

It's All About Economics

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Ethernet has been around forever, yet it continues to remake itself with new capabilities. The *secret sauce* behind all this innovation is the vast economic engine pulling Ethernet. We live in a world of technology; but at the end of the day, it's all about economics.

Since its standardization in 1983, Ethernet has become the most widely adopted networking technology, carrying an estimated 95% of the world's data. No other interconnect technology comes close to achieving the level of commercial success enjoyed by Ethernet, and no other interconnect technology has seen the level of technical innovation demonstrated by Ethernet.

This is precisely why the LXI Consortium selected Ethernet connectivity for instrumentation and has consistently stuck with standard Ethernet. LXI is not a custom standard. It simply is a consistent implementation of standard Ethernet. It's all about using economics to our advantage.

The Ethernet eco-system consistently rises to meet new applications at a scale unmatched by any other IO technology. Others have tried to demonstrate technical superiority, but they always are short-lived. Without a broad market and supplier base, they suffer higher prices, slower innovation, and eventual replacement. Ethernet turned this corner years ago, giving it a deep pool of suppliers to drive innovation and improvement rather than obsolescence.

I was reminded of this recently while discussing switched fabric and backplane technologies for Ethernet. Keep in mind that standard Ethernet easily meets most system throughput needs.

For most applications, the size of the pipe has nothing to do with test throughput. But there are a few specialized test applications that require fast data transfer. For them, the Ethernet eco-system once again comes to the rescue. And the test industry gets it free.

I am referring to several exciting IEEE efforts underway to reduce latency and improve speed, two important topics for test developers. The 802.3ap Ethernet Over Backplane (EOB) Task Force is standardizing Ethernet's backplane signaling and autonegotiation capability, allowing coexistence and compatibility between 10GB XAUI devices and GbE devices. The 802.3ar Congestion Management Task Force and the 802.1 efforts are defining new advances in Ethernet congestion management, addressing issues that have traditionally limited some latency-sensitive entertainment applications.

These examples represent some of the innovation going on behind the scenes in the Ethernet community. Interconnect technologies will continue to evolve to meet changing applications.

Ethernet brings us a steady stream of new capabilities that will improve test in ways we have only begun to understand. I am consistently amazed at the level of innovation and support driving Ethernet and I am reminded it is not the technology that is important—it is the economics that makes it all possible.

