



Driving Embedded Instrumentation

ASSET InterTech Press Backgrounder

*Driving embedded instrumentation for chip,
board and system validation, debug and test*

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ASSET InterTech is a leading supplier of tools based on embedded instrumentation to debug, validate and test software, chips, circuit boards and systems. The capabilities of the company's ScanWorks® platform for embedded instruments was significantly expanded (July 9, 2013) when ASSET acquired Arium, Inc., a Tustin, CA, provider of hardware-assisted software debug tools for systems based on Intel® and ARM® processors. Arium was a 35-year-old independent firm specializing in JTAG-based debug and trace tools for functional software – that layer of software between the operating system and the underlying hardware. (The Arium acquisition is explained below in the “What’s New” section.)

The technologies supported by the ScanWorks platform include:

- Boundary-Scan Test (BST) – a structural circuit board test technology based on the IEEE 1149.1 standard known as JTAG, after the Joint Test Action Group which initiated the standard's development.
- Processor-Controlled Test (PCT) – an at-speed functional validation and test technology that can debug non-booting circuit boards.
- High-Speed I/O Validation (HSIO) – a signal integrity validation tool for on-board high-speed buses and interconnects
- FPGA-Controlled Test (FCT) – a tool for inserting and operating embedded instruments into FPGAs.
- IJTAG Test – tools based on the IEEE P1687 Internal JTAG (IJTAG) standard that effectively give chip and system-on-a-chip (SoC) designers the ability to access and manage the operations of embedded instruments to test the host device
- Arium hardware-assisted debug and trace – tools that debug functional software (sometimes referred to as firmware), which is crucial for how the system makes use of its hardware

What's New — ASSET and Arium join forces (July 9, 2013)

The expanding number of processing cores as well as the integration of more and more resources into system-on-a-chip (SoC) devices is causing explosive growth in the volume of software/firmware that is required to interface hardware with operating system software and applications. The ScanWorks Arium hardware-assisted debug tools give developers the ability to troubleshoot code quickly while the company's trace tools help designers rapidly analyze the software transactions and interactions among cores, threads and code modules. ScanWorks Arium debug and trace capabilities complement ScanWorks HSIO, a toolset that lets designers debug and validate the chip-to-chip buses on circuit boards. By combining these various debug, trace and validation capabilities, designers can bring up hardware prototypes with early stage functional software faster so the product can move into volume manufacturing sooner.

Said Glenn Woppman, president and CEO of ASSET: “By combining the expertise of our two organizations we are going to be able to help engineers solve a broader spectrum of problems with the kinds of non-intrusive methodologies that are best suited to today's technology; methodologies that work from the inside out, not from the outside in. And software debug and trace tools that work from the hardware up, not from the operating system (OS) down.”

At the time of the acquisition, Larry Traylor, formerly president of Arium and now a vice president at ASSET, said, “We are very excited about joining forces with ASSET because we’re convinced that embedded instrumentation is the technology of the future and it is well on its way to becoming a necessity for designers. Our tools have been deployed in design for the last 35 years and much has changed during that time. High-speed buses above 5 gigabits per second are now the norm while SoC architectures and new chip packaging technologies make it practically impossible to see what’s going on in systems. The time has come to bring together our strengths in software debug and trace with the excellent hardware validation and test tools in ScanWorks. Our users tell us that the functional software present in today’s systems expanding exponentially. That’s where our tools play a huge role. But users also say that visibility into the interaction of hardware and firmware is sorely missing and this is slowing down new product development. Separately, our tools play distinct roles addressing these issues, but together they provide a level of observability not found anywhere else. Together ASSET and Arium will be able to shorten development cycles so our users can begin generating revenue sooner.”

For more information on this and other announcements, go to the ASSET press room at: <http://www.asset-intertech.com/news.html>

ASSET’s History

ASSET InterTech began as a business unit of Texas Instruments (TI). In July of 1995, TI’s ASSET product family and related business were acquired by ASSET InterTech, Inc., which was founded by the team that had designed, developed and marketed the ASSET product as a part of TI for the previous six years. With the combination of ASSET and Arium, the company has a base of more than 10,000 users worldwide in hundreds of organizations. Among its customers are prominent companies such as Cisco, Ericsson, Motorola, Alcatel-Lucent, Tellabs and Huawei, Raytheon, Rockwell, Lockheed Martin, BAE, ITT, Northrop Grumman, GE Aviation, Intel, HP, Dell, LENOVO, Broadcom, Fujitsu, LSI, Marvell, Samsung, ST Micro, Western Digital, IBM, Foxconn, Flextronics and others.

Driving Embedded Instrumentation

At a time when chips, SoCs and systems are becoming much more complex many of today’s tools simply cannot adequately debug, validate or test designs or the interaction of hardware and software on these designs. As a result, many organizations are turning to embedded instrumentation as the basis for their debug, validation and test methodologies.

A prominent example of the industry’s adoption of embedded instrumentation is Intel® Corporation’s recent announcement of Intel Silicon View Technology (Intel SVT), that company’s on-chip DfX (design for debug, test or validation) set of capabilities that addresses the challenges designers and manufacturers must overcome to shorten development cycles, shrink form-factors and achieve higher performance levels within tighter power budgets. Based on its nine-year collaboration with Intel, ASSET is the only third-party solutions provider that supports all three pillars of Intel SVT – platform debug, electrical validation and board manufacturing test – which is being embedded into Intel’s processors and chipsets. (For a news release on ASSET’s support of Intel SVT, click on this link: <http://www.asset-intertech.com/News/Press-Releases/ASSET-ScanWorks-is-among-the-first-tools-to-support>

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The ScanWorks platform brings to chip and board validation and test applications an established, easy-to-use, well understood way of accessing, controlling and managing chip and board level constructs. ScanWorks provides these capabilities in an intuitive graphical user interface.

For more information...

For more information and press materials, including an image gallery and other backgrounders, please visit the Press Room on ASSET's web site at <http://www.asset-intertech.com/News/For-Working-Media>

Several direct links are listed below:

Management team and Board of Directors: <http://www.asset-intertech.com/About-Us/Management>

Press kits: <http://www.asset-intertech.com/News/For-Working-Media/Press-Kits>

Image gallery: <http://www.asset-intertech.com/News/For-Working-Media/Images>

Videos: <http://www.asset-intertech.com/News/For-Working-Media/Videos>

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