STANDARDS UPDATE

Development of the next-generation OpenVPX-based embedded system standard? A tri-service convergence of approaches: Part 1 of 3

Something exciting is happening in the service representative community. Representatives from three different programs, one from each of the U.S. Department of Defense (DoD) services, have come together with a common objective to solve their respective acquisition problems with an agreed-upon, open architecture standard.

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EDITOR'S PERSPECTIVE

Avionics and standards

Standards and open architectures are driving modern avionics systems, be they military or commercial. They range from safety certification standards to standard form factors to conformance with commonality initiatives such as the Future Airborne Capability Environment (FACE), which enables software commonality across aircraft platforms through common application programming interfaces (APIs).

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SOSA Aligned LVDS XMC Module with Optical I/O Now Available

The Model 71813, based on the Xilinx Kintex Ultrascale FPGA, features a front panel optical interface supporting four 12Gbps lanes to the FPGA and 28 pairs of LVDS digital I/O to meet the requirements of emerging standards from SOSA.

STOP STORY

DARPA teams up with NSF to develop ASICs tailored for machine learning applications

BEST IN SHOW AWARDS

Best in Show awards selected at Aerospace Tech Week

Avionics Design is excited to announce today the winners of Aerospace Tech Week Best in Show Award contest, which we're holding this week for exhibitors at
The Defense Agency Research Projects Agency (DARPA) and National Science Foundation (NSF) are teaming up to collaborate on a new program titled: Real Time Machine Learning (RTML), which seeks to reduce the design costs associated with developing Application-Specific Integrated Circuits (ASICs) tailored for emerging...

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**Aerospace Tech Week in Munich, Germany. Contest winners are** drawn from exhibitors at the event and are recognized for the improved performance and innovation they bring to aerospace applications.

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**SPECIAL REPORT**

**Military aircraft avionics face new data-processing and security demands**

A few trends are emerging in military aircraft avionics including a continued push toward large touch-screen displays, as well as a migration to multicore processing, open architectures, and a new focus on improving cyber resilience. Open architecture designs are a standard requirement these days for military aircraft platforms undergoing avionics upgrades and tech refreshes to their flight systems.

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**TOP STORY**

**Autonomous adaptable software systems under development by Charles River Analytics, partners**

Intelligent-systems developer Charles River Analytics is partnering with the University of Southern California, Harvard University, the University of Birmingham, and Metron Scientific to develop a program called Probabilistic Representation of Intent Commitments to Ensure Software Survival (PRINCESS).

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**MARKET/BUSINESS DEALS**

**Boeing completes acquisition of ForeFlight**

Web-based aviation application supplier, ForeFlight has been acquired by Boeing. ForeFlight has partnered with Boeing for the past two years to bring aviators Jeppesen’s aeronautical data and charts through ForeFlight's mobile platforms.

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**BAE Systems mission computer will run processing technology from Teledyne e2v, Wind River, and CoreAVI**

Teledyne e2v, Wind River, and CoreAVI announced that they will provide key technologies for BAE Systems’ new mission computer, which serves as the central hub that processes all mission-critical data on an aircraft.

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**MARKET/BUSINESS DEALS**

**Supersonic, hypersonic missiles market worth $11.1 billion in 2019, report says**

The global market for supersonic and hypersonic missile systems market will total $11.1 billion in 2019, according to a report from Visiongain, “Supersonic and Hypersonic Missiles: Global Market Report 2019”.
Hypersonic Missiles Market Report 2019-2029." According to the analysts, the supersonic and hypersonic missiles portion of the defense sector will flourish in the next few years because of increased spending by governments on modernizing their armed forces...

TOP STORY
Air Force 'white hat' event focused on its REMIS maintenance system

U.S. Air Force officials announced at that the Reliability and Maintainability Information System program office at Wright-Patterson Air Force Base, underwent an intentional hack by certified ethical hackers hired under a contract to conduct an analysis of what would happen if an insider ?went rogue.?

TOP STORY
Subsystem testing complete for the Navy's Enterprise Air Surveillance Radar

The U.S. Navy's Enterprise Air Surveillance Radar (EASR) completed subsystem testing at Raytheon's Near Field Range in Sudbury, Massachusetts. With subsystem test complete, the EASR will be crane-lifted onto a 100 foot test tower at the Surface Combat Systems Center at Wallops Island, Virginia.

