Corelis' Boundary-Scan Technology Facilitates Applied Data Systems' Customization of Embedded Systems

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CORELIS

13100 Alondra Blvd.
Cerritos, CA 90703
Phone: 888-808-2380
Fax: 562-404-6196
E-mail:
sales@corelis.com
www.corelis.com

Applied Data Systems (www.applieddata.net) is the leading supplier of "application-ready" RISC-based single board embedded systems with flat panel displays for customers who need XScale or StrongARM-based systems running Windows CE, Linux, or the operating system of choice. Nearly half of the company's customer production designs are completely customized.

"We call ourselves a delicatessen," jokes Bob Olsen, President of the company, "because we try to accommodate every customer's preferences."

As the company's product family grew over the past three years, the configurations of board designs became so numerous that tracking and programming those designs became inefficient, time consuming, and very expensive. Looking into different alternatives to solve their problems, ADS decided to apply boundary-scan technology for testing and in-system programming.

Anthony Mallon, an ADS Lead Test Engineer, was tasked with evaluating boundary-scan tools. Anthony started by comparing several different systems. He was impressed with Corelis in the evaluation cycle because of their highly-automated products and because Corelis staff was willing to help ADS to evaluate the Corelis products on ADS' own products, not just on their evaluation board. In fact, Anthony was more impressed with the Corelis team's ability to get everything up and running over the phone than a competitor's ability to demonstrate their package in person.

Although originally planned for in-system programming, Anthony soon learned that full interconnect testing was very fast and thorough at pinpointing faults and isolating problems. Anthony's team found that

ScanPlus is a great test and diagnostic tool, allowing them to quickly isolate the source of the problem and providing immediate 'pin-level' diagnostics.

Corelis' ScanPlus tools now allow ADS test engineers to perform testing and in-system programming with minimal effort. For Anthony, this means more synchronization between his own product tests and the tests done by ADS' contract manufacturing off-site.

"Because the ScanPlus tool is automated, it is preventing configuration errors and eliminating human errors," explained Anthony. "During our prototype stage, we can streamline to production more effectively, and our initial testing involves less 'stop-and-start' checking by the entire engineering team."

Anthony has since pushed Corelis ScanPlus tools even further by designing his own test fixture allowing testing and in-system programming of 4 boards simultaneously with the Corelis ScanTAP-4 module. He included extra boundary-scan logic on the fixture to test the connector interfaces on the target boards.

"Once the Corelis unit was here, we're finding more uses than the original justification," explained Anthony. "Our engineers are coming back to the testing area with miscellaneous testing requests that are very easy to do now. We were not able to do these miscellaneous projects as smoothly and easily before. The Corelis ScanPlus system has become invaluable for us, especially with all of our custom work and designs. Unusual problems become irrelevant because the Corelis system easily compensates for these unusual configurations making testing simple. We have been very pleased with the Corelis system. It has delivered even more than we expected."
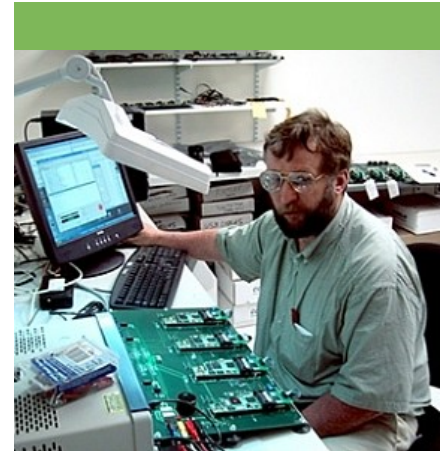
Applied Data Systems recently went through their ISO 9001 certification, and the Corelis testing was very beneficial throughout the entire process. Anthony was able to test the entire ISO process, one system at a time in a more accurate way.

About Corelis

Corelis, Inc., a subsidiary of Electronic Warfare Associates, Inc., offers bus analysis tools, embedded test tools, and the industry's broadest line of JTAG/boundary-scan software and hardware products combining exceptional ease-of-use with advanced technical innovation and unmatched customer service. Corelis' development and test tools are used by companies such as Agilent, Dell, IBM, Intel, Microsoft, Lockheed Martin, Rockwell Collins, Hewlett-Packard, Motorola, Qualcomm, Nokia, Panasonic, TI, Ford, Broadcom, Ericsson, and many others. Corelis products are found globally in every industry developing or manufacturing electronic products.

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Embedded Computer Systems

Anthony Mallon
ADS Lead Test Engineer

"We were very pleased that the Corelis package did exactly what it claimed it would, The Corelis team knew their product very thoroughly and knew how to get us up and running quickly."

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