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News Release

General Micro Systems' (GMS) VME120 Brings Latest Intel CPUs and Tech Refresh to Naval Combat and Control Systems

New fourth-generation VME single-board computers are form, fit, and functionally compatible with predecessors, offering plug-in upgrades to multiple Navy shipboard programs.

Rancho Cucamonga, CA, February 24, 2020 – The new General Micro Systems (GMS) VME120 single-board computer (SBC) family is form, fit, and functionally compatible with multiple generations of currently deployed VME boards. This enables Navy platforms to be easily upgraded to include the latest-and-greatest Intel processing and graphics performance while maintaining backward compatibility with long-running legacy programs.

The Aegis combat system, DDGx and other Navy programs have relied on GMS VME SBCs for critical applications such as fire control, engine control, machinery control, and operator console displays. The Navy's evolving software requirements and program enhancements mandate performance higher than that provided by the original VME boards, which in turn requires the market's newest processors and features. The new VME120 versions maintain backward compatibility with legacy systems and add latest-generation Intel® Kaby Lake Core i7 processors and modern graphics features.

GMS VME SBCs are designed for technology refresh/insertion and easy pre-planned product improvement (P3I) using the same backplane, signal positions, and front panel connections. This enables naval customers to enjoy the performance benefits of Intel's newest processors by simply unplugging the older model, plugging in the new model, and loading the software.

"We have supplied three different product families to the Navy, hundreds of boards, and three generations of Intel and Motorola processors," said Ben Sharfi, CEO and chief architect at GMS. "In every single case, it was a smooth upgrade for the Navy, which is why they keep coming back to us. No other VME vendor in the industry can claim this tech-refresh success rate."

GMS has been building VME boards and systems since the VME standard's inception, over 30 years ago. The company's VME boards and systems use a modular "engine" containing the processor that can be evolved as technology changes over time. The engine plugs onto a VME base "carrier" board with system interfaces that change very slowly, if at all. The elegance of this design approach is that the processor and memory evolve with Moore's Law, while connections to the VME system remain constant and predictable. Early versions of the VME SBC family started with Motorola PowerPC and Intel Core Duo CPUs, while current

versions, including the GMS VME120 “Royal Albatross,” are based on Intel’s four-core, 7th-generation Core i7 Kaby Lake CPU.

Backward Compatible, Leading-Edge VME Feature Set

The VME120 is available in three versions: a single-slot version that replaces fourth generation Intel “Haswell” processors, and two dual-slot versions. One of the dual-slot versions replaces an earlier fourth generation Intel processor and the other replaces an earlier Motorola PowerPC CPU. All told, the VME120 replaces either two or three earlier generations of previously deployed GMS Intel- or Motorola-based SBCs.

Unique to the VME120 is the modular design that enables it to remain backward compatible with legacy versions while also providing the newest and fastest graphics and processing. In the single-slot version, a PMC or XMC I/O board, or a SATA SSD can be mounted on the board to provide both backplane and front-panel I/O. The dual-slot versions add a PCI Express Workstation I/O (WSIO) mezzanine carrier card that supports additional I/O mezzanines: MXM (1x), PMC or XMC (3x). Collectively, the VME120-WSIO reduces an entire chassis’ worth of VME boards into a mere two slots. Thanks to the VME120’s backward compatibility, the card can support VME32, VME64, 3- and 6-row VME connectors, and a center P0 connector, depending on the variant.

The 3.0 MHz Kaby Lake Xeon E3-1505M CPU is mated to 64 GB of DDR4 DRAM with ECC for added reliability. I/O includes: 2x 10GbE to the front panel, 2x 1GbE to the backplane, 4x SATA ports, 4x serial ports, 1x USB 3.0 and 2x USB 2.0, a super I/O Com port to the front panel, HDMI and VGA to the backplane, and 16 GPIO on P2. Used with operator consoles, it also includes line in and mic in, plus headphone audio output.

The VME120 supports the user’s choice of an XMC/PMC with front panel I/O or a SATA SSD mounted on the SBC itself. The dual-slot VME120-WSIO provides up to three additional XMC/PMC sites, or two sites with an add-on MXM. When equipped with an MXM, the SBC supports triple video outputs, with options for dual VGA and “sync on green” for legacy military consoles.

- High-resolution images [VME120](#)
- High-resolution images [VME120-WSIO](#)
- Datasheet [VME120](#)
Datasheet [VME120-WSIO](#)
- Press release VME120 [“Tech Refresh”](#)

Where: Booth #123 at the AFCEA West Premier Sea Services event in San Diego, Mar. 2–3, 2020.

For interviews at the show, contact Kelly Wanlass at 801-602-4723 or kelly@hughescom.net, or GMS CTO Chris Ciufo at (360) 921-7556 or cciufo@gms4sbc.com.

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About General Micro Systems:

General Micro Systems (GMS) is the rugged server company. The company is known as the industry expert in highest-density, modular, compute-intensive, and rugged small form-factor embedded computing systems, servers, and switches. These powerful systems are ideal for demanding C4ISR defense, aerospace, medical, industrial, and energy exploration applications. GMS is an IEC, ISO, AS9100, NIST-800-171, and MIL-SPEC supplier with infrastructure and operations for long-life, spec-controlled, and configuration-managed programs.

Designed from the ground up to provide the highest performance and functionality in the harshest environments on the planet, the company's highly customizable products include GMS Rugged DNA™ with patented RuggedCool™ cooling technology. GMS is also the leader in deployable high-end Intel® processors and a proud Intel® partner since 1986. For more information, visit www.gms4sbc.com.

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