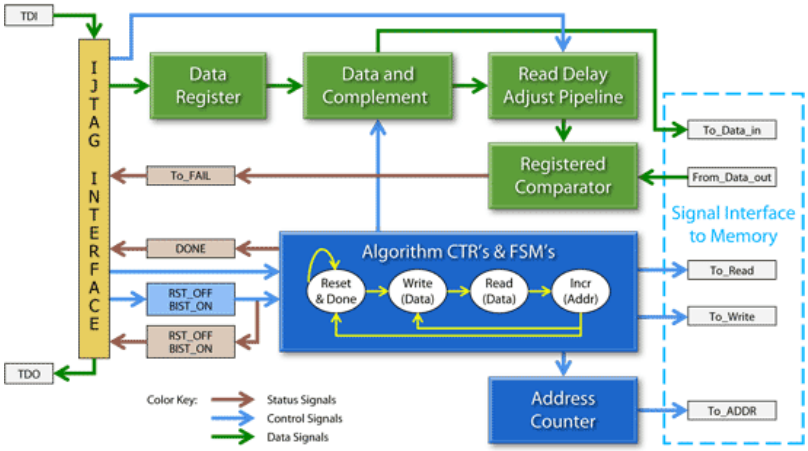
Test instruments offer cost-effective, non-intrusive way to increase test coverage



ASSET InterTech has added two new memory test instruments to its ScanWorks embedded instrumentation library for its FPGA-controlled test (FCT) circuit board test tool, giving electronics manufacturers a cost-effective non-intrusive means of increasing test coverage.

The new instruments, which ScanWorks FCT can temporarily or permanently embed in a functional field programmable gate array (FPGA) on a circuit board, include a DDR2/DDR3 memory link test instrument and a generic memory tester. After engineers have selected as many instruments as they need to implement their non-intrusive board test strategy, ScanWorks FCT automatically configures, inserts, operates and subsequently removes the FPGA-based board tester. This tester-in-a-chip can be employed during design to accelerate the board bring-up process by validating early prototypes before firmware and software are available, during manufacturing to ensure the quality of assembled boards and later as a troubleshooting tool in field service. After it has been used, the ScanWorks FCT tester can be quickly removed and the FPGA's functional firmware loaded.

Deploying ScanWorks FCT to perform memory test is an automated process. First, the instruments that will be embedded in an FPGA are selected from the ScanWorks instrument library. Next, the target FPGA is selected from another library of supported devices. Once the parameters have been set on the instruments, ScanWorks automatically generates the architecture of the embedded tester and facilitates the synthesis of the instrument code into a firmware image compatible with the target FPGA. ScanWorks then inserts the tester in the FPGA and subsequently serves as a drag-and-drop user interface to operate and manage the embedded tester. ScanWorks functions as a unified and automated environment for the entire process.

FCT is one of several non-intrusive validation, test and debug technologies that

make up the ScanWorks platform for embedded instruments. Users can configure the ScanWorks platform to meet their specific needs and overcome the growing deficiencies of traditional legacy intrusive instruments and testers which are losing physical access for their probes. The other non-intrusive technologies supported by ScanWorks include boundary-scan test (BST), processor-controlled test (PCT) and high-speed I/O (HSIO) signal integrity validation.

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