COM-HPC -THE GAME CHANGER

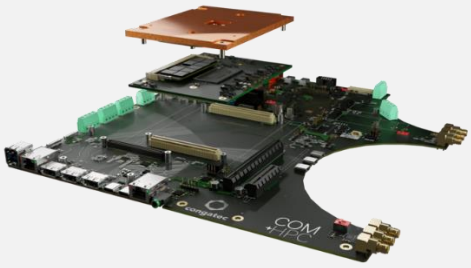
The ultimate choise for future-oriented digitization projects requiring highest bandwidth and performance

COM-HPC – the next-gen Computer-on-Module standard

COM-HPC is specifically designed to address the ever-increasing performance demands and bandwidth needs of all the new and upcoming edge and embedded server applications that cannot be served by previous Computer-on-Module specifications. As such it will be the game changer for systems covering todays and upcoming demands in the digitization era.

The COM-HPC standard is hosted by the PCI Industrial Computer Manufacturing Group (PICMG). It is broadly supported as of 2023 by up to now 29 companies and an even higher number of experienced engineers in the various COM-HPC working groups. The standardization effort at PICMG was initiated by congatec. Christian Eder, director product marketing at congatec, holds the position of the chairman for the technical subcommittee.

COM-HPC Client



Unmatched features and performance for next-gen edge and embedded computing devices with powerful graphics

From handheld to server – All designs based on one standard

COM-HPC offers a complete ecosystem for realizing future-oriented digitization projects most agile and successful. COM-HPC Computer-on-Modules are available with 3 different pin-out types and 6 different sizes for an easy development of applications ranging from powerful Small Form Factor (SFF) devices to graphics oriented multi-purpose designs as well as rugged edger servers with high core count and extensive memory capacities. Corresponding carrier boards from congatec allow

designers a direct start into application development, and congatec's cooling solutions optimized for each individual module enable most effective heat dissipation.

Facts, Features and Benefits of COM-HPC

Facts	Features	Benefits
Vendor independent standard	COM-HPC Modules are available from many different vendors, all exchangeable within the same pin-out and footprint	Increased availability and reliable multi source strategy to improve production scalability and resilience against supply chain issues
Three different pinouts and 6 different sizes	COM-HPC modules come as COM-HPC mini, COM-HPC Client and COM-HPC Server modules	From SFF applications to full blown server designs, developers can leverage the same design principles for different applications or complete product families reducing NRE and increase design security.
Processor and computing core agnostic	COM-HPC modules can host any computing core from x86 multicore processors and Arm SoCs to graphics processing units as well as ASICs and FGPAs	Identical design approach for all different computing designs accelerates and simplifies application design and improves time to market. Reliable upgrade paths across processor generations increase application life cycle and ROI (Return On Investment).
Support of future oriented interface technology	Support of more and higher bandwidth I/Os including PCIe up to Gen 5 and beyond, USB4 / Thunderbolt 4 and up to 8 x 25 GbE	Future oriented interface technology for an extra-long application life cycle without bottle necks in data transfer rates
Increased power budgets	Higher performance thanks to power budgets of up to 107 watts on credit card sized modules, 251 Watts for COM-HPC client and 358 Watts for server designs	Increased power budgets provide more headroom for designers to leverage most powerful CPUs, I/Os and memory, which all require more power for more performance. OEMs should look for vendors offering also optimized cooling solutions.

Feature Overview