EDN

Stop Watch

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Even with the lull in the communications segment, maximum-speed data transfers remain the name of the game. And while we didn't get to 40 Gbits/sec as fast as many thought we would, handling 10-Gbit/sec traffic on every channel in a communication or networking product is now a baseline requirement. Ironically, a new player in the arena, Fulcrum Microsystems, is approaching the need for speed with a clockless chip design.

Clockless chips eliminate the elaborate clock tree that pervades most chips and sucks power. But low-power clockless designs haven't been deployed previously in high-performance chips like Fulcrum's PivotPoint switch chip. The 6-port device supports the SPI-4.2 (System Packet Interface) standard defined by the Optical Internetworking Forum (OIF). The OIF actually defined a minimum SPI-4.2 data rate of just under 10-Gbits/sec, but the PivotPoint can support rates as high as 14.4 Gbits/sec on each channel. Fulcrum claims that the switch delivers 192 Gbits/sec of sustained throughput in the 6-port design.

Fulcrum states that samples will come in October, with production volumes due in January at $200 in quantities of 1000. To succeed, the startup will have to overcome the hurdle of making a clockless design work—an obstacle where other clockless-architecture advocates have failed. However, Fulcrum based its development on research from Cal Tech, a pedigree that seems to imply that the company has a reasonable chance of delivering on its claims.