UTCA-5504

MicroTCA Carrier Hub: GbE switch with x86 Control Plane CPU

NEW

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Features

- Advantech's 2nd generation MCH based on Advantech IPMI code base
- Layer 2 GbE switching for up to 12 AdvancedMC's on Common Options Fabric A
- Four RJ45 GbE ports on front panel
- Redundant operation
- x86 platform with a CF to act as a boot server for other x86-based Processor AMC's
- Dual SPI-based BIOS images for redundancy and rollback
- Optional T1/E1 mezzanine to interface with traditional carrier systems
- UART debug interface
- Built-in expandability for future pluggable enhancements such as Extended Fabric switching and clock distribution
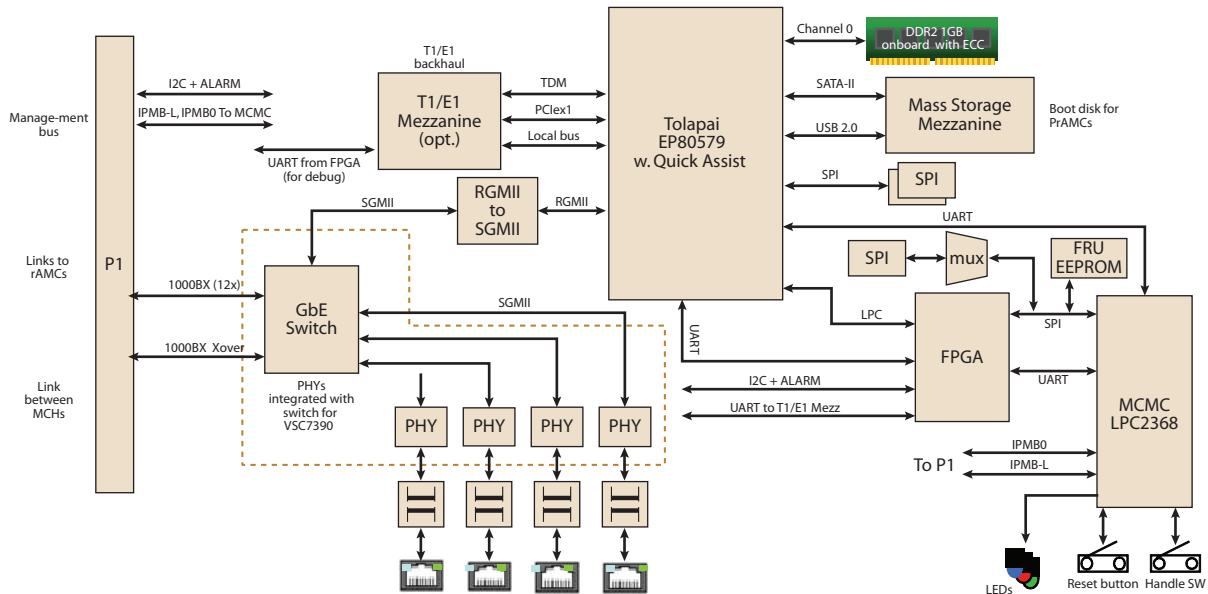- Compliant with PICMG MTCA.0 R1.0 specification

