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X86 CPU boards for MicroTCA

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The AMC market being smaller compared to the one for ATX boards, the limited power budget including the thermal envelope of an AMCs and finally the limited number of high-speed lanes to the backplane, contributed to the availability of embedded X86 CPU AMCs constantly staying behind new CPU generations launched by INTEL/AMD since the very beginning of MicroTCA in 2006.

As new concepts were required to overcome this situation, N.A.T. introduced a carrier for standard COMex modules in form of a rear transition module (RTM) for the NAT-MCH in 2012. With the development of the double-width NAT-AMC-COMex, this approach was successfully ported to AMC formfactor.

This presentation will provide guidance regarding today's features and function of the latest CPU generations in comparison with the requirements of different MicroTCA applications and will also highlight how the development of new x86 CPU generations might impact the MTCA market in the future.

Using the example of the latest version of the NAT-AMC-COMex, the presentation will explain how standard MTCA systems can benefit from this approach and how the usage with the new NATIVE-server allows to design completely new and cost-effective applications.

Finally, the presentation will also address how N.A.T. plans to expand the concept to the single-width AMC formfactor to support applications with less demanding x86 CPU requirements.

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