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BUSINESS NEWS

Fulcrum preps clockless crossbar switch

By Peter Clarke
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CALABASAS, California -- Although Fulcrum Microsystems Inc. has experience of designing full microprocessors that are clock-less the company's first commercial chip is set to be not a processor but an asynchronous logic cross-bar switch.

The company is planning to present details at the upcoming Hot Chips and Hot Interconnects symposia. Uri Cummings, Fulcrum co-founder and vice president of product development, plans to present the chip's design and architecture.

Andrew Lines, Fulcrum co-founder and chief technology officer, is due to present a paper detailing the Nexus crossbar switch implementation, at the Hot Interconnects Symposium, the next day.

The switch can be used to create a globally asynchronous, locally synchronous (GALS) architecture for large-scale system-on-chip designs, Fulcrum claimed.

According to the abstract of Lines' paper the Nexus crossbar switching technology has a total capacity of 1.6-Tbits and connects 16 full-duplex ports in a non-blocking manner using 36-bit data paths of asynchronous flow-controlled channels.

Data and control, in the form of 36-bit words, are transferred at 1.4-GHz; round-trip latency through the crossbar is under 3-ns. Each port supports 50-Gbit/s duplex data transmission and the chip is non-blocking up to 800-Gbit/s, the abstract said.