EE|Times

Connecting the Global
Electronics Community

AUTOMOTIVE

News & Analysis

New ASIC drives Alacritech into storage

Rick Merritt
1/11/2011 05:18 PM EST
Post a comment

Tweet | Share | G+

SAN JOSE, Calif. – Alacritech is reinventing itself as a storage systems supplier, after failing to gain a position in the 10 Gbit Ethernet networking market. The company's fifth-generation ASIC processes Network File System jobs in hardware to address bottlenecks in storage networks.

Alacritech helped pioneer processing Transmission Control Protocol on specialized chips to offload a job that was swamping host processors at gigabit and higher Ethernet data rates. But it failed to deliver a competitive 10 Gbit Ethernet product at a time when Alacritech's so-called TOE technology was becoming one feature of a broader offering.

At least four chip makers—Broadcom, Chelsio, Emulex and Qlogic—now offer 10G Ethernet chips with TOE. But increasingly they are also supporting features such as virtualization and hardware acceleration for protocols such as iSCSI and Fibre Channel over Ethernet, said Bob Wheeler, a senior analyst at the Linley Group (Mountain View, Calif.).
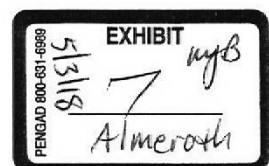
Alacritech "tried to develop [a 10G TOE chip], but it lacked some other features, and it wasn't adequate to just have TOE," Wheeler said.

The company did get Broadcom, Microsoft and others to license its TOE technology, "but it never went anywhere," said Alacritech founder and chief executive Larry Boucher.

Microsoft had internal debates about its approach to network offload. It eventually rolled out so-called Chimney software for Windows Server, but it failed to provide a dramatic performance boost for systems that mostly suffered from under-utilization, an issue now being addressed by virtualization technology, Boucher said.

"We only had limited fringe of people trying to get performance out of Windows systems [with TOE]," said Boucher.

"Broadcom drives [TOE] hard to differentiate itself from Intel [in Ethernet chips]," Boucher said. "IBM aligned with Intel [in not supporting TOE and Chimney], and HP and Dell are both promoters of Chimney, but it's all marketing because it's difficult to see how Chimney does anything useful," he said, noting Alacritech still has licensing revenue for the technology.

Given the situation, Alacritech revamped its plans for a 10 Gbit Ethernet ASIC. Instead of just supporting TOE for networking it added hardware support for handling the Network File System used for data center storage.

"We've gone back and done what we thought would be next big step in file serving performance," said Boucher.

The new ASIC powers Alacritech's ANX 1500, a new kind of accelerator appliance that aims to break performance bottlenecks in large network-attached storage installations.

The ANX 1500 holds as much as four Terabytes of flash in 20 solid state drives and 48 Gbytes of DRAM to cache the most heavily accessed data from large NAS networks. The ASIC uses NFS processing in hardware to quickly decide what data it needs to cache and TOE to speed the job of retrieving it.

Thanks to its NFS support, the system can track a few million data attributes a second as opposed to a few hundred thousand per second for less intelligent caching systems sold by Network Appliance and others. Due its TOE support it can retrieve data with latency as low as 0.3 milliseconds/operation.

A system with two Terabytes flash costs $70,000. The systems are available now and are already in use with several beta testers. "This is something of a new category, so it's difficult to guess how it will ramp, but the beta site users will all become customers," said Boucher.

EMAIL THIS   PRINT   COMMENT

More Related Links

BMW to Use Innoviz Lidar for Autonomous Cars

Driver Monitoring: 'Shut Up, Mom, I See It!'

ST Sees Sales Growth Despite Weak Smartphone Demand

European Automakers to Add Alibaba Voice Assistant to Cars

Who's the Lidar IP Leader?