NATIVE-STARTER
NATIVE-STARTER-PLUS

Users Manual

Version 0.4

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Glossary

AMC	Advanced Mezzanine Card, http://www.picmg.com
ATCA	Advanced Telecom Computing Architecture
CM	Carrier Manager
CPU	Central Processing Unit
CU	Cooling Unit, Fan
EMMC	Enhanced Module Management Controller (MMC on CU or PU), via IPMB-0
FRU	Field Replacable Unit, hotswap capable resource
HPI	Hardware Platform Interface, SW management interface defined by SAF
I2C	Inter Integrated Circuit, 2 wire serial bus
IPM	Intelligent Platform Management
IPMB	IPM Bus, I2C type
IPMB-0	dual-redundant A/B local IPMB
IPMB-L	non-redundant local IPMB
IPMC	IPM Controller, e.g. MCH CPU
IPMI	IPM Interface
LAN	Local Area Network
LED ID	Light Emitting Diode Identifier
LUN	Logical Unit Number
LVDS	Low Voltage Differential Signal
MCH	uTCA Carrier Hub
MCMC	uTCA Carrier Manager Controller (MMC on MCH)
MMC	(AMC) Module Management Controller, interfaced to carrier via IPMB-L
MTCA	Micro Telecommunications Computing Architecture (= uTCA)
MTCM	uTCA Carrier Manager
NetFn	Network Function, functional class of message
NMCH	N.A.T. MCH
OEM	Original Equipment Manufacturer
OpenHPI	specific HPI implementation, http://www.openhpi.org/
PEF	Platform Event Filtering
PET	Platform Event Trap
PM	Power Module (= PU)
POH	Power On Hours
PU	Power Unit (= PM)
RCS	Remote Console Software, SW running on a remote system
RDR	Resource Data Record, logical representation of physical entity
RMCP	Remote Management Control Protocol, UDP based, IPMI over LAN
RPT	Resource Presence Table, data base of logical resources
SAF	Service Availability Forum, http://www.saforum.org/
SDR	Sensor Data Record, sensor description
SEL	System Event Log
SM	Shelf Manager
uTCA	micro TCA (= MTCA), http://www.picmg.com

1 NATIVE-STARTER and -PLUS Specification

NATIVE-STARTER and NATIVE-STARTER-PLUS are turn-key uTCA systems for evaluation and development, ready-to-run. All components are full compliant to the open standard MicroTCA and AMC.

The NATIVE-STARTER system includes a full manageable 6 slot MicroTCA chassis with 5 payload slots and 1 MCH slots, a Dual-core-Intel-CPU, SATA Hard disk and a graphic board. In addition in NATIVE-STARTER-PLUS an AMC extender is included for testing own hardware.

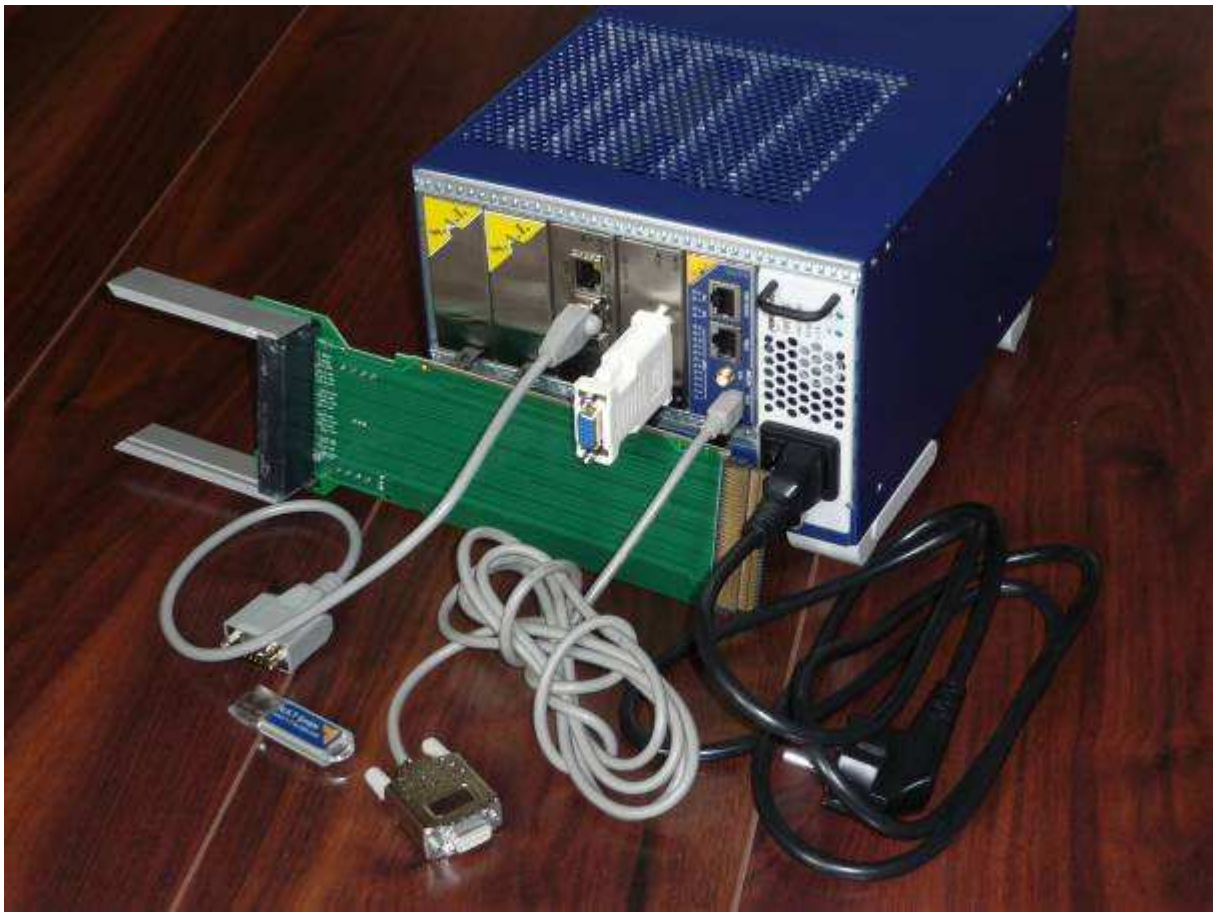

Figure 1: Picture of NATIVE-STARTER-Plus

A short description of these components:

