PRODUCT BRIEF (SHORT VERSION)
Intel® Ethernet I350 Server Adapters
Network Connectivity

Intel® Ethernet I350 Server Adapters

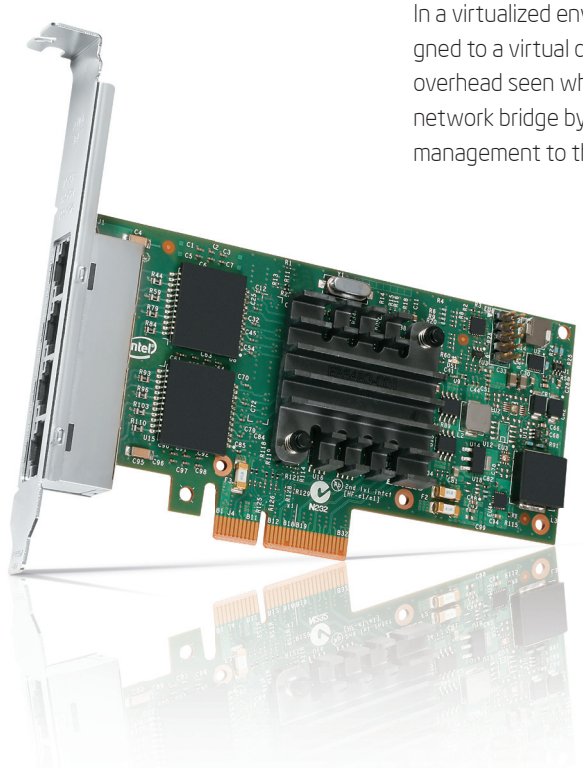
Dual- and Quad-port Gigabit Ethernet server adapters designed with performance enhancing I/O virtualization features and new, energy efficient technologies

Overview

The new Intel® Ethernet Server Adapter I350 family builds on Intel's extended history of excellence in Ethernet products. Intel continues its market leadership with this new generation of PCIe* GbE network adapters. Built with the bridgeless Intel® I350 Ethernet Controller, these adapters represent the next step in the GbE networking evolution for the enterprise and data center by introducing new levels of performance through industry- leading enhancements for both virtualized and iSCSI Unified Networking environments. This new family of adapters also exhibit new energy efficient technologies including Energy Efficient Ethernet (EEE) and DMA Coalescing (DMAC).

Flexible I/O Virtualization

The Intel® Ethernet I350 adapters include Intel® Virtualization Technology for connectivity (Intel VT-c) to deliver I/O virtualization and Quality of Service (QoS) features designed directly in to the I350 controller on the adapter. I/O virtualization evolves network connectivity models used in today's servers to more efficient models by providing Flexible Port Partitioning (FPP), multiple Rx/Tx queues, and on-controller quality of service functionality that can be used in both virtual and non-virtual server deployments.



By taking advantage the PCI-SIG SR-IOV specification, Intel® Ethernet products enable Flexible Port Partitioning (FPP). With FPP, virtual controllers can be used by the Linux host directly and/or assigned to virtual machines. With this port partitioning, administrators can create up to 8 dedicated networks on a single Ethernet port for use in bare-metal and virtualized server deployments.

In a bare-metal Linux server, host processes can be assigned to dedicated network resources to provide traffic isolation and balanced bandwidth allocation.

In a virtualized environment, a VM can be assigned to a virtual controller to reduce the CPU overhead seen when using a software-based network bridge by offloading network traffic management to the Ethernet controller silicon.

