Freedom of Choice in Platforms

This year has seen three test platforms continuing to develop their market message and attract new users from older platforms such as GPIB and VXI, the choices seem to continue to expand for users. From a professional and a business standpoint, we see the choices as good for both vendors and customers as it allows for a broader range of applications to be supported by a greater number of products and platforms that address every budget and requirement. In this short article, we point out where the various platforms appear to be headed and why, from a Pickering standpoint, the freedom of choice is a good thing.

LXI Milestone
The LXI Consortium has announced that by May 2011 it has certified more than 1,500 products from 35 different vendors since products were first launched in December 2005. That is particularly impressive since the consortium requires third party certification of LXI Devices to ensure vendors maintain the interoperability standards set by the specification for Ethernet (LAN) controlled instruments.
What does that mean for the vendors and users of LXI products? First of all, it certainly ensures that complete test systems can easily be assembled with a number of LXI products. Second, certification reinforces the robustness of the Ethernet interface and its widespread availability on computing platforms and ensures that it has the same feel and stability associated with GPIB systems. For vendors, it validates that their product line is compatible with all LXI products.

For Pickering Interfaces the core of our business is PXI based switching systems, but we have invested heavily in the LXI platform for good business reasons.

Doing the impossible in LXI
Many of our dedicated LXI solutions were simply impractical to implement in a PXI form factor. PXI imposes modular mechanical constraints on product design and when there is a requirement for a large and/or very complex switching system, it simply will not fit. Creating a cross-point matrix for example with 4,000 off 2A rated relays requires a great number of modules to be interconnected, often completely filling or exceeding the capacity of a single PXI chassis. Some products require the use of large components such as microwave relays which simply take too much of the space in a PXI chassis, in doing so inflating the real cost of the switch and taking up valuable rack space. Each PXI module has its own overhead from the PCI interface it carries and the slots it occupies in the chassis.
In comparison the LXI platform requires its own LAN controller interface – Granted, a higher cost than the PCI interface on PXI – and its own case system to support its switch payload which is typically much lower cost than the PXI chassis. An added advantage is that external cabling is usually greatly simplified as any inter-module is eliminated as it is handled internally, In the case of a large complex switching application, the overall cost advantage can be a 40% saving or even more.

So for Pickering Interfaces the advantages of LXI are clear, they enable us to provide switching systems with LXI which are hard, impossible or uneconomical to do in PXI. It is not just switching systems these arguments apply to, in almost all product categories of test and measurement there are clear differences in what can be achieved in one platform compared to another. The differences may lie in measurement traceability, accuracy or particular areas of performance and they vary from one category to another.

PXI and AXIe Market Growth
PXI continues with its own milestones and the entry into this market of Agilent Technologies is certainly a very major event that will ensure the continued adoption of that platform into wider markets. We believe it is a very welcome event and one that will help expand the overall PXI market size and increase its adoption as the primary modular standard.
PXI is not the only modular standard that is growing. AXIe also has its adopters for higher performance systems and has embedded interfaces based on both LXI and PXI. More options on the platform of choice arise with Pickering Interfaces supporting its PXI switching modules in an LXI controlled modular chassis, so sales of Pickering PXI switching modules can be placed in an LXI or or a PXI controlled environment.

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