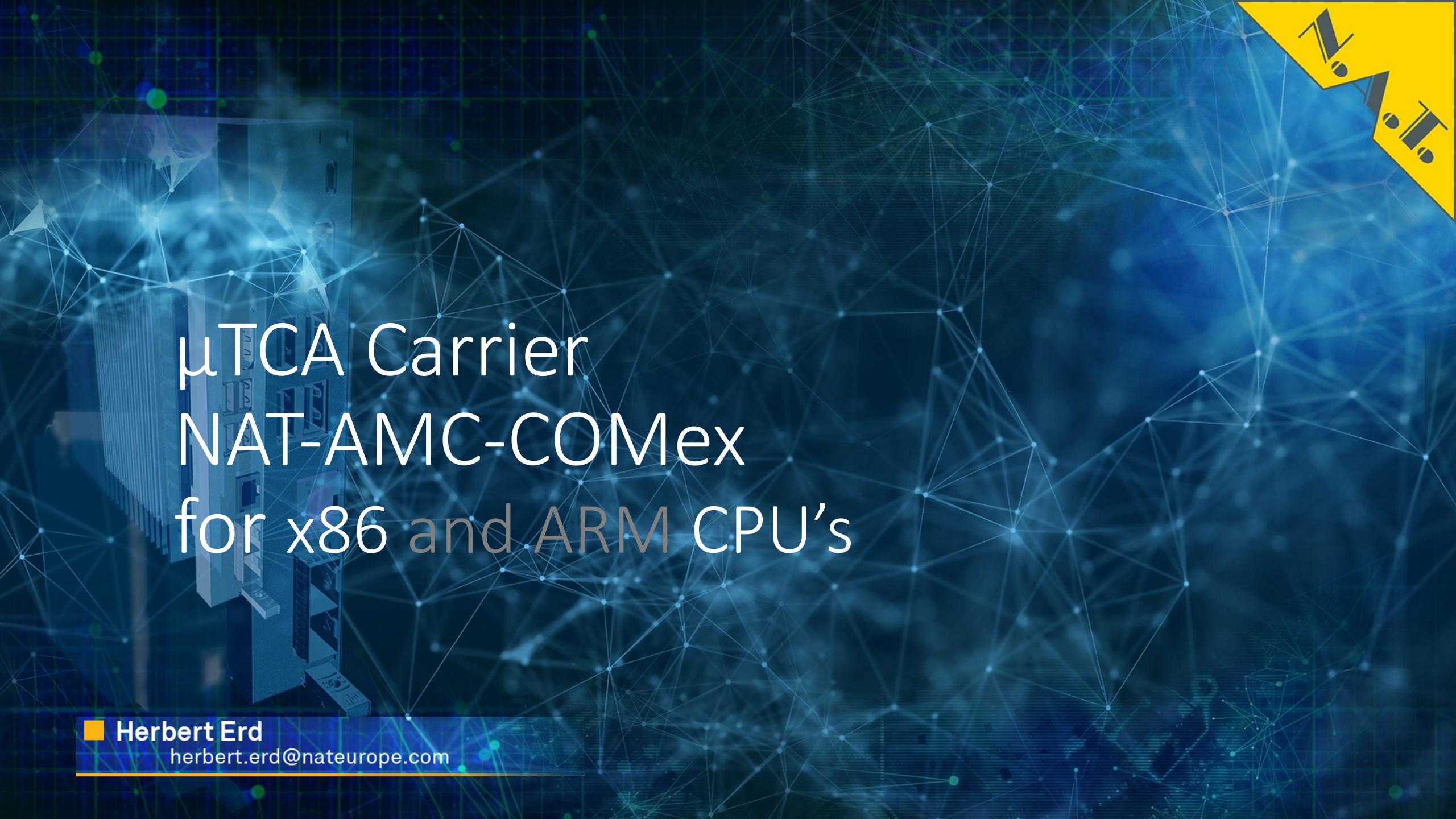

µTCA Carrier NAT-AMC-COMex for x86 and ARM CPU's

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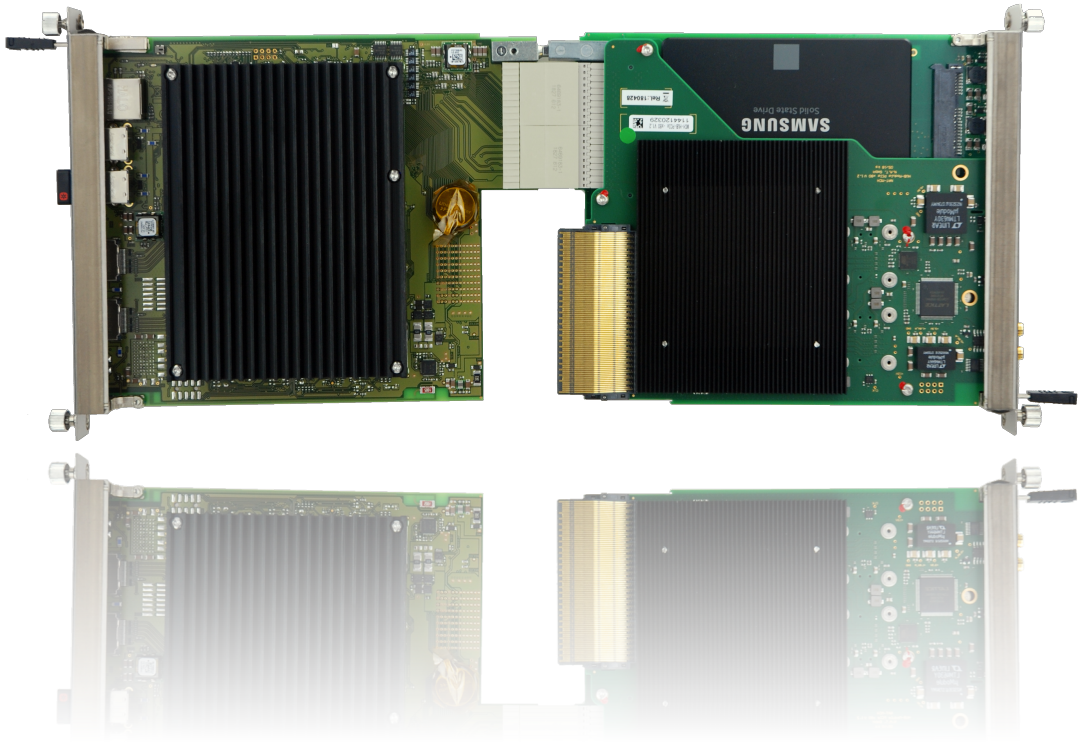
History RTM-Carrier

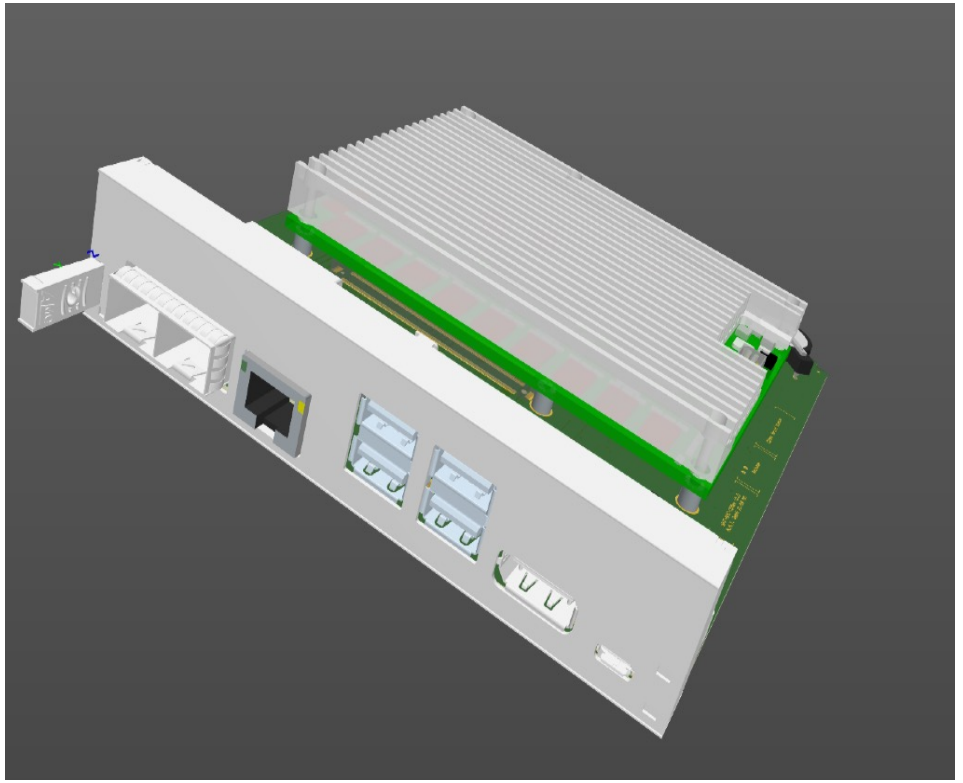
- **First introduction June 2012**
  - 16 Lane PCIe Gen 3 (PEG)
  - CPU on MCH-RTM Module
  - based on new double-width MCH (M4)
    - MicroTCA.4 target market
    - 1 AMC slot for CPU board saved
    - Based on Intel® CoreTM i7 processor,
- **Result**
  - Market adoption finally in 2016
  - 40 W power budget limit on RTM
    - Today up to XEON available with 25 W TDP
  - Requests for different x86 CPU version, depending on use-case
    - Data plane (Xeon)
    - Control plane (Celeron, Core i3)
  - **Available since Q1 2021**
  - **What about an CPU- AMC from NAT ?**

