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THE POWER OF VISION

SHARE YOUR VISION. WE'LL SHARE OUR INNOVATION.

Flexible Solutions for MTCA.4

MTCA Workshop – DESY, December 2012

Corporate Fundamentals

- Company founded 2004
- Privately owned, financially sound
- Backed by over 25 years experience of product innovation
- AS 9100 Certified
- Corporate HQ and manufacturing in Henderson NV, USA
- European subsidiary
- Worldwide distribution

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Primary Markets

Cloud Computing

Telecomm

MTCA.0

- Base specification
- Air-cooled

Industrial

MTCA.1

- Rugged
- Air-cooled

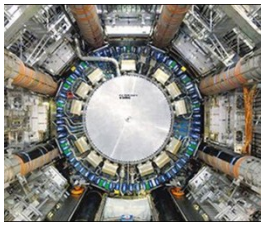
MTCA.2

- Hardened
- Hybrid cooling

Defence

MTCA.3

- Hardened
- Conduction cooled



High Energy Physics

MTCA.4

- Rear I/O
- Precision timing

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VadaTech and MTCA.4

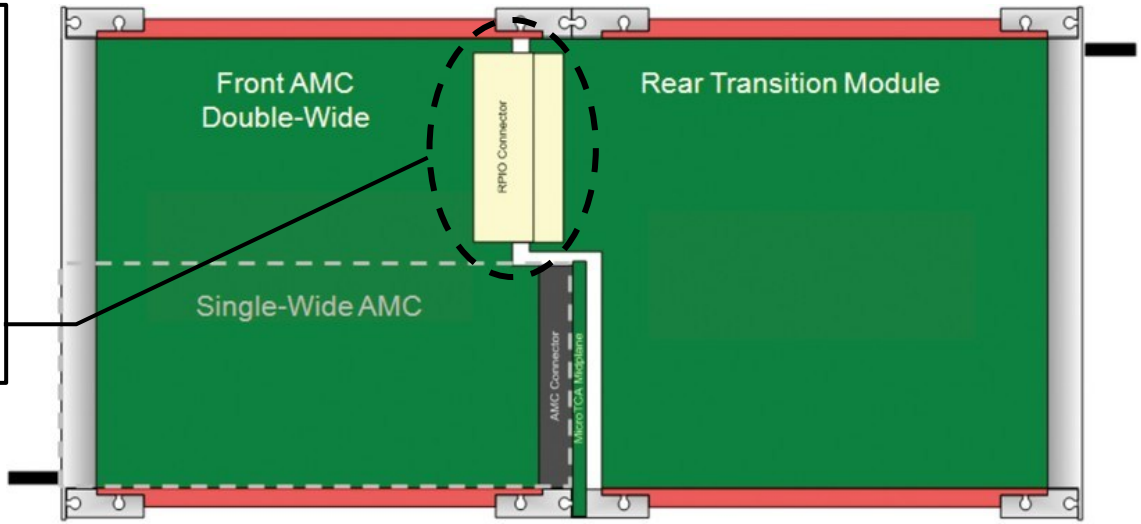
- Based on extensive MTCA.0 product range
  - 160+ AMCs
- Full infrastructure capability
  - Chassis, MCH, PM, CU, JSM
- Strong customer interaction
  - Multiple active engagements across EU/USA
- Committed to supporting MTCA.4
  - Six new product releases due in 1H2013

The AMC / RTM divide

Off-the-shelf, 'standard'

Custom, application-specific

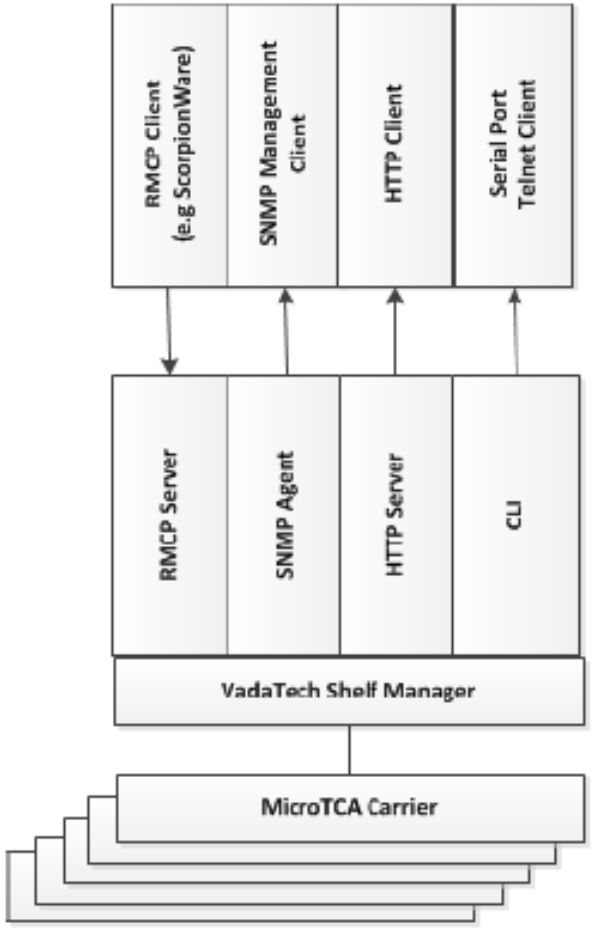
Pin-out and interface standardisation will determine AMC volumes and impact cost



