Embedded Toolbox: Use Ada and Let the Compiler Do the Static Analysis

The Heartbleed vulnerability resulted from a bug in the OpenSSL crypto library whereby processes read from out-of-bounds memory that contained sensitive data on approximately 17 percent of the Internet's secure web servers. And, there are countless examples like Heartbleed in industries ranging consumer electronics to automotive systems where simple vulnerabilities compromised system safety and/or security.

But debugging all of the aforementioned "trivial" memory issues and achieving anything close to 100 percent code coverage is still a daunting and time consuming task. Indeed, it can be an excruciating endeavor, especially in later stages of development where finding a small vulnerability can mean dozens of hours of re-engineering.

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AUTOMOTIVE CONNECTIVITY FEATURE

Solving the Challenges of eMobility with Quectel's Dual-Band, Multi-Constellation GNSS Modules
GNSS has been widely adopted as a method to track and trace large items such as ships, trucks, heavy equipment, cars and high-value freight. However, when it comes to smaller or lower value things, deployment has been constrained by the power demands of GNSS, the necessary form factor and the ability to site antennas on smaller items in ways that can enable them to track satellites effectively.

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AUTOMOTIVE NETWORKING NEWS

The nonprofit CiA (CAN in Automation) association to develop a ?handler/dog? data link layer based on the CAN FD protocol as specified in ISO 11898-1:2015.

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AUTOMOTIVE PROCESSING NEWS

Imagination Announces XS, an Advanced GPU IP for the Automotive Industry
Imagination Technologies announced the XS GPU product family for automotive, enabling ADAS acceleration and safety-critical graphics workloads.

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AUTOMOTIVE INDUSTRY NEWS

dSPACE Acquires Intempora, Strengthens Autonomous Driving Portfolio
dSPACE announced it has acquired Intempora, a real-time development software company. The acquisition supports the strengthening of dSPACE?s autonomous driving product portfolio.

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AUTOMOTIVE SAFETY NEWS

Murata?s SCHA600 6 DoF MEMS Sensor for Safety-Critical Automotive Applications and Automated Driving
The SCHA600 combines a XYZ-axis gyroscope and XYZ-axis accelerometer with Digital SPI Interface to provide stability and noise performance for safety-critical automotive applications.

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AUTOMOTIVE ANALYTICS NEWS

ICARVISIONS Releases IVMS(web) Platform for AI, Big Data
The analysis of data sets are complex when considering volume and variety. Analysis of passenger travel via IVMS(web) can assist in realizing faster responses to passenger calls for a vehicle.

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AUTOMOTIVE TESTING NEWS

Applitools Adds AI Auto-Maintenance and Smart Assist to End-to-End Testing Platform
Auto-maintenance AI leverages the power of Applitools' Visual AI technology for ideal test maintenance efficiency through virtual assistant recommendations.

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Autotalks and Applied Information Partner to Help Emergency Vehicles Arrive Faster to Save Lives

According to the two companies, they are carrying out the world's first Dual-Mode /Dual-Active V2X deployment, in which Autotalks' dual mode chipsets are installed in emergency vehicles and on roadside units such as traffic lights.

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EMBEDDED INSIDERS PODCAST
Defining Digital Twins
In this edition of the embedded insiders, Brandon and Rich discuss how digital twins that reflect physical IoT systems can not only record the status of real-world devices, but simulate how the device could react under certain conditions in the future. And, how these twins can also potentially be used to help inform future designs.
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