NAT-MCH-RTM-COMex NAT-MCH-M4



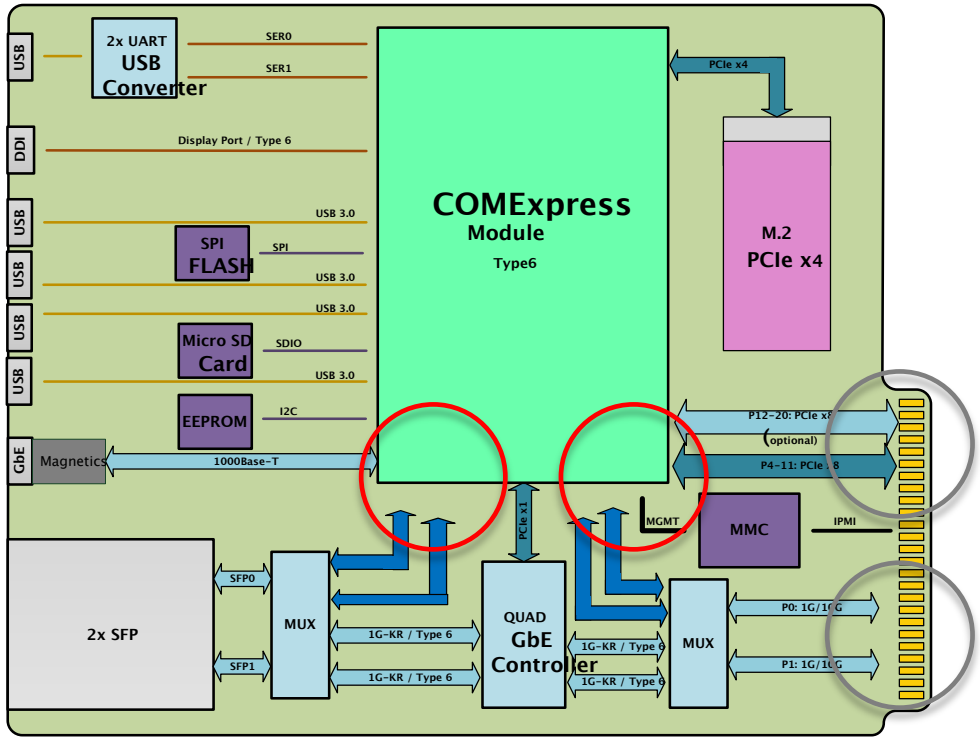
More flexibility for a AMC carrier

- New double full size AMC Carrier
- Same set of CPUs as with RTM today plus:
  - higher TDP Power
    - Up to 60 W (spec conform)
    - Up to 100 W (custom specific)
  - Different COMex Types
    - Type 6 (incl Graphic excl 10GbE)
    - Type 7 (excl Graphic incl. 2*10 GbE)
  - Storage M2. PCIe
    - x4 *16 GT/s
  - x8 and (optional) x16 PCIe backplane support

