

Top 10 Things You Need to Know...

...About ATCA & MicroTCA

ATCA Summit, November 2011

radisys[®]

1. **ATCA is not your mother's PC; choose your platform integrator wisely**
2. **ATCA is surprisingly cost effective**
3. **✓ ATCA is NOT limited to 200W per slot**
4. **ATCA offers a predictable evolution path for upgrades**
5. **ATCA can be but doesn't have to be NEBS and "5 9s" reliable**
6. **✓ You can get just about any kind of processor under the sun in an ATCA COTS blade**
7. **ATCA can be stretched, extended, cut-off, and otherwise cajoled to fit some pretty unique environments**
8. **ATCA is basically all about Ethernet**
9. **ATCA is an ideal fit for Evolved Packet Core infrastructure equipment**
10. **✓ Despite the "T", ATCA is not just for Telecom**

(✓ = Covered earlier)

- **Heterogeneous processing elements**
- **10G signaling speeds**
 - **New PCB materials and connectors**
 - **Channel characterization & tuning**
- **Diverse environmental conditions**
- **Variable power/cooling needs**
- **Shelf & platform management**
- **OS, Middleware & Application SW (sometimes...)**
- **Professional services...**

- **Nth generations of blades**
 - “CPM9” – 9th Generation IA CPU blade
 - “SCM5” – 5th Generation Ethernet switch blade
- **Intense competition**
 - Multiple choices for most popular assets (e.g., IA CPU, Cavium)
- **Intense pressure from Tier1 customers**
 - With cut-throat bidding processes
- **Wide range of cost flexibility**
- **Cheaper than IBM Blade Center**
- **Cheaper than comparable pile of RMSs**

- **Nth generations of blades**
 - “CPM9” – 9th Generation IA CPU blade
 - “SCM5” – 5th Generation Ethernet switch blade
- **Backwards compatibility maintained through 4 system generations**
- **Tick/Tock silicon evolution**
- **New blades follow new silicon within a few quarters**
- **Can always take matters into your own hands**
 - Base designs to leverage
 - Wide design expertise available
 - Platform vendors (like Radisys) can help

5. Can be but doesn't have to be NEBS and “5 9s” reliable

- **Redundant blades or not**
 - All slots can be node blades
- **Multiple backplane and application redundancy architectures supported**
 - E.g., supplied by platform provider (e.g., Radisys)
 - “None” is also viable
- **AC or DC power**
- **Power ranging from 200W/blade to 400W**
- **Blades can use embedded, industrial, or commercial grade processors**

7. Stretched, extended, cut-off, and otherwise cajoled

- **Custom RTMs**
 - Deeper, longer
- **Customized Zone 3 midplanes**
- **Taller chassis**
- **Back-to-back main blades**
 - ...and other PICMG Extensions

- **Range of Fabric options, but Ethernet almost exclusively dominates**
 - **Ethernet has matured to become a viable backplane technology**
 - 40G speeds → 100G path forward
 - Virtual output queuing, Many priority classes, Service/priority aware flow control, ...
- **Centralized (hub based) and distributed Ethernet I/O**
 - **1GE, 10GE, 40GE, 100GE**
 - **Integrated, centralized is very efficient**
- **AMC-based legacy I/O options**
 - **Not optimal (cost/density) but available for coverage**

9. Ideal fit for Evolved Packet Core infrastructure equipment

- **High Density, High Speed**
 - 10G and 40G bandwidth today, clear migration to 100G
- **High Performance, Heterogeneous Processing**
 - Compute, Packet and Media processing
 - Switching & routing, Protocol engine, Deep Packet Inspection, Traffic shaping and Management, Transcoding, ...
- **Platform for Dataplane Transport *and* Services**
 - Blurring the line for performance and ARPU enhancement
 - New network services - media-rich content processing and delivery
- **Flexible System Reconfiguration**
 - Common platform for multiple elements
 - Evolution of requirements within a single element, shifting feature set and processing needs
- **Optimized SW Building Blocks**
 - Fully-integrated system: ATCA platform with Trillium (or other...) software
 - Trillium (or other...) LTE protocols available to address entire EPC domain
- **Commercial Considerations**
 - Time to Market
 - Cost Competitiveness
 - Time in Market/Commercial Lifetime

