

An In-Circuit Test Channel Partner Interview Series

TestingHouse Inc.



William Bischoff

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TestingHouse, Inc.
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William is a Bradley University graduate with a B.S. degree in Electrical Engineering. William's hands-on experience with 3070 ICT programs, 1149.1 Boundary Scan and DFT analysis has facilitated his success at TestingHouse. William has distinguished himself as a leader in the ICT development field. As manager of the ICT development group at TestingHouse Fremont, he drives new technologies and keeps the team abreast of new tools and best test methods.

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This article is the fourth in our series on programming house partnerships. For this article, Agilent's Americas Development Manager associated with the ICT products, Stacy Johnson sat down with William Bischoff. William is the Test Engineering Manager for TestingHouse, Inc.

Johnson: What changes has your company seen within the ICT programming industry for the last 5 years or so?

Bischoff: TestingHouse has witnessed reduced development lead times, higher need for boundary scan capabilities, straight-forward reporting of overall ICT coverage and quality, and most importantly the need for qualified support at customer manufacturing locations. Customers have not only outsourced their production to an off-shore supplier, but in many cases multiple offshore suppliers in multiple countries. The ability of TestingHouse to support the needs of our local customer must now extend to all corners of the world.

Johnson: What do you think is driving that?

Bischoff: The ability of our customers to be competitive in their fields stems from their product viability,

the ability to control costs, and shorten time to market. Once the quality and measured coverage of the ICT test is approved by our customers, on site support is needed to deploy the ICT fixture and program into the manufacturing process and to continue to guarantee its performance.

Johnson: What are you doing to respond?

Bischoff: TestingHouse has added facilities, engineers and equipment in strategic areas around the world to support our customers. We have eight locations world-wide (California, Texas, Alabama, Mexico, China, Malaysia, Singapore and Korea). Each facility has their own local niche markets, but as a group, we can support customers regardless of where the ICT program will be developed or deployed.

Offering free DFT analysis of designs, educational opportunities to our customers for boundary scan and



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other test methods and on-site test consultations, our customers receive the information they need regarding their design's test capabilities early in the design phase at no cost or schedule impact. DFT reviews are completed within 24 hours at no charge to the customer, regardless of how many DFTs are completed per design and/or if the final ICT program will be designed by TestingHouse. We feel that if customers have learned how to incorporate ICT requirements into their designs, then the entire ICT community will benefit.

Our ICT reports have been heralded by our customers as very easy to understand and provide the needed information regarding the coverage and quality of the ICT program developed for their product. We continue to design new tools for automatic limited access cluster test development, nodal vs pin level coverage reporting and continue to look for solutions to inherent ICT limitations.

Johnson: What technology changes with ICT do you see impacting the programming house industry the most?

Bischoff: There are many current and future technology issues that greatly affect ICT. These include DDR II and DDR III testing, 1149.6 being correctly implemented into current IC devices, boundary scan chain design per product, and ICT test pad sizes.

Test pad size and spacing has never been so quickly reduced. As the targets get smaller, new and better

test fixture and probe capabilities will be needed. 39 mil probes, five years ago were not very common, now almost every fixture we design have hundreds, if not more, installed. Fixture vendors and probe manufacturers are keeping pace with current requirements, but determining the next test pad size and spacing that we can start accurately defining in our DFT guidelines to our customers is a complex question.

Johnson: What benefits does having a channel partnership with Agilent provide your customers?

Bischoff: Being a channel partner of Agilent has given TestingHouse world-wide legitimacy in our ability to provide quality ICT programs to our customers. Having the channel partner logo on our website and offices not only validates to our customers our capabilities, but shows that we are dedicated to meeting their needs as well as meeting Agilent's requirements.

As a channel partner, we have access to beta software whenever needed and work closely with the Agilent Application Engineers to solve our customers test issues. This provides our customers the most up-to-date knowledge of the current and future test capabilities. With this knowledge, we can provide our customers the best test strategy for their products.

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