There are also several other vendors represented at this event through their distributors and manufacturers’ representatives.
Agenda

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
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<tbody>
<tr>
<td>Exhibition Showcase Open</td>
<td>8:30 am – 2:30 pm</td>
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<tr>
<td>Morning Technical Breakout Seminars</td>
<td>9:00 am – 12:15 pm</td>
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<tr>
<td>Complimentary Lunch – Exhibition Hall</td>
<td>12:15 pm</td>
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<tr>
<td>Guest Speaker, Dan Davis ~ Microsoft</td>
<td>12:40 pm</td>
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<tr>
<td>Afternoon Technical Breakout Seminars</td>
<td>1:30 pm – 2:15 pm</td>
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<tr>
<td>Drawing Held in the Exhibition Hall</td>
<td>2:20 pm</td>
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<td>RTECC Concludes, Thank you!</td>
<td>2:30 pm</td>
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Conference Program

Breakout Technical Seminars – 3 tracks Open-Door

9:00 am – 9:45 am

Taming Software Complexity in Embedded Software with Automated Source Code Analysis  
*presented by Ching-Chiang Van, Sales Engineer, Coverity*

Innovation and time to market are fundamental to competitive advantage, yet software complexity and the associated risk to product quality, safety and security is the unavoidable result. From Smartphones to telecommunication routers to automobiles, the heart and the brains of these systems reside in the millions of lines of its source code. And when you consider that a million lines of code can have more than a trillion possible paths to defects, traditional testing coverage falls short. Complexity and risk only increases when multiple software components are integrated together, as their interaction can cause new and unexpected behaviors that did not exist before integration. What is needed to tame today’s software complexity is an automated approach to software analysis which addresses the problem at the root - with the source code itself - across the entire software supply chain. During this session you will learn:

*The benefits of avoiding field defects by identifying them in development*
*The benefits of embedding Static Analysis as part of the traditional code review process*
*How to use source code analysis as a way to verify software integrity across your entire software supply chain*

Memory Management for Embedded Systems  
*presented by Steve Graves, CEO, McObject Precision Data Management*

Software engineers know real-time performance and safety often hinge on effective embedded code. Developing such software means rethinking fundamental programming concepts to eliminate the possibility of bottlenecks and failure. Memory management is one such key concept. This seminar delivers memory management techniques to optimize code for performance and reliability. Its practical, hands-on advice and examples range from alternatives to dynamic memory allocation, to the role of highly efficient custom memory allocators for specific program tasks.

Using Statecharts and Model-Based Design to Prototype Real-Time Controls  
*presented by The MathWorks*

Using the Model-Based design approach, we will demonstrate how to efficiently develop, test, validate and communicate real-time control algorithms using Statecharts, without acquiring development tool chains, building devices drivers, or board support packages (BSPs). We’ll discuss how to test these algorithms in simulation, and automatically generate code to integrate with the rest of your system. We will also show how to deploy your algorithms to a real-time system embedded system using an x86 compatible prototyping platform to control your hardware. Lastly, we will demonstrate how these algorithms may retarget into an embedded production environment.
10:15 am – 11:00 am

**Product Teardown – Next Generation of Ruggedized Industrial PC**
*presented by Acromag*

Today’s industrial and military customers are demanding computer systems that can operate in a wider array of applications than traditional industrial and commercial products were designed to survive. This requirement includes not only the need for extended operating temperatures but also the ability to survive in high shock and vibration environments. At the same time, many of the systems used in these projects have been reduced to a CPU board and specialized I/O. This simplification is leading system designers to seek alternatives to the expensive infrastructure of VME and cPCI based systems; and engineers are looking at the new generation of INDUSTRIAL PCs. Join us as we tear down an INDUSTRIAL PC and see how they are designed to handle the stress of shock and vibration. We will also discuss a wide range of potential applications.

**Harnessing the Power of Multicore Processors with Virtualization**
*presented by Green Hills Software*

Join us for an informative session that will cover development challenges associated with adopting multicore processors in new designs. We’ll cover common use cases for multicore devices as well as a complete multicore toolkit that includes development tools, operating systems, and virtualization technology. Utilizing this toolkit enables developers to unlock the power of next generation multicore designs.

