Routing Switch with dual power supplies	ES480TRD
Intel® NetStructure™ 480T Routing Switch advanced L3 software upgrage	ES480TRU
Intel® NetStructure™ Module, 1000BASE-SX GBIC	ESGBIC35VSX
Intel® NetStructure™ Module, 1000BASE-LX GBIC	ESGBIC35VLX
Intel® NetStructure™ Module, 1000LH GBIC	ESGBIC35VLH

PRODUCT SUPPORT

Intel® NetStructure™ Support Services products offer a broad selection of programs including extended phone support, parts replacement, on-site services and installation. For a detailed listing of available offerings for the product order codes listed on this data sheet, visit **www.intel.com/go/selector**.

COMPANION PRODUCTS

Consider these related Intel products in your network planning.

- Intel® Express Hubs
- Intel® Express Switches
- Intel® NetportExpress™ Print Servers
- Intel® PRO/100+ Management Adapters
- Intel® PRO/1000 Gigabit Server Adapters

Consider these products in your e-Business data center planning.

- Intel® NetStructure™ Commerce Accelerators
- Intel® NetStructure™ Cache Appliances
- Intel® NetStructure™ Traffic Management Equipment
- Intel® Express Routers
- Intel® Remote Access and VPN Products

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