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Behind the boom in PXI

Larry Maloney, Contributing Technical Editor -- 12/1/2006
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Q: To what extent is PXI replacing VXI in test applications?

A: At this year's Autotestcon, it was very impressive to see the wide extent to which PXI is being used, from manufacturing settings to rugged field applications. PXI's progress in replacing VXI is well ahead of the schedule that the PXI Alliance set for itself five years ago, and this growth includes many applications in military/aerospace, which was once pretty much owned by VXI.

Q: What's behind this rapid growth?

A: A lot of military test programs are coming up for technical refresh or are moving to next-generation designs, and PXI is now the clear choice for a number of reasons. PXI offers a much more compact footprint, versus the multi-bay designs that you often find in old VXI-based systems. So, you get more functionality in a much smaller package. You also pay about half as much for the test system without sacrificing performance.

Q: But what concerns do engineers have about PXI equipment?

A: Interoperability comes up a lot, and that's a key goal of the PXI Alliance. When a customer buys a mix of PXI products from different vendors, we want to make sure that the system functions properly. At Autotestcon, we did a demo of a plug-and-play RF test system that featured our new RF signal analyzer and our ATEasy software, used with an Aeroflex synthesizer and signal generator. The design also integrated one of our RF switching cards and a PXI programmable power supply. It was a complete, compact RF solution in a single



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Co-founder of Geotest—Marvin Test Systems, Loofie Gutterman has more than 20 years of experience in the test and measurement industry. During his tenure with the company, he has served as VP of systems engineering, COO, and now president. His experience in the development of commercial and military test instruments, as well as turnkey solutions,

chassis, and we put it together in just a few hours. This really appeals to customers—getting all the functionality they need in one chassis.

Q: What is the growth potential for PXI Express?

A: It makes sense for applications that require mass data transfer. The emergence of PXI Express will open up new opportunities for us in these high-bandwidth applications. One customer is talking about a data-acquisition system requiring a continuous transfer rate of hundreds of megabytes per second. Two years ago, using PXI only, we couldn't provide a solution. Now, with the addition of PXI Express, we can. In such cases, we see engineers using hybrid PXI-PXI Express systems. Companies will offer test chassis with, say, a dozen PXI cards and one or two PXI Express cards. For example, our high-speed, deep-memory digital cards can be ported over to PXI Express for faster load and unload times.

Q: Where does LXI fit into the test environment?

A: This Ethernet-based standard is a cost-effective successor to GPIB. We think it's a great solution, and we joined the LXI Consortium in 2006. You'll see more PXI-LXI hybrid systems. The big hang-up is getting enough LXI products out there. For example, many DMMs and signal analyzers still don't have the LXI interface.

Q: What are the most promising future markets for your company?

A: Military/aerospace, especially avionics test, is strong now, and will continue to do very well. Other attractive markets include medical, such as systems to test boards for pacemakers, and communications, especially testers for RF devices and wireless LAN. There's also a huge opportunity in semiconductor test, such as working with engineers who need to functionally test FPGAs. Overall, the market for PXI instruments is growing at a 25% annual rate, and demand for complete PXI systems is increasing even faster. Geotest is active in both areas.

paved the way for Geotest's growth in the PC- and PXI-based product markets. Prior to joining Geotest, Gutterman held several positions with test-systems manufacturer RSi, including program manager, COO, and technical director. He currently serves as the president of the PXI Systems Alliance.

Contributing editor Larry Maloney recently interviewed Gutterman by phone on developments in PXI and other test-industry trends.

Loofie Gutterman comments on new PXI products, turnkey systems, networked test, and other topics in the [continuation of this interview](#).

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