**Eliminating Critical Run-Time Errors Embedded Code**
*presented by The MathWorks*

Increasing software content and complexity in today’s embedded devices amplifies the risk of failure and complicates the process of achieving high confidence in safety and reliability. Traditional software testing methods are limited in scope and static analysis based testing produce high rates of false positives. Formal methods based abstract interpretation is quickly becoming the solution of choice, because it proves the absence of a defined set of run-time errors in code. By verifying code to be free of fatal run-time errors such as under/overflows, out-of-bounds array index, illegal pointer de-referencing and other run-time errors, software and quality engineering teams are able to improve the overall reliability of software. Learn how these new techniques can be applied to the development of critical embedded applications where software quality is at stake.

11:30 am – 12:15 pm

**The High Performance Industrial Ethernet Solution for Embedded Designs**
*presented by EtherCAT Technology Group*

This is an in-depth introduction to EtherCAT, the fastest industrial Ethernet fieldbus available, capable of updating 1000 distributed I/O in 30µs, 200 16 bit analog I/O in 50µs, or 100 servo axes in 100µs. Its small footprint, low overhead, and open nature make it ideal for embedded applications, custom controls manufacturers, and device developers. Find out how EtherCAT sets new standards for real-time performance and topology flexibility, while meeting or undercutting standard industrial fieldbus cost levels.

**PCle 2.0 Expansion for Low Cost GPU Acceleration, HPC & High Speed Storage**
*presented by Mark Gunn, VP Sales & Marketing, One Stop Systems*

Direct Attached (PCI Express over cable) computing is a powerful technology that can be implemented in almost any application to expand slot count, attach high speed devices to an existing system, and communicate between PC’s at up to 80Gb/s and much less cost than other solutions. Discover how these easily accessible and available products can be implemented in your application for higher productivity at lower costs. See the future of cluster computing using PCIe over cable in the data center and in HPC environments.

**Developing Next Generation HMI's for Embedded Systems**
*presented by Dave Bott, Field Application Engineer, QNX Software Systems*

Embedded systems are evolving quickly with sophisticated human machine interfaces that combine audio/video playback, enhanced graphics, and internet connectivity. This session looks at building advanced HMIs and all the challenges that come with it. Learn how to integrate advanced graphical tooling into an embedded environment, addressing the two most commonly raised objections: adequate performance and rock-solid reliability. Explore engineering concerns about integrating everything from high-level HMI applications to low-level embedded controls without compromising real-time reliability or HMI performance. Finally, discover how to save time in the integration process by creating a seamless interface, blending content from any number of existing applications.
12:15 pm
~ Be our Guest for a Complimentary Lunch ~

12:40 pm

Keynote Address: Technology Trends with Natural User Interfaces
presented by Dan Davis, Group Manager, Microsoft

Natural user interfaces are appearing and evolving all around us. They are changing the way we interact with our computers, phones, TVs and other devices. Learn how NUls are becoming mainstream and explore some of the technologies and research efforts that are enabling this trend.

Afternoon Breakout Seminars …

1:30 pm – 2:15 pm

Improving Time Sensitive Applications with Interconnect Technologies
presented by Keith Murphy, Dolphin Interconnect Solutions

The interconnect used for high speed real-time applications can dramatically affect performance. Applications such as simulators and distributed "sensor to processor" systems benefit from lower latency and higher throughput. We will show how to reduce latency and improve system performance with our latest interconnect technologies. Find out how to improve your system performance by implementing techniques such as reflected and shared memory. Understand how to improve application performance with superior sockets performance using our Ultra fast Supersockets implementation.

Battery-powered Wi-Fi for Sensor Networking presented by Ryan Anderson, RFM

Learn how you can get years of battery life and take advantage of existing Wi-Fi access points to deliver low-cost, reliable and secure wireless sensor network products. Get hands-on experience with:

• our battery-powered 802.11 Wi-Fi RF Module – the WSN802G
• getting a Wi-Fi network up and running in minutes using the RFM WSN802GDK developer kit
• a live wireless sensor networking demonstration for a temperature monitoring application

The WSN802G features RFM's industry-leading module platform combined with the GainSpan GS1011 SoC. By sleeping while maintaining access point association, the RFM WSN802G module wakes up periodically, or on interrupts and automatically transmits sensor data in mere milliseconds. No gateways are needed.

Embedded Software Testing Strategies presented by Vector Software

There are many strategies a project can take to test their embedded software applications. These include code coverage analysis, full unit testing, and static code analysis. Ideally, most organizations would like a repeatable regression testing process that is easy to implement and has a measurable impact on product quality. But how do you get there? Find out exactly as we explore the various ways companies from a wide range of industries combine various testing approaches to improve overall product quality and test repeatability.

2:20 pm

Enter at the registration desk for your Chance to WIN
(must be present to win)