Source: SLAC

Example #1

- Scenario
  - Extensive collaboration
  - Early access hardware
  - Limited documentation
- Solution
  - E-keying
  - Robust implementation



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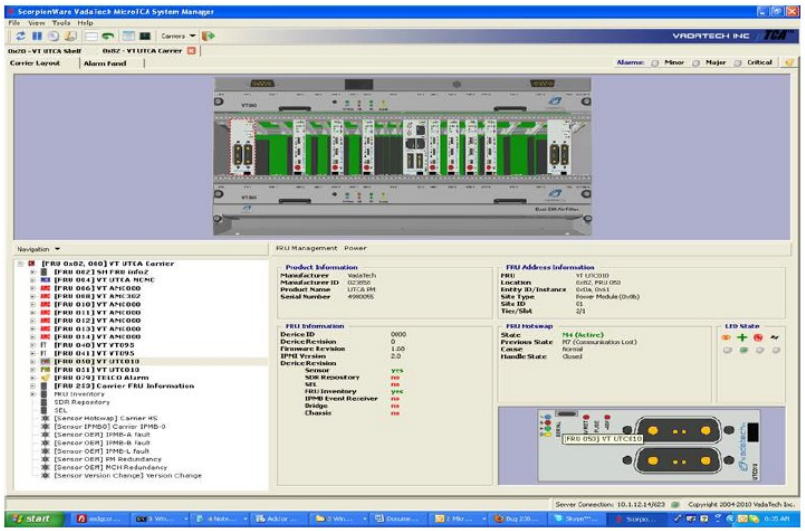
Example #2

- Scenario
  - Large distributed system
  - Hardware not readily accessible
  - Reliability is crucial
- Solution
  - Full redundancy
  - Remote system mngt



VT811

MTCA.4-compliant chassis

- 12 mid-ht double-width AMC bays w/ RTM
- 8u, 19” rack mount
- AC power, up to 1000W redundant
- JSM Slot
- Cavity for Cable routing from front to back
- 16 Fans in each tray
- Symmetric fan trays (bottom and top fan tray are identical)
- Aluminum construction vs. Steel to reduce weight

High-reliability design

- Redundant MCHs, PMs, CUs, FRU information devices and shelf locators
- Telco alarms

VT811 *Feature*	*Benefit*
Chassis	
MTCA.4 compliant	Broad adoption expected
Mechanical	
Aluminium construction	Lightweight
8u high	Space efficient
Internal front-back cable channel	Aids cable management
Electrical	
16 fans per cooling unit	Even airflow distribution, avoid hot-spots
JTAG Switch Module slot	Ease of development
Telco alarms, passive backplane	Designed for reliability
General	
VadaTech pedigree	Feature-rich product supported by wide infrastructure range

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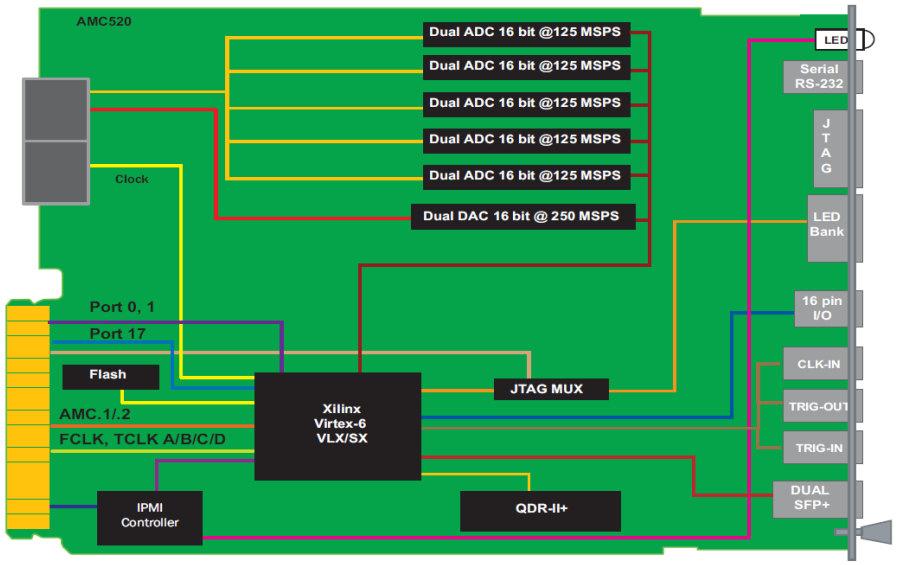
AMC520