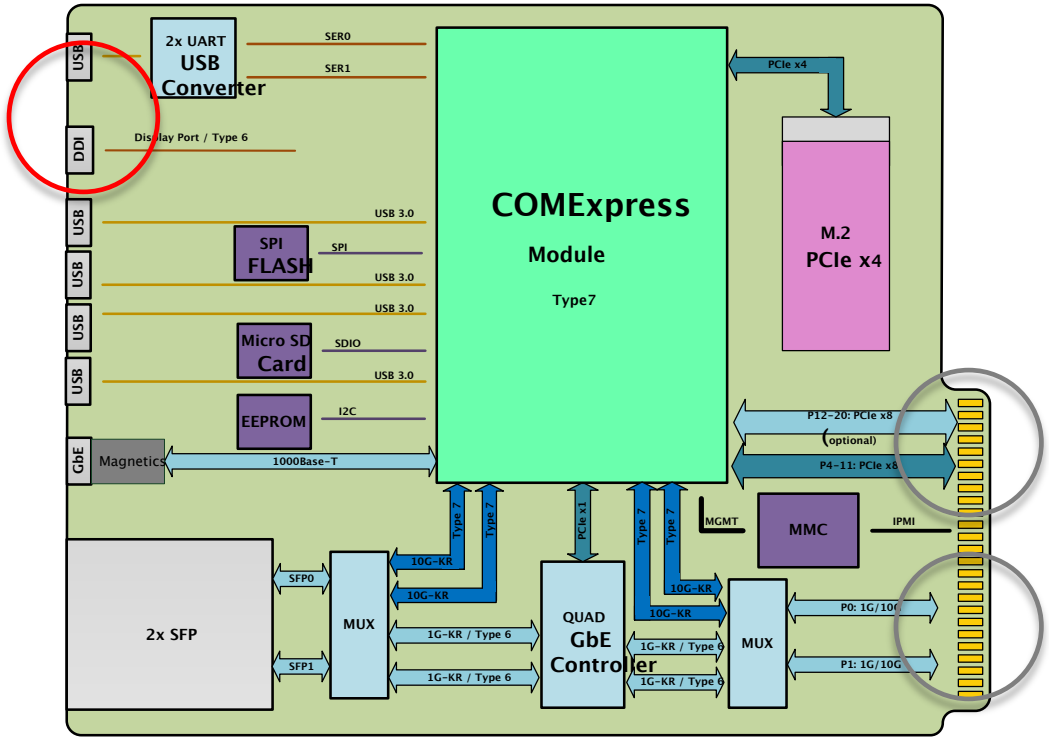


One AMC-Carrier different functions

- For COMex-Type 6



- For COMex-Type 7



NAT-AMC-COMex

- Advantage:
  - Latest CPU version available
    - 3-month eval cycle at N.A.T.
    - Intel and AMD
  - High speed storage available
  - Support 1G/10GbE at ports #0-1
    - In line with NG-µTCA
  - Support for x8 and x16 lanes
    - In line with NG-µTCA
  - 2* SFP cages to front
    - 1 GbE(Type 6) or 10GbE (Type 7)

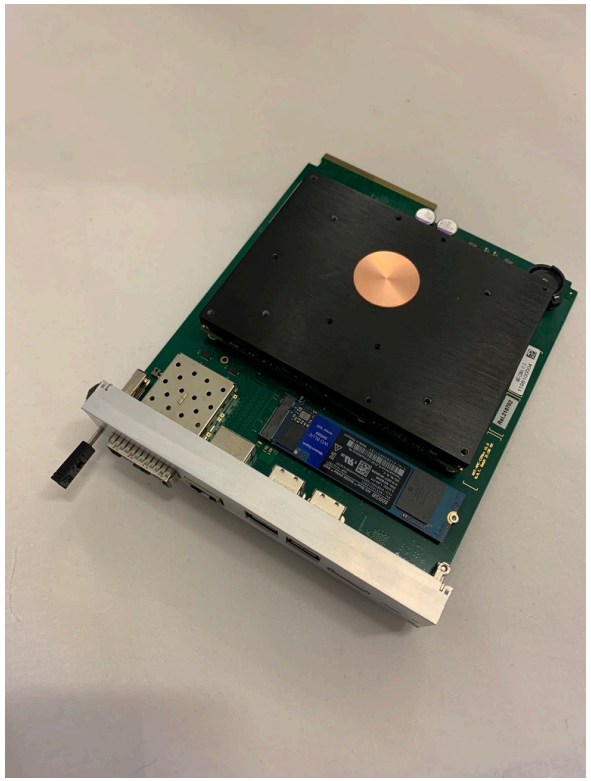
- Timeline
  - Q3/Q4 2021
    - Bords in final bring-up
    - Thermal tests with several Chassis
    - IPMI implementation
  - Q4 2021
    - Tests with several high-end CPU‘s
      - Intel® 11th Generation Core i7-I9 / Xeon® family
      - AMD EPYC™ embedded SoC Processors
      - ARM NXP LX2160 A (Type 7) (in bring-up for validation)
  - Q1 2022
    - First field validation customer‘s
  - GA Q2 2022