Scalable iSCSI Performance

Intel® Ethernet I350 Server Adapters with native iSCSI initiators built into Microsoft® Windows®, Linux®, and VMware® ESX platforms provide a simple, dependable, cost-effective way to connect to LANs and iSCSI SANs. These native initiators are broadly tested using multiple generations of operating systems, storage systems, and OS tools to help ensure reliability and ease of use. Standardizing on Intel® Ethernet for iSCSI allows administrators to use a single initiator, TCP/IP stack, and a common set of management tools and IT policies. In addition, Intel® Ethernet includes a number of hardware features designed to accelerate iSCSI traffic and enhance data processing. For example, TCP segmentation offload, Receive side coalescing (RSC), and checksum offload capabilities help reduce processor utilization, increase throughput, and deliver exceptional iSCSI performance. Finally, using native OS initiators, an Intel® Ethernet I350 Server Adapter enables support for the CRC-32 digest instruction set included with Intel® Xeon® processor products, which improves transmission reliability and thus delivers an enterprise class iSCSI solution for the IT customer.

Power Management Technologies

Today, companies everywhere are looking for ways to decrease energy consumption across the enterprise to reduce costs and environmental impact, while at the same time solving increasingly important power density challenges.. That's why Intel has introduced new, advanced Power Management Technologies with the Intel® Ethernet I350 Server Adapter family that enables enterprises to configure power options on the adapter and more effectively manage their power consumption.

Energy Efficient Ethernet (EEE)

The Intel® Ethernet I350 Server Adapter family supports the IEEE802.3az Energy Efficient Ethernet (EEE) standard so that during periods of low network activity, EEE reduces the power consumption of an Ethernet connection by negotiating with a compliant EEE switch port to transition to a low power idle (LPI) state. This reduces the controller power to approximately 50% of its normal operating power saving power on the network port and the switch port. As soon as increased network traffic is intelligently detected, the controller on the platform and the switch quickly come back to full power to handle the increased network traffic. EEE is supported for both 1000BASE-T and 100BASE-TX.power challenges.

DMA Coalescing

Another power management technology that can reduce power on the server platform is DMA Coalescing (DMAC). Typically, when a packet arrives at a server, DMA calls are made to transfer the packet within the server. These calls wake up the processor, memory and other system components from a lower power state in order to perform the tasks required to handle the incoming packet.

Based on the configurable DMAC settings, incoming packets are buffered momentarily before any DMA calls are made. This enables the controller to intelligently identify opportunities to batch multiple packets together so that when components are wakened from lower power states they can efficiently handle the batched packets at the same time.

This enables platform components to remain in lower power states longer, which can dramatically reduce platform energy consumption. DMAC synchronizes DMA calls across all four controller ports to ensure maximum power savings.

These and the additional Power Management Technologies included with Intel® Ethernet will help you more effectively management your power challenges.

Customer Support

Intel® Customer Support Services offers a broad selection of programs including phone support and warranty service. For more information, contact us at support.intel.com/support/go/network/. Service and availability may vary by country.

Product Codes

I350 MM#	Brand Name	Description	Media	Forecast Name
915808	Intel® Ethernet Controller I350-AM4	17x17 Quad Port	tape and reel	NHI350AM4
915799	Intel® Ethernet Controller I350-AM4	17x17 Quad Port	tray	NHI350AM4
915809	Intel® Ethernet Controller I350-AM2	17x17 Dual Port	tape and reel	NHI350AM2
915801	Intel® Ethernet Controller I350-AM2	17x17 Dual Port	tray	NHI350AM2
915810	Intel® Ethernet Controller I350-AS4	17x17 Quad Port	tape and reel	NHI350AS4
915802	Intel® Ethernet Controller I350-AS4	17x17 Quad Port	tray	NHI350AS4
915811	Intel® Ethernet Controller I350-BT2	25x25 Dual Port	tape and reel	NHI350BT2
915804	Intel® Ethernet Controller I350-BT2	25x25 Dual Port	tray	NHI350BT2

For Product Information

To speak to a customer service representative regarding Intel products, please call 1-800-538-3373 (U.S. and Canada) or visit support.intel.com/support/go/network/contact.htm for the telephone number in your area. For additional product information on Intel Networking Connectivity products, visit **www.intel.com/go/ethernet .**