

Introduction to MicroTCA

Mike Franco

Chairman of the PICMG Rugged MicroTCA

Chairman of MicroTCA.0 R1.0 Subcommittee

Draft Editor & Author of numerous sections of AMC
specification

Agenda

9:00 AM	9:20 AM	Mike Franco, “MicroTCA Hardware”
9:20 AM	9:40 AM	R.J. McLaren, “Basic Mechanical and Thermal Design for MicroTCA”
9:40 AM	10:00 AM	Tom Varghese, “Introduction to Hardware Platform Management”
10:00 AM	10:20 AM	Break
10:30 AM	10:50 AM	Mike Franco, “Power and Interconnect”
10:50 AM	11:10 AM	David Pursley, “MicroTCA Applications”
11:10 AM	11:30 AM	Kevin Fiftal, “Overview of Platform-Based System Development”
11:30 AM	11:50 AM	Bart Stuck, “MicroTCA Economics”
11:50 AM	Noon	Filling out evaluation forms



SIGNAL STREAM
TECHNOLOGIES, LLC

MicroTCA Hardware

What are the building blocks for
MicroTCA products?

MicroTCA Hardware

- Common or Overhead Components
 - MCH
 - Power Module
 - Cooling Units
 - Chassis
 - Backplane
 - JSM (J-TAG Switch Modules) optional
- Payload Components
 - AMC Modules
- Optional Components
 - OEM Modules

A partial list of Payload Components



- Processor AMC
- Storage AMC
- DSP AMC
- Line Interface
 - Optical
 - Packet
 - TDM
- Compression
- Encryption
- FPGA Arrays
- Memory Arrays
- Radio
- Time & Space Processors
- Video Interfaces
- Graphics Interfaces
- Analog Interfaces
- Network Processors
- DOCSIS Cable Modems

Software Integrated Products

- Built with “Off the Shelf” AMC Modules
- The Secret Sauce is the Application Software
- Relatively Short Time Market
- Extremely Adaptable to Market Demand
- Flexible use Payload Component Spectrum
- Adaptable to New Components
- Builds on the economies of scale

Key Hardware

- Similar to software integrated products but add the missing link hardware component
- May have multiple instantiations of proprietary hardware
- Adds a smaller and hence more manageable hardware development element
- Improves margins
- Creates a “barrier to entry”
- Potential interfacing limitations
- Production volume of the Key Hardware is limited

μTCA Based Hardware Products



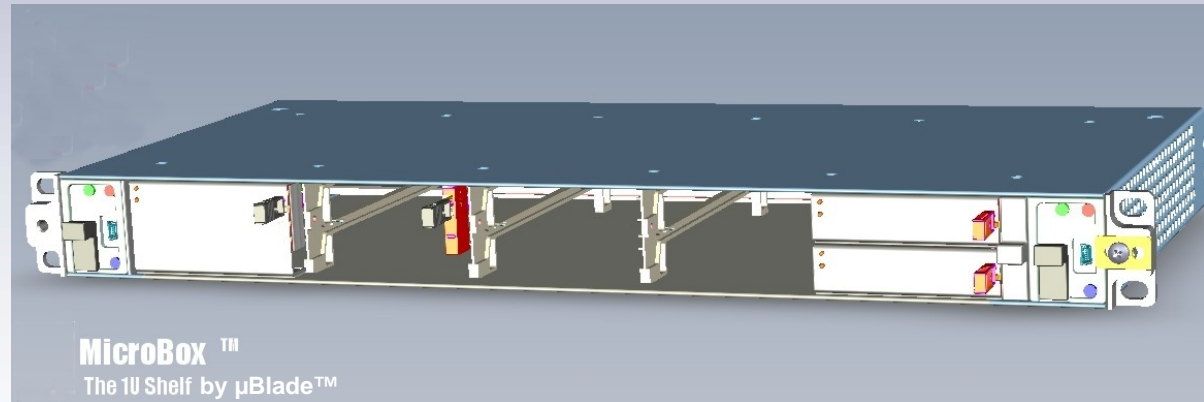
- Capitalizes on spec infrastructure
- Possible to utilize some “Off the Shelf” AMC
- Availability of standard Overhead Components
- May customize MCH or other elements

Common or Overhead

- MCH
 - Mgmt wo any fabric
 - Mgmt w single lane fabric
 - Mgmt w single lane fabric & fabric clock
 - Mgmt w single lane & FP fabric w/wo fabric clock
- CU
 - Managed & Unmanaged
 - 12V or -48V power
 - FRU Field Replaceable Units or Integrated
- PM
 - Inputs -48, 12, 24 or AC
 - Power up to 600 Watts now up to 800W or more limited by output connector

Common or Overhead (cont)

- Enclosure
 - Development Systems
 - Single tier shelves
 - Multi-tier shelves to 4 tiers
 - Cubes
 - PicoBoxes
 - Pizza Boxes
- JSM



Mike Franco
President & CEO
Signal Stream Technologies, LLC
Technology Markets & Engineering Services
608.829.0657
Mike@SignalStreamTechnologies.com