



SOLUTION BRIEF

HIGH PERFORMANCE COTS

Products Designed for Military Applications

SMART Embedded Computing Benefits

- Standards-based, proven architectures
- Long life cycle support
- Multi-blade chassis options optimize mix of I/O, compute & acceleration resources
- Hardened system enclosures
- Designed to withstand harsh environmental and vibration conditions
- High bandwidth interconnect
- Perfect for mobile battlefield compute, shipboard C4ISR, Radar/Sonar, SIGINT, weapons control and more

The migration of military tactical systems to higher performance technologies such as ATCA® and rugged servers has reduced the total space required for the computational element of these C4ISR systems.

ATCA Systems

ATCA platforms from SMART Embedded Computing are ideal for these applications, having gone through certifications for surviving harsh environmental and vibration conditions. SMART EC is delivering the latest blades with a variety of application profiles. When placed in a ruggedized rack, taking advantage of COTS architecture with rugged features has never been easier!

Rugged COTS Servers

Our growing range of [Rugged COTS Servers](#) use the latest long lifecycle Intel® processing technology to combine high performance with configurability, data storage and longevity. PCI Express add-in card slots allow additional CPU processing, GPU processing or I/O to be added to the server using standard PCIe cards. These servers also use hot-swappable EDSFF storage modules, the latest in data storage technology.

VME

As VME remains an ideal architecture for mission-critical applications requiring high reliability and extended life cycles, SMART EC continues to be committed to the technology, with a particular focus on Power Architecture processor SBCs. As part of the group of innovative companies that invented VME technology over 35 years ago, SMART EC has laid the groundwork and consistently worked to enhance and extend VME technology.

SOSA Products

SMART EC is playing an active role in the definition of the Sensor Open Systems Architecture (SOSA) specification. The SOSA Consortium includes participants from the US Air Force, Army and Navy as well as other US government agencies plus a diverse group of Department of Defense (DoD) supply base commercial partners. The consortium provides a vendor-neutral forum for members to work together to harmonize, align, and create open standards to facilitate the development of agile, interoperable, and affordable sensors. The SOSA approach establishes guidelines for C4ISR systems. SMART EC will provide solutions aligned with the SOSA specification when the specification is released.





	VMEbus Products	Rugged COTS Servers	ATCA® Platforms
System Height	6U typical	Currently 1U	3U - 15U depending on cooling and assembly requirements
Designed for Harsh Environments	Yes	Yes	Yes
Compute Core Density	System dependent	Up to 32 cores/server	Up to 432 cores/13U
Compute Architecture	NXP® (PPC)	x86	x86; DSP
Bus Architecture	VME320 - parallel	Expansion Slots - PCIe Gen 3x16	Redundant 40G Ethernet
Interconnect Bandwidth - One Way	Up to 320 MB/s	Up to 16GB/s	4GB/s

Product Application Fit

ATCA® Platforms

AdvancedTCA technology is widely deployed in defense applications and is ideally suited for bandwidth-hungry, high-performance applications that cannot allow for downtime such as land or ship based control systems and compute farms that combine sensor data or have the need to execute massive calculations.

Rugged COTS Servers

Applications needing high performance processors and some configurability, in environments that require more ruggedization than a typical enterprise server, are the sweet spot for Rugged COTS Servers.

VMEbus Products

VME is the historic lively COTS champion of military computing. Proven in applications ranging from ground-based to airborne, space and ship board, VME still remains a cornerstone of modern design. For developers it remains a solid choice with its enduring advantages of low power, small system size and experience in deployment.

CONTACT DETAILS

+1 602-438-5720

Info@smartembedded.com

www.smartembedded.com/ec/contact

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