For over 40 years SMART Embedded Computing has been the leading provider of long life cycle, embedded COTS computing solutions, designing with high availability rugged technologies such as VME®, CompactPCI® and AdvancedTCA® (ATCA®). We have one of the industry's broadest open, standards-based, HPEC and networking product portfolio spanning switches, blades, systems and racks with services available to support your full application deployment lifecycle.

We provide complete, customizable systems to our customers, featuring the high levels of system performance and reliability. To ensure that we protect our customers’ investments, we future proof for at least two technology insertion cycles.
AdvancedTCA is a Flexible Computing Architecture

ATCA technology is an open, standards-based bladed system architecture defined by PICMG® in 2002 with over 100 participating companies. The standard covers shelves, blades, mezzanines and management. It is rugged, designed for 5-nines high availability (99.999%) and features a rich multi-vendor ecosystem with a variety of processor choices. Linux operating systems such as Red Hat and RedHawk™ are broadly supported along with tools such as KVM or VMware and support for both external and on-board storage. SMART EC ATCA technology is a strong COTS compute architecture choice for net centric applications.

ATCA Technology Brings Tangible Benefits to New DoD Applications and Modernization Programs

ATCA technology embodies Modular Open Systems Approach (MOSA) into system platforms by optimizing joint combat system performance and total cost of ownership (TCO) over the entire program life cycle. Its rich multi-vendor ecosystem ensures that the architecture is extensible and enables key technology refreshes into production programs over time, without the need for a full system upgrade. The commonality and reuse of system components also reduces system cost, as does the use of virtualization technologies, which also enables increased hardware utilization efficiencies, system flexibility and manageability.

From a technology perspective, MOSA means system extensibility or the ability to update, integrate and deploy the latest compute technologies in fielded systems, which in turn enables the introduction of robust software and new applications to these same applications. One of the specific benefits of ATCA technology is that it also enables forward and backwards systems compatibility via the use of standard system interfaces.

ATCA TECHNOLOGY HAS A HISTORY OF DEPLOYMENT IN DEFENSE

From ships to aircraft to ground control, ATCA technology has a rich history of deployment in defense applications.

Some examples include:
- Network Data Analytics
- Radar Data Processing
- Weapons Control
- Shipborne Data Center
- Ad Hoc Cellular Networks
- Airborne User Stations
- Drone Control
SMART EC is a Strong Technology Partner for Net Centric Compute Infrastructure

SMART EC technology leadership helps ensure the performance and features are available to meet the needs of your application. We have over 40 years of experience integrating highly reliable systems, built on the acquired heritage of industry leaders such as Motorola Computer Group and Force Computers. This ensures that we know what works and what doesn’t. Strong program management ensures projects stick to schedule. We maintain a regimented and 3rd party audited quality management system to ensure consistent high quality. SMART U.S. manufacturing and integration centers ensure on-time delivery and continuity of supply. SMART EC applies technical expertise and extensive testing to ensure ATCA compliance, interoperability and high availability for both current and future generations of products. *Our testing includes:*

**Functional & Conformance**
Verify all platform functionality operates as designed via extensive automated scripts.

**Performance Verification**
Verify all performance criteria are achieved such as I/O throughput, memory performance, etc.

**Negative/Exception Verification**
Verify corner cases and error conditions, fan failures, software failures, board failures, etc.

**Platform Stress and Stability Verification**
Verify the platform is capable of proper operation for extended periods of time under load conditions.

**Strenuous Verification**
Verify all redundancy and distributed operation test cases.

**Backward/Forward Compatibility Verification**
Verify platform/blade/software release compatibility.

**FORCES DRIVING INFORMATION DOMINANCE FOR THE DOD**

Key factors in determining system architectures for High Performance Embedded Computing and Networking (HPEC+N) across a variety of mission applications include:

- Modular Open Systems Approach (MOSA)
- Commercial off-the-shelf (COTS) technologies
- Reducing HPEC and networking system
- Size, Weight, Power and Cost (SWAP-C)
## SMART EC’s High Performance Embedded Computing and Networking (HPEC&N)

<table>
<thead>
<tr>
<th>Element</th>
<th>Offerings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chassis</td>
<td>19”, 13 RU, 14 slot, 350W / slot, DC</td>
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<tr>
<td></td>
<td>19”, 7 RU, 6 slot, 350W / slot, AC or DC</td>
</tr>
<tr>
<td></td>
<td>19”, 4 RU, 2 slot, 400W /slot, AC or DC</td>
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<tr>
<td>Switching</td>
<td>10GB / 40GB</td>
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<tr>
<td>Server Blades</td>
<td>10GB and 40GB Intel® Xeon® server blades</td>
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<tr>
<td>Storage</td>
<td>On-blade SSD, storage blade, storage RTM or attached storage</td>
</tr>
<tr>
<td>Operating System</td>
<td>Linux such as Red Hat &amp; RedHawk</td>
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<tr>
<td>Virtualization</td>
<td>VMWare, KVM, Hyper-V</td>
</tr>
</tbody>
</table>

### Free white paper download:

ATCA for Military, Aerospace and Other High Performance Embedded Computing Users

[www.smartembedded.com/atca-whitepaper](http://www.smartembedded.com/atca-whitepaper)

### SOLUTION SERVICES

SMART Embedded Computing provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include worldwide technical support. Renewal services enable product longevity and technology refresh.

### CONTACT DETAILS

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