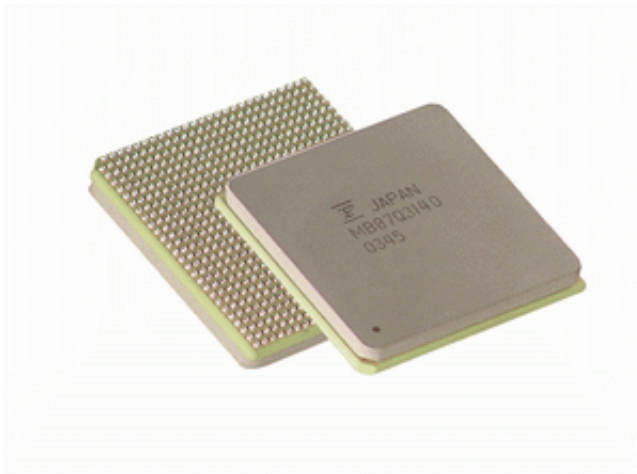# Fujitsu Announces the Latest Version of 10Gbps Ethernet Switch Chip

May 26 2005

 Fujitsu Microelectronics America, Inc. (FMA) and Fujitsu Laboratories of America, Inc. (FLA), innovators in advanced networking technology, today introduced the latest version of the single-chip 10Gbps Ethernet switch with advanced security, data-reliability and aggregation features, and leaner power requirements.

The MB87Q3140 is the latest member of Fujitsu's 10Gbps Ethernet switch chip family, which was introduced in late 2003. The new 12-port, layer-2 switch builds on the low-cost, low-power, and high-performance features that distinguish the previous versions, and adds the enhanced features required for ATCA and blade-server equipment.

Among the important new capabilities is link aggregation, which enables users to combine several links as a virtual fat link to achieve bandwidth scalability and high availability. This feature realizes a maximum aggregated bandwidth of 120Gbps of bi-directional throughput between the server and the switch. This aggregation or trunking complies with the IEEE 802.3ad standard.

The new MB87Q3140 also incorporates advanced port-security features such as source-based filtering to ensure that unauthorized access or intrusion attempts are stopped and then reported to the administrator.

Power consumption of the MB87Q3140 has been reduced by more than 30 percent over the second-generation chip, the MB87Q3070, which was introduced in mid-2004. By using the third-generation version, an embedded 10Gbps Ethernet switch system can be built with less power consumption and less thermal limitation.

In addition to these features, the MB87Q3140 also supports differentiated services (Diffserv) for IPv4 and IPv6, along with Internet Group Management Protocol (IGMP) snooping for IPv4 and Multicast Listener Discovery (MLD) for IPv6, which enable connected routers to discover multicast group members.

Supports Both Copper Cable and Optical Fiber

Like its predecessor, the new single-chip switch incorporates a high-speed electrical interface, an enhanced XAUI that supports XAUI and IEEE 10GBASE-CX4 high-speed electrical interfaces. The enhanced XAUI macro lets designers use copper cabling in place of expensive optical interfaces for the interconnects between the server and storage chassis. The macro also enables data transfer at distances over one meter in the backplane for embedded applications such as blade-server and ATCA systems.

"Data-center and telecom equipment manufacturers want to lower the cost of production, while maintaining high performance. This new 12-port, layer-2 10Gbps Ethernet switch chip addresses their needs by delivering higher throughput through reliable links, while lowering power requirements," said Asif Hazarika, senior product marketing manager, Fujitsu Microelectronics America. "This powerful, efficient version delivers important features and capabilities that were built and refined based on customer needs in specific networking applications. The product is particularly well-suited for the bladed equipment market."

"With the release of this new switch chip, Fujitsu maintains its leadership in delivering 10Gbps Ethernet technology that exceeds the industry's benchmarks for cost, power and performance," said Keith Horn, senior vice president of sales and marketing for FMA. "We continue to provide the features, benefits and capabilities that the market requires as it moves forward with advanced networking technology."

The MB87Q3140, which is fabricated using Fujitsu's 0.11-micron process, is in 728-pin Flip-chip BGA packages. Samples and evaluation boards are available now. Pricing is available upon request.

The development of this switch was partially funded by the New Energy and Industrial Technology Development Organization (NEDO), a Japanese governmental agency.

Fujitsu Microelectronics will display a 10Gbps switch box using the MB87Q3140 at the Fujitsu booth #41015 at Supercomm 2005, June 6-9.