

# PathScale Expands its Market Scope with PCI Express Technology

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Date: 7 Mar 2006

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## Event summary

- PathScale has reengineered its InfiniBand adapter to support PCI Express and has developed a technology called 10x-MR, which provides a tenfold increase in the adapter's performance, its executives claim.
- The company initially only supported a direct connection to HyperTransport, which limited its market because only AMD supported that standard in microprocessors. Now it has Intel and basically any other developer that supports PCI Express.
- PathScale will continue developing for the high-performance computing (HPC) and enterprise markets as its purchase by QLogic heads toward finalization. Executives do not expect any major changes in direction or focus.

## The 451 take

Support for the PCI Express technology will open up a much greater market for its technology. Although AMD has made strong inroads into the server space, Intel is the dominant player, and in the past PathScale wasn't able to sell into this portion of the market. PCI Express support is not limited to Intel; it can address any platform that supports PCI Express. This also shows the maturation of InfiniBand technology, as it moves from being a niche technology to a mainstream enterprise technology. Finally, the new 10x-MR technology – if it delivers the performance the company claims – will provide a clear differentiation from Mellanox, PathScale's closest competitor.

## Details

**PathScale**, which was purchased last month by **QLogic** in a \$109m cash deal, is continuing to develop and deliver InfiniBand technology as it awaits the deal's closure. It will maintain its focus on the InfiniBand market as a separate division at QLogic. The latest from the company is a family of InfiniPath adapters, ASICs and other related products that will feature support for the PCI Express interconnect for the first time. Optimized for **Intel's** Bensley chipset, which is designed for dual-core support, the lineup will feature not just chips and adapter cards but also blade daughter cards and PCI Express modules. The company's previous offerings only supported HyperTransport, a technology that is primarily used by **Advanced Micro Devices**.

A key feature that will be included here, and later in its HyperTransport line, is a new technology called 10x-MR that PathScale executives claim will provide a 10x boost in the messaging rate of any interconnect, up to 10 million messages a second. Designed to support up to eight cores, it eliminates message throughput, a bottleneck that slows systems down, the company said. Designed to work with multicore processors, the 10x-MR technology provides a clear path for each core, and PathScale said that as the number of systems connected using these InfiniPath adapters increases, the more performance gains a customer will see.

## Competitive landscape

The primary competition for PathScale is **Mellanox**. That company has been supporting PCI Express for some time and has a large lead in this space. Mellanox also supports double data rate chips with

20Gbps bandwidth, twice what PathScale supports. One distinct advantage that Mellanox has is that it also sells its adapters into the growing InfiniBand storage space – QLogic has said it will not be targeting PathScale's technology at that area, at least in the near term. This allows developers to employ one technology for multiple uses, saving in training and inventory, among other things.

There are other, non-InfiniBand developers that also compete with PathScale. The two primary ones in the HPC segment are **Quadrics** and **Myricom**, both of which have proprietary offerings here. As InfiniBand seeks to establish itself in the enterprise, it will start competing more with the 10GigE adapter developers including **Broadcom** and **Marvell Semiconductor**, as well as Myricom and Quadrics.