Summary ARM / X86 CPU boards

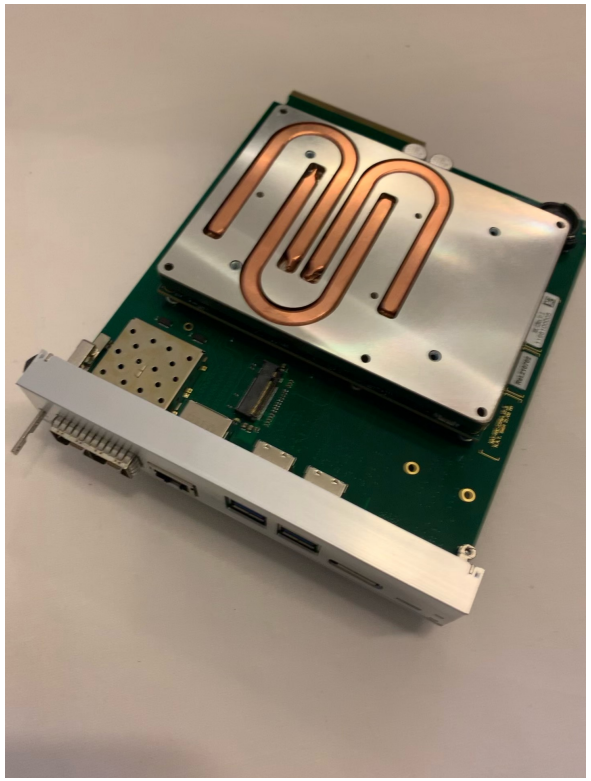
- NAT-AMC-ARM-CPU will offer:
  - NXP ARM CPU
    - 8/12/16 ARM cores
    - Around 35 W TDP
    - Ethernet processing special hardware
    - 40/100G GbE to front
    - M2. Memory, SAS, SATA
    - Up to 64 GB RAM
    - x4/x8 PCIe or 40G/100G to backplane (FP)
    - 1GbE/10GbE to backplane
- NAT-AMC/RTM will offer:
  - Intel and AMD CPU's
    - 4/6/8/12/16 CPU Cores
    - From 25 W – 80 W TDP
    - From Celeron to Xeon E3
    - 1-2* 10 GbE to front
    - M2. Memory (SATA only on RTM)
    - Up to 64 GB RAM
    - x4/x8,x16 PCIe to backplane (FP)
    - 1GbE/10GbE to backplane

Three samples of our NAT-AMC-COMex

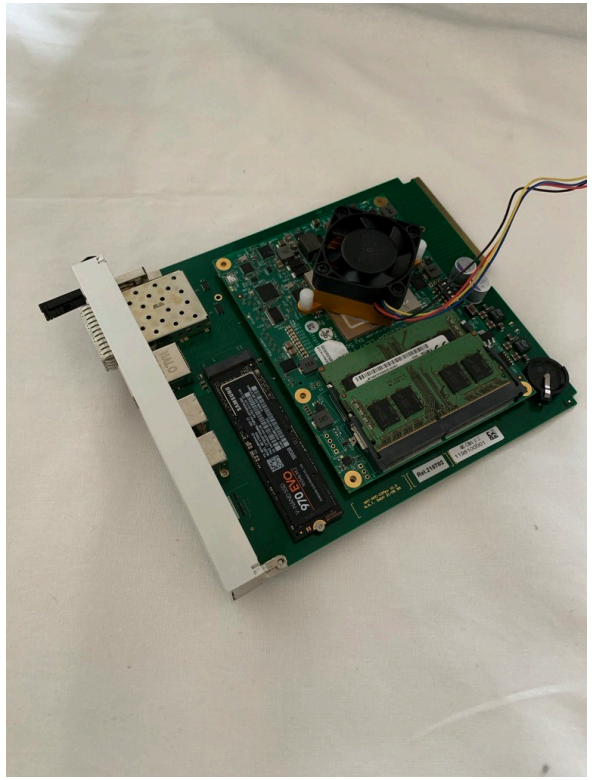
Type 6 Intel CPU (25W)



Type 7 AMD CPU (60W)



Type 7 NXP LX216x (35 W)



Thank you very much!

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