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NEWS

Green Hills Software introduces secure networking platform

BY COURTNEY HOWARD

SANTA BARBARA, Calif.—Green Hills Software announced its platform for secure networking and an enhanced, 10th anniversary edition of its INTEGRITY real-time operating system (RTOS) during the company's Embedded Software Summit last month.

Green Hills Platform for Secure Networking, now available, is designed to aid in the development and deployment of secure, reliable network devices. Based on the company's IPv4/v6 networking stack and Integrity RTOS, the Green Hills Platform for Secure Networking enables developers of networking equipment to secure network devices and the information they transmit. Holes in network hardware threaten system availability, reliability, and security. To combat these vulnerabilities, Green Hills' engineers advise developers to design security into network devices from the beginning of the design process.

According to Dan O'Dowd, chief executive officer and founder of Green Hills Software, all of society—including defense, physical safety, business transactions, transportation, and privacy—is dependent on the security of networks. For example, the Department of Defense (DOD) relies on secure networking for the global information grid, nuclear weapons delivery systems, unmanned air vehicles, and various military radios and computer systems. Yet, the DOD's potential adversaries are much less dependent on networks, given their military use more primitive electronic solutions. "If our adversaries can disrupt our networks, they can win because without our networks we are helpless, but they are in their element," he says.

Network vulnerabilities could be further amplified by the recent mandate by the governments of the U.S., Germany, France, and Australia to adopt the latest Internet Protocol, IPv6, and an expansion of available IP addresses as a result. In the near future, even commercial automobiles will be able to talk to each other via a mobile network; and, the U.S. military is the first major user of IPv6, with the Army, Navy, Air Force, and Special Forces requiring IPv6 in large New Requests for Proposal. As a result, it is critical that network device developers ensure the security of not only the RTOS, but also the applications running on the operating system.

"The U.S. government and the industry is experiencing a massive and rapidly evolving shift in the near future—from hundreds of different proprietary or specialized communications formats to IP-based networks," says Alex Lightman, chief executive officer of Innofone.com in Santa Monica, Calif. "Whether you call it net-centric warfare for the military or enterprise- centric operations for commercial purposes, it means an explosion in the number of total nodes—including billions of appliances, sensors, and products that will be constantly online, many of them wireless. Because two-dimensional firewalls were never intended for such 3-D networks, it will be essential to employ new generations of hardened security products to protect these extensive networks against cyber attacks, from internal and external sources." Central to the Green Hills security platform is the INTEGRITY RTOS with its separation kernel protection profile, which provides network equipment developers the ability to architect secure devices and enable the secure execution of applications on network devices. INTEGRITY supports the requirements and security policies of Multiple Independent Levels of Security (MILS), the architecture for composing secure computing systems from high-assurance components. The key concepts of MILS include protected execution of applications, system services and hardware control/access, brick-wall partitioning, guaranteed resource allocation, information flow control between partitions, stack and application isolation, and containment of errors and attacks. Company officials say the INTEGRITY-178B is the first system to undergo Common Criteria EAL6+ evaluation by the National Security Agency (NSA) of Fort George G. Meade, Md.

Among the enhancements offered in INTEGRITY 10 are support for symmetric multiprocessing and nonuniform memory architecture systems; a new debug agent; the Multi EventAnalyzer graphical view of system behavior; and integrated with version five of the Multi IDE. INTEGRITY 10th anniversary edition will begin shipping this quarter.

For more information, visit www.ghs.com.

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