Introduction

The UTCA-5504 MicroTCA Carrier Hub (MCH) combines x86 processing, switching, management and backhaul in to a single MCH element. It supports all the functions needed to control, network, connect and manage a full system. Designed and tested in the Advantech UTCA-6302 MicroTCA system, the UTCA-5504 offers extended MCH features and facilitates user specific x86 application software development. The UTCA-5504's onboard Carrier and Shelf Manager, 24-port non-blocking layer 2 Ethernet switch and Intel® EP80579 Integrated Processor with Intel® QuickAssist provide uncompromising processing performance and a range of connectivity options. Four GbE and four optional T1/E1 ports meet infrastructure backhaul and gateway needs whilst the on-chip accelerator provides security co-processing options for functions such as encryption. The Intel® EP80579 on the MCH runs standard Linux distributions providing a platform for control and application processing, higher-level system and switch management or boot server functions for in-system processor AMC's. Delivered with up to1 GB DDR2 SDRAM with ECC and a CompactFlash (CF) disk, the UTCA-5504 provides full flexibility in terms of OS installation and modularity. The onboard IPMI firmware developed by Advantech executes on a compact real-time OS running on a 32bit microcontroller. In addition to supporting shelf & carrier management with failover redundancy, the Intelligent Platform Management simplifies cooling and fan unit control for overall platform cost-savings.
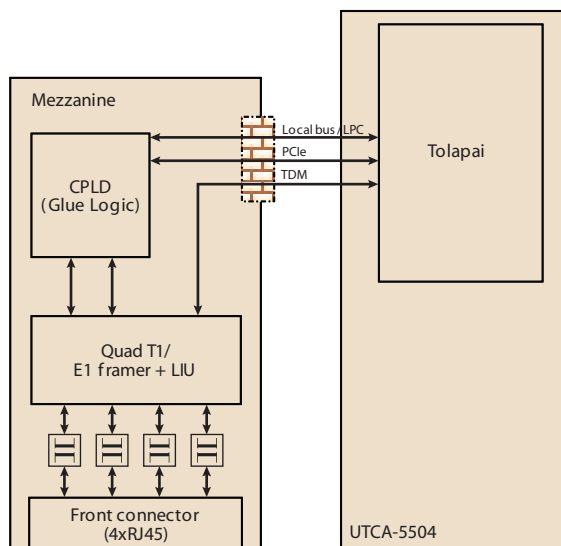
Specifications

		Operating	Non-operating
Processor System	System-on-Chip CPU	Intel EP80579 with QuickAssist Technology 600 MHz	
	BIOS	AMI	
Memory	Technology	DDR2-667 with ECC	
	Max capacity	Up to 4 GB1	
GbE Switch	24-port L2 switch	Vitesse VSC7390 SparX-G24 with integrated PHY's	
Management	Controller	IPMI v1.5 compliant MicroTCA Carrier Management Controller	
	Interface	IPMB-0/IPMB-L/I2C for complete carrier and shelf management	
	Source code	Advantech IPMI core based	
	Update standard	HPM.1 compliant	
	KCS	Payload interface	
T1/E1 Module	Controller	PMC-Sierra PM4354 combined 4-channel T1/E1 transceiver/framer	
Mass Storage	CompactFlash	Expansion board with CF type-I socket	
	Onboard	1 GB industrial grade internal flash disk	
Physical	Dimension	180.6 mm x 73.5 mm	
Environmental		Operating	Non-operating
	Temperature	0 ~ 55° C	-40 ~ 60° C
	Humidity	95 %@ 40° C (non-condensing)	95 % @ 60° C (non-condensing)
	Shock	10 G, 11ms	30 G, 11ms
	Vibration (5-500 Hz)	1.5 Grms	3.0Grms
Regulatory	Conformance	UL94V0, FCC Class A, CE, RoHS & WEEE ready	
	NEBS Level 3	Designed for GR-63-CORE and GR-1089-CORE	
Compliance	Standards	MTCA.0 R1.0, AMC.0 R2.0, AMC.1, AMC.2, AMC.4, IPMI v1.5, HPM.1	

Block Diagram

Mezzanine Block Diagram

Ordering Information

Model Number	Description
UTCA-5504-0000E	GbE switch, no T1/E1, 600 MHz CPU, 1 GB DDR2 SDRAM with ECC, CF adaptor2
UTCA-5504-1000E	GbE switch with T1/E1 module, 600 MHz CPU, 1 GB DDR2 SDRAM with ECC, CF adaptor

Related Product

Model Number	Description
UTCA-6302-A series	4U, 14 slot MicroTCA chassis with air-ducts, 2 ~ 4 PMs, 4 CUs, dual star backplane & 1 UTCA-5504
UTCA-6302-B series	5U, 14 slot MicroTCA chassis with air-ducts, 2 ~ 4 PMs, 4 CUs, dual star backplane & 1 UTCA-5504
MIC-5602Rev2	Intel Core2 Duo (SL9380) processor AMC

1 The actual maximum memory capacity will depend on the supply availability of the SDRAM manufacturer.

2 Contact your local Advantech sales office or distributor for other MCH configurations including peripherals such as Advantech Industrial Compact FlashSQF-P10 (1GB~16GB) models.