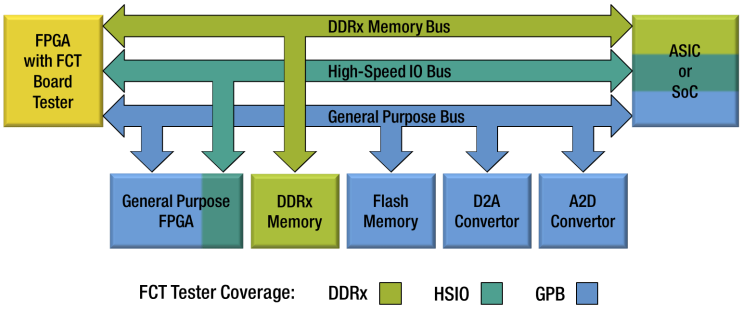
SCANWORKS® FPGA-CONTROLLED TEST DEVELOPMENT

ASSET's ScanWorks FPGA-Controlled Test (FCT) expands the validation, test and debug coverage you'll have on your circuit boards and frees you from the limitations of external probe-based testers. FCT is one of several non-intrusive technologies that comprise the ScanWorks platform for embedded instruments – a unified software environment that lets you see what the silicon sees on your boards.

FCT Tester Coverage on Buses and Connected Devices



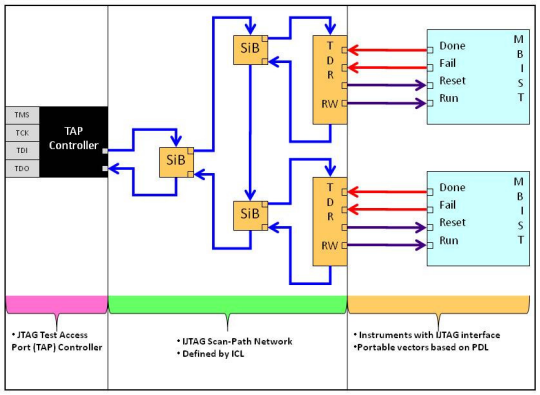
ScanWorks FCT is an automated and extremely flexible methodology for embedding a board tester with the functionality you have chosen. You'll simply select and configure the instruments needed and ScanWorks automatically connects them into cohesive on-chip tester architecture. Next, it facilitates the synthesis of this tester into firmware for the FPGA and creates the software image for programming the FPGA. Once inserted, ScanWorks serves as a drag-and-drop user interface for operating the board-tester-in-a-chip.

You can embed a ScanWorks FCT board tester to meet a temporary need, like bringing up first prototypes of a new board design, or it can remain in the FPGA for the entire life cycle of the system. You can even remove the tester after it's served its initial purpose and re-insert it later if it's needed again. Some of the instruments that streamline board bring-up might come in handy for manufacturing test or they could remain in-system for troubleshooting or continuing engineering after the system has been deployed in the field. The decision is yours. ScanWorks FCT puts the tools at your fingertips.

BOARD COVERAGE

The embedded instruments which comprise an FCT board tester will validate, test and debug the devices that are connected to the FPGA as well as the interconnecting signals between the FPGA and other devices on the board. In certain cases, additional coverage could be obtained by developing routines that would allow the FCT tester to apply tests beyond the devices and interconnects that are linked directly to the FPGA.

An FPGA with FCT



BASED ON STANDARDS

ScanWorks FCT is based on several industry standards, including the IEEE 1149.1 boundary-scan (JTAG) and IEEE P1687 Internal JTAG (IJTAG). Through its Test Access Port (TAP), the boundary scan standard provides an access method into an FPGA and an infrastructure for test-related communications throughout a circuit board. The IJTAG standard is used to establish the on-chip architecture for FCT board tester and to provide a standard interface for the embedded instruments that make up the tester.

The IJTAG standard defines two languages. The first, Instrument Connectivity Language (ICL) is used to describe the architecture connecting the various on-chip instruments in an FCT board tester while IJTAG's second language, Procedural Description Language (PDL), controls and manages the operations of the embedded instruments.

SCANWORKS PLATFORM FOR EMBEDDED INSTRUMENTS

ScanWorks Platform for Embedded Instruments is a seamless software environment to access, run and collect data from any instrument in your chips, circuit boards or systems. The ScanWorks Platform includes products for Boundary-Scan Test (BST), Processor-Controlled Test (PCT), High-Speed I/O (HSIO) Validation, FPGA-Controlled Test (FCT) and IJTAG test.

ASSET CONTACTS:

Please contact your ScanWorks sales representative for more information.

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Key Features

Board-tester-in-a-chip for validation, test and debug

Drag-and-drop operational interface to access, manage and coordinate multiple embedded instruments

Automatically configures and constructs infrastructure on the FPGA for the board-tester-in-a-chip

Temporarily deployed for hardware board bring-up before firmware development has been completed or the OS loaded

Permanently deployed throughout the life cycle, beginning with design, then manufacturing test and eventually in the field for remote diagnostics and troubleshooting