

Switch Fabric -- Markets Reach \$920 Million By 2016

LEXINGTON, Massachusetts (January 1, 2010) – WinterGreen Research announces that it has a new study on switch fabrics. The 2010 study has 329 pages, 111 tables and figures. Worldwide markets are poised to achieve significant growth as data managers move to more cost efficient switching modalities. Vendors are building out localized switch fabrics that support an information system with devices that contain virtual output queuing (VOQ) and prioritized flow control.

Switch fabrics provide a method to switch the packets from input ports to output ports. The switch fabric must arbitrate traffic when more than one packet arrives concurrently if both are destined for the same output port. Switch fabrics provide sufficient buffering to handle situations where the packet input rate is greater than the switch fabric's throughput capability.

The two possible locations for buffering are at the input of the switch fabric (input queuing) or internally to the switch fabric (shared-memory). Switch fabrics control quality of service (QoS).

The switch fabric is responsible for receiving data from a line card and routing it to the proper destination. OEMs outsource the fabric to semiconductor suppliers. Switch fabric solutions integrate advanced queuing and scheduling, a serial crossbar, and multiple channels of high-speed serial link technology in a two-component fabric chip set.

The multi-service provisioning platform (MSPP) is an emerging product category specifically designed to address the needs of service providers for reliable transport of data and telecom services between dissimilar networks. New platforms of this type are employing standards-based packet switching systems designed to transfer voice and data over IP between PSTN, mobile, core and IP networks. Because the access points of a converged network use different protocols for transporting data and voice (that is, ATM, IP, and SONET).



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The task of the MSPP is to seamlessly transfer the media streams at port speed between the various network interfaces while supporting QoS guarantees. It is the move to higher layer switching to incorporate QoS along with the higher port speeds (OC-48, OC-192) that is driving the need for MSPPs with advanced network processing engines and intelligent switch fabric devices.

According to Susan Eustis, lead author of the study, “The intelligent switch fabric devices contain virtual output queuing (VOQ) and prioritized flow control. This supports the ability to provide high-capacity (160 Gbps), non-blocked, class of service based switching. This packet control at high speed improves network performance by a quantum amount.” Vitesse GigaStream family of switch fabrics is a product in this category.

The ongoing convergence of communications technologies and proliferation of digital media is introducing radical changes to the consumer electronic market. These changes are redefining traditional ideas of what we can expect from familiar products such as televisions, personal computers and cell phones. Advances in semiconductor technology are driving this transformation by bringing capabilities to which we are already accustomed (such as Web browsing, recording video, and getting driving directions) into new device contexts.

Markets for switch fabrics at \$317 million in 2009 are anticipated to reach \$920 million by 2016, growing in response to decreases in unit costs and increases in integrated IC functionality. Some applications are in high growth market segments, including data center consolidation, security, high definition video, and high speed video applications. Switch fabrics are poised to make people more productive in security environments, help increase productivity with faster desktop access capabilities, and decrease storage seek times.

Switch fabric markets are forecast to grow as the quantity of data traversing the Internet grows. The Internet data is doubling every 5 months. Quantities of data are increasing from petabytes per day to exabytes per day. The technology needed to handle this includes switch fabrics. Cloud computing and HD TV represent the most significant market driving forces for growth of switch fabrics.



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