MTCA.4-compliant ADC/DAC

- 10-channel ADC w/ 2-channel DAC
- Double-wide AMC per MCTA.4
- Large Virtex-6 FPGA w/ buffer memory

Enhanced MTCA.4

- RTM capability
- Support fabric rates up to 40Gb/s
- Chassis for 2-12 bays in 1u – 8u height

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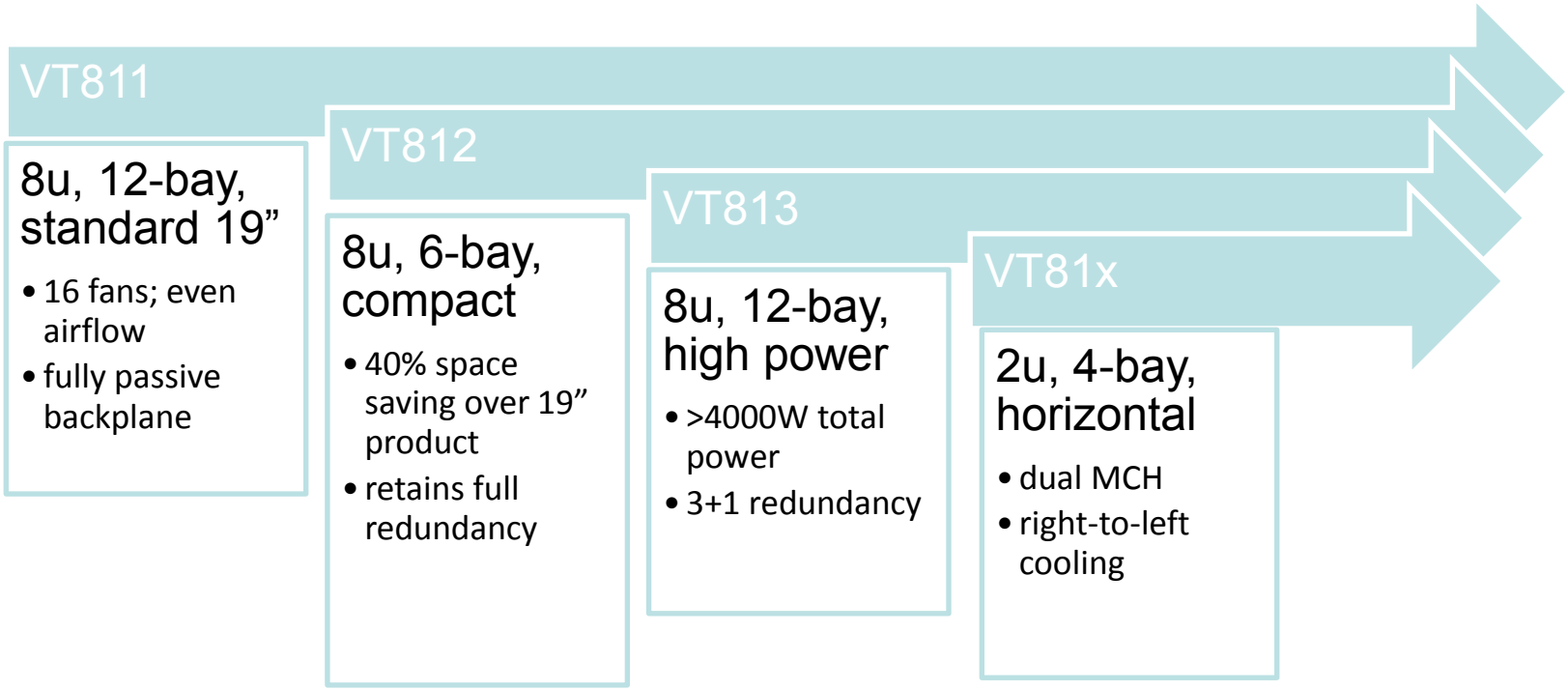
AMC520 *Feature*	*Benefit*
AMC Module	
MTCA.4 compliant	Broad adoption expected
Developed in collaboration with SLAC	High-spec analog front end filters
Analog Sub-System	
10-channel ADC, 125 MSPS @ 16 bits	Broad, fast and deep sampling
2-channel DAC, 250 MSPS @ 16 bits	Implement single-board control loop
Flexible trigger and clock routing	Supports broad range of configurations
Digital Sub-System	
Virtex-6 FPGA, up to VLX550T	Very capable on-board processing
72-bit wide QDR-II+ (72Mbit or 144Mbit)	High-bandwidth on-board buffer
General	
VadaTech pedigree	Mature IPMI, compatibility with 160+ AMCs and wide infrastructure range