TOP STORY
F-35 electronic warfare system updates complete

Upgrades to the F-35 electronic warfare (EW) systems have been completed by BAE Systems, officials announce. The ASQ-239 system provides fully integrated radar warning, targeting support, and self-protection capabilities to engage, counter, jam, or evade threats to improve survivability and mission effectiveness.

TOP STORY
USAF XQ-58 Valkyrie UAV completes first flight

The U.S. Air Force's XQ-58A Valkyrie demonstrator completed its maiden flight at the Yuma Proving Ground in Arizona. The XQ-58A Valkyrie is a long-range, high subsonic unmanned air vehicle (UAV) developed by the Air Force Research Laboratory (AFRL) in partnership with Kratos Unmanned Aerial Systems.

TOP STORY
Next generation of radar sensors to be developed by Northrop Grumman

U.S. Army officials selected Northrop Grumman Corp. to develop the AN/APR-39E(V)2, the next generation of radar threat warning sensors. The AN/APR-39E(V)2,
previously known as the Modernized Radar Warning Receiver, will provide a new level of precision in detecting, locating, and identifying threats by combining Northrop Grumman’s digital receiver exciter (DRE) architecture with digital signal processing algorithms, officials state.

MARKET/BUSINESS DEALS

Raytheon nabs $63.3 million DARPA contract for hypersonic weapons program

Raytheon has signed a $63.3 million contract with the Defense Advanced Research Projects Agency (DARPA) to continue to develop a “tactical boost glide” (TBG) hypersonic weapons program.

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TOP STORY

Army integrates countermeasures, sensor into MAPS framework

The U.S. Army completed the integration of three countermeasures and a cueing sensor into the Modular Active Protection Systems (MAPS) framework with the support from Lockheed Martin and its industry partners. The integration was completed during a six-week “rodeo” conducted at Redstone Arsenal, Alabama.

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Leveraging Open Standards and C4ISR for Multi-domain Challenges in Modern Warfare

Sponsored by: Elma Electronic, Pentek

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TOP STORY

Navy to host outreach events to establish new connections with small businesses

The U.S. Navy is hosting a trio of outreach events through its Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, in conjunction with the University of Massachusetts Lowell Research Institute (UML RI), in Lowell, Massachusetts, April 8-11, 2019.

UNIVERSITY UPDATE

Is the military ready for AI to help make decisions on the battlefield?

A study found that less-than-competent users of artificial intelligence (AI) on the battlefield presumably those who would need that AI boost most of all are actually the least likely to be swayed by rational justifications, even with AI thought to be infallible. Think of it akin to: If you thought you knew the way to a destination, would you still use GPS?
U.S. Missile Defense Agency reports successful test of ground-based ICBM interceptors

The U.S. Missile Defense Agency (MDA) reports that it successfully launched two ground-based interceptors (GBIs) in rapid succession on Monday, March 25 from Vandenberg Air Force Base (California) against a simulated intercontinental ballistic missile (ICBM) launched from a test site on the Kwajalein Atoll in the Pacific.

MARKET/BUSINESS DEALS

Military communications market to grow to $38 billion by 2026: Report

The global market for military communications is expected to grow from $30 billion in 2018 to $38 billion by 2026, at a combined annual growth rate (CAGR) of 3.4 percent during the forecast period, according to a recent market study by Reports and Data. "Military Communications Market By Communication Type (Airborne Communication, Air-Ground Communication..."

GUEST BLOG

Problems with the kill web: Moving from C4ISR to SNAI

By now, you know the kill web is a dynamic networked "system of systems," that can act (offensively or defensively) at the speed of computers against our enemy's tactics and strategies on the battlefield. There are a number of technical problems to be solved in communications, computer architectures, sensors, and software, but the engineering brainiacs are working on those.

TOP STORY

Radar from Raytheon said to double U-2 surveillance range for USAF

Raytheon is working on development of a new version of the Advanced Synthetic Aperture Radar (SAR) that flies on the U-2 Dragon Lady aircraft, under the terms of a $320 million undefinitized contract from the U.S. Air Force.

MARKET/BUSINESS DEALS

AI, AR, quantum computing will drive DoD spending to 2023, says report

A new market study from Frost & Sullivan, "US DoD C4ISR, 2018?2023," predicts that U.S. Department of Defense (DoD) spending on C4ISR (command, control, communications, computer, intelligence, surveillance, and reconnaissance) technologies will have a combined annual growth rate (CAGR) of 3.3 percent through 2023.
Designer and manufacturer of high-end processing and Ethernet switch boards for HPEC systems.