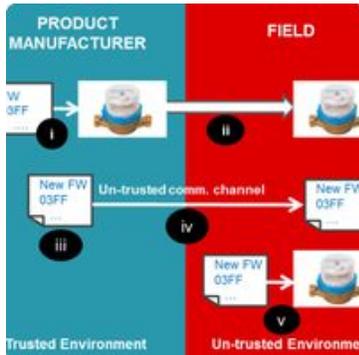


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DESIGN ARTICLES

Secure firmware update considerations for ultra-low power MCUs



Bhargavi Nisarga, Texas Instruments and



Luis Reynoso, Texas

Instruments

In-field firmware updates are an increasingly popular feature in microcontroller-based (MCU-based) applications. These updates enable new firmware images to be downloaded onto a device's memory, providing an effective way for product manufacturers to offer services and support to products that are already deployed in the field. The Internet of Things (IoT) era is driving increased connectivity in the embedded world, making this one of the most crucial features for today's connected products, so long as they are secure.

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DESIGN ARTICLES

Specifying switches for hazardous environments



Leslie Neill, Honeywell

In specifying switches as part of a wider device or system, design engineers have much to consider. Such choices are important regardless of the targeted use, but in hazardous environments, choosing the right switch becomes critical and can, quite literally, mean the difference between life and death. Explosions can occur to varying degrees of enormity: [...]

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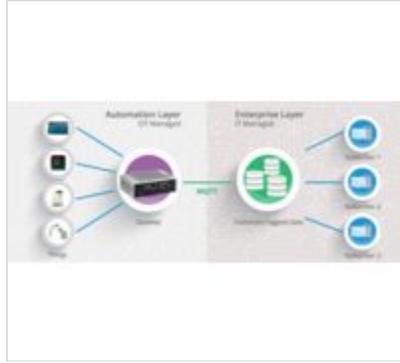
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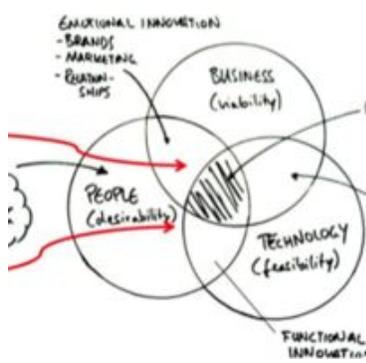
Securing the edge with ARM TrustZone for v8-M



Abhijeet Rane, Sequitur Labs

ARM's new 32-bit ARMv8-M architecture was introduced in 2015, adding TrustZone security extensions for Cortex-M microcontrollers (MCUs), among other features. As v8-M-based silicon comes to market, it's essential that developers understand the architecture, the new capabilities it offers, and how to implement it in the design of connected edge devices that form the foundation of secure end-to-end systems.

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DESIGN ARTICLES

The IoT doesn't need PoCs



David Smith, MultiTech Systems

I have heard complaints from several Internet of Things (IoT) sales and business leaders about how proofs-of-concept (PoCs) are slowing them down. In some cases, they are just frustrated with how often they are told, "We need to do a PoC," by a development team in response to a request to begin a new product [...]

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SISTER PUBLICATION ARTICLE

Rise of the logistics robots



David Lippincott Chassis Plans

Robot control systems have progressed from simple relay logic to highly sophisticated dedicated controllers. Current system algorithms for the more capable autonomous robots require the latest processor capability and often require custom computer system design. With the improved computational capabilities come additional robot capabilities, including completely autonomous operation in complex, dynamic environments.

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Device Class	Z-Wave Plus Device Type
Command Class Specification	
Z-Wave Plus Role Type	
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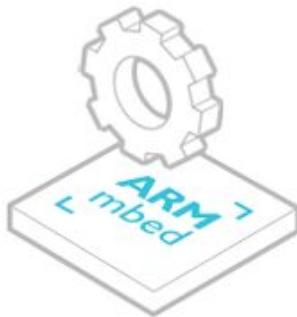
Z-Wave opens up as smart home connectivity battle closes in



Brandon Lewis, Technology Editor

As Internet of Things (IoT) concepts took hold and started to become realities a few years back, one of the first challenges realized was interoperability between wireless protocols. Different vertical markets and applications often employ different protocols tailored to the specific use case. Some of these protocols have been standardized; others have not. In all, the result has been extreme market fragmentation around wireless connectivity, as well as a great deal of confusion in the developer community as far as which technology to bet on.

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What's new with the mbed OS?



Brandon Lewis, Technology Editor

The past 12 months for semiconductor IP firm ARM have been big. Really big. Let's take a look at some of the highlights: The ARMv8-M architecture was introduced last November, bringing TrustZone-based hardware security to Cortex-M-class embedded and Internet of Things (IoT) devices This July, the company agreed to an acquisition by Japanese telco giant [...]

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Software forensics lay MS-DOS, CP/M controversy to rest



Brandon Lewis, Technology Editor

It's often the case that success breeds controversy, particularly in the technology industry and especially with regards to software. Given the amount of code sharing and reuse that has occurred in since the beginnings of the tech industry itself, it's not uncommon anymore to hear about legal actions being taken around copyright infringement or licensing issues.

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Building trust in a model-based automatic code generator



S. Tucker Taft AdaCore

How do you go about building trust in an automatic code generator used for safety-critical systems? For example, given a code generator that takes a real-time model for a flight control system represented in Simulink and Stateflow and turns it into MISRA C or the SPARK subset of Ada, what process could ensure that the [...]

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WHITE PAPER



White Paper: Smart Buildings Automation: The First Steps Are the Most Important



Glenn Wintrich Dell

Automating a building, or retrofitting an existing building to be smart, is not rocket science. However, you need to follow a logical, well thought-out path in order to achieve success. This white paper details those steps to be sure your time, effort, and resources are used most efficiently. It's handled in a simple, easy to follow manner.

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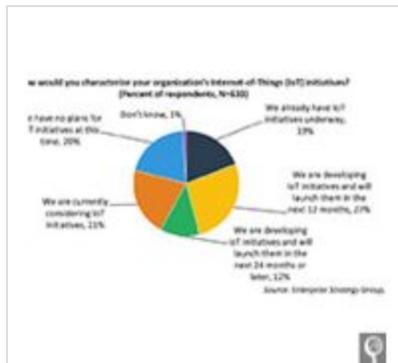


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