MTCA.4 Chassis Roadmap



Semi-custom design – without NRE, with volume commitment

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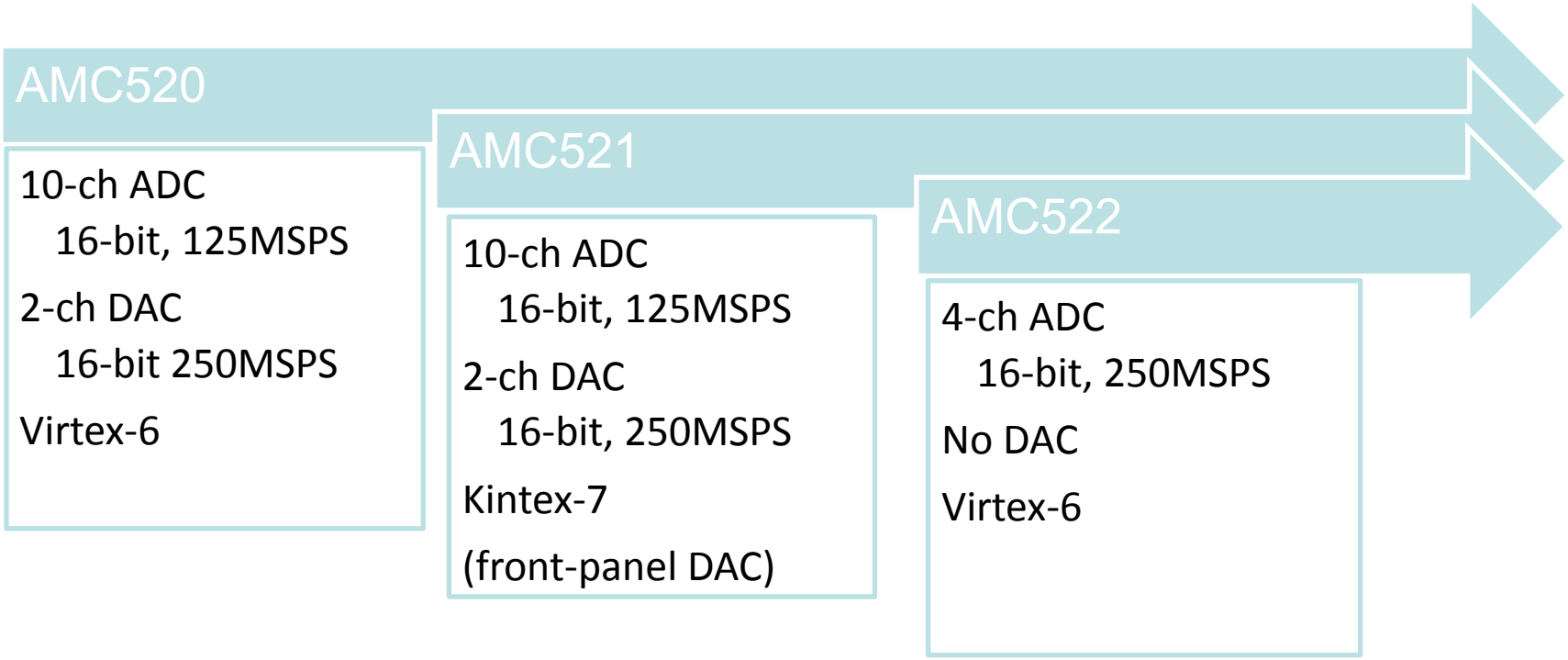
MTCA.4 FPGA AMC Roadmap



Semi-custom design – without NRE, with volume commitment

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