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Exhibits emphasize markets and development ease

At last month's Embedded Systems Conference in Boston, vendors highlighted an impressive range of technologies that address issues ranging from "green" applications to data and code security. Toward that end, companies presented asset-management systems, code-analysis tools, RTOSs, microcontrollers, data converters, and prototyping tools.

Security products were on offer—both to prevent IP (intellectual-property) theft and to deter the insertion of malicious code. Craig Rawlings, director of product management at Certicom, highlighted his company's AMS

asset-management system, which uses ATE (automated test equipment) or device programmers to inject a secure key into devices to prevent counterfeiting and support inventory control—unlocking only the features a customer has paid for. GrammaTech was on hand, featuring its CodeSonar static-code-analysis tool that identifies bugs and vulnerabilities at compilation. The company announced that it will support secure coding rules developed by US-CERT (United States Computer Emergency Readiness Team), the operational arm of the NCSD (National Cyber Security Division) at the Department of Homeland Security.

Among other highlights, Microsoft Corp announced the release of Windows Embedded CE 6.0 R3, which supports Windows 7 connectivity. Complementing Microsoft's move, Bsquare announced a Windows Embedded CE 6.0 R3 board-support package for the Texas Instruments OMAP (Open Multimedia Applications Platform) 3 evaluation module. And Enea announced its Enea OSE (Open Systems Environment) Multicore Edition, which focuses on the networking market.

Like Enea, many vendors present-

ed exhibits focusing on specific markets and applications. NEC, for example, presented its lineup of microcontrollers in the context of what Bob Pinteric, NEC's general manager for multipurpose microcontrollers, calls the "smart house of the future." That scaled-down structure has transparent walls that highlight opportunities for deployment of NEC products in green applications. The structure accommodates smart solar panels, a smart meter, efficient appliances, and a ZigBee Pro network that enables wireless control of thermostats and lights. Simplify Systems announced a \$1950 reference design for the ultrasound market. Employing the company's SAM1600 compressing ADCs, the reference design includes an entire ultrasound receive chain.

The MathWorks didn't introduce any products at the show, but it did announce that Cleveland FES (functional-electrical-stimulation) Center at Case Western Reserve University has developed FES devices with the help of MathWorks tools for model-based design. The FES devices send electri-

cal impulses to electrodes implanted in the body, worn on the skin, or operating through the skin to restore movement to paralyzed limbs.

Although some exhibitors emphasized applications, others focused on tools to speed development. ARM in conjunction with NXP announced the mbed.org and mbed microcontroller rapid-prototyping tools. The tools include software support and a DIP (dual-inline-package) implementation of the NXP LPC1768 ARM Cortex-M3 microcontroller. Simon Ford, the mbed technical lead at ARM, says that users can get up and running in 60 seconds by plugging the 40-pin DIP into a solderless breadboard.

Renesas is offering a free Micrium kernel with its SH7216 microcontrollers. Other companies offered development boards and tools that help designers quickly prototype their ideas. Avnet Inc, for instance, previewed a \$225 Xilinx Spartan-6 LX16 evaluation kit with an onboard battery to emphasize low-power applications. Avnet also previewed the \$995 Spartan-6 LX150T FPGA development kit, which targets video, industrial-networking and -control, wireless-communications, PCIe (Peripheral Component Interconnect Express)-expansion, and general FPGA-prototyping applications. Both kits support the new FMC (FPGA-mezzanine-card)-expansion standard, which enables the addition of add-on modules and customization.

The NEC and combined ARM and NXP exhibits were notable for the clarity and forcefulness with which they emphasized application opportunities and the ability to rapidly begin prototyping, respectively, although NXP's talking fish was somewhat annoying, albeit effective in drawing a crowd—a key goal at any trade show. **EDN**

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