NATIVE-SX:
3U table top MicroTCA platform; non-redundant 6 slot backplane for 1 MCH and up to 4 full size or 2 full size and 3 mid size AMCs; managed PM 300W / 100-240AC.

NAT-MCH-BASE6-GbE-SSCH-PCIEx24:
management for 6 AMC 2 CUs (Cooling Units) and 1-4 PMs (Power Modules); GbE switch for 12 AMC; Clock Module with PCIe functionality. A spread spectrum clock (100MHz mean) or a 100MHz fixed clock (HCLS!) is provided on CLK3 to all AMCs; PCIe x4 supplement (Fabrics D-G incl. update channels) for up to 6 AMCs.

NAMC-T7400:
single width processor AMC with INTEL 2.16 GHz Core2Duo T7400 processor (fan less), 2GB DDR2-400 ECC SDRAM, 1MB Flash EPROM, PCIe x8 (AMC.1 Type 8), SATA 150 (AMC.3 Type S2), dual GbE (AMC.2 Type E2) at AMC connector, 1GbE at front panel, 1 RS232 at front panel, 1 USB at front panel.

NAMC-HDDGX:
single width graphics AMC with onboard HDD, Silicon Motion™ SM722 3D/2D dual display controller (DFP and CRT), SATA HDD of typical capacity (AMC.3 Type S2 on AMC port 2), PCIe x1 (AMC.1 Type 1 on AMC port 4).

NAMC-EXT (only included in NATIVE-STARTER-PLUS):
non-intelligent AMC extender, break out for management and payload power, measurement points for all fabrics.

UBUNTU Linux:
Linux distribution pre-installed on HDD.

NATView:
System visualisation tool pre-installed on HDD.

2 Overview of auxiliary components

- DVI-VGA-convertor
- Mini-USB to Serial cable
- Battery for CPU realtime clock
- RJ45 to serial cable for serial interface of NAMC-T7400 (AM110)
- Power Cord
- USB stick or CD-ROM with documentation

3 Useful auxiliary components (not included)

- USB-Hub
- USB keyboard
- USB mouse
- USB CD or DVD drive to install alternative operating systems

4 List of documentation

The documentation is located either on the USB stick or CD-ROM. In addition the documentation is loaded on the hard disc in the documentation directory.

- User Manual NATIVE-STARTER-PLUS
- User Manual NATIVE-SX (Blu!Eco) Chassis
- User Manuals NAT-MCH (hardware and software)
- User Manual NAMC-T7400 (AM110) AMC-CPU board
- User Manual NAMC-HDDGX (AM400) AMC-Grapic-Harddisc board
- User Manual NAMC-EXT

5 Quick Start

NATIVE-STARTER is a ready to go system. Please connect a USB mouse and keyboard via a USB hub to the NAMC-T7400 (AM110) in slot 2. Connect a VGA monitor via DVI or via VGA cable to the graphics board in slot 1.

Make sure all hot swap handles are pushed in. Power up the MicroTCA system. You will see the LEDS at the MCH lightning. One LED for the CU (cooling unit) and one for the PU (power unit) should be green. LED for AMC slot 4 and 5 should be green.

If you see red LEDs please look into the user manual of the NAT-MCH.

Now your VGA monitor should show the starting of the Ubuntu Linux system.

Login: NAT
PWD: NAT

As this is standard Ubuntu Linux all Linux functions and programs are available.

All documentation is located in the documents folder.

To get life details about this MicroTCA-System you can start the following programs:

- Firefox 192.168.2.2 (Webinterface to configure the NAT-MCH MicroTCA Carrier Hub)
- telnet 192.168.2.2 (Command line interface to configure the NAT-MCH MicroTCA Carrier Hub)
- NATView (Visual representation of the MicroTCA system): NATView icon on the desktop. The IP address of the NAT-MCH is set to 192.168.2.2.

For more informations have a look into the NAT-MCH User Manual.

From another computer connected via RJ45 to the GbE port at the front panel of the NAT-MCH the same programs can be used. Please select as IP address 192.168.1.41.

To change the IP configurations reference the NAT-MCH User Manual.

Give us a Hint !

If you discover a problem, you can help us improving the product and fixing the problem quickly. The MCH configuration menu allows you to set debug options for certain functionalities (see User Manual MCH).

In case you discover a problem please switch on the respective debug option and provide us with a logfile taken from the output of the console port of the MCH together with a brief description of the problem – we will care.
Thank you in advance!

N.A.T. GmbH

6 Document's History

Version	Date	Description	Author
0.1	12.05.2009	Initial Version	vd
0.2	25.08.2009	Corrections	vd
0.3	26.08.2009	Included pictures of NATView, telnet etc	vd
0.4	07.05.2010	Differences NATIVE-STARTER and NATIVE-STARTER-PLUS added	vd