New performance boost for COMs with Intel Core S technology

congatec launches new high-performance COM-HPC module for demanding real-time applications

SAN DIEGO, CA, UNITED STATES, January 9, 2025 /EINPresswire.com/ -- congatec – a leading provider of embedded and edge computing technology – has expanded its portfolio of high-performance COM-HPC Computer-on-Modules (COMs) with the conga-HPC/cBLS, which has been specially developed for power-hungry edge and infrastructure applications.

New high-performance COM-HPC module for demanding real-time applications

The new COM-HPC Client Size C (120x160 mm) modules are based on the performance hybrid architecture of the Intel Core S processors (codenamed Bartlett Lake S) with up to 16 Efficient (E) and up to 8 Performance (P) cores for up to 32 threads. These modules are designed for applications demanding exceptional multi-core and multi-thread performance, large caches, vast memory capacities, high bandwidth, and advanced I/O technologies.

Target applications include medical imaging, test & measurement, communication & networking, retail, energy, and banking. Additional use cases include video surveillance for traffic monitoring, as well as automation applications like optical inspection, which also benefit from the module's enhanced performance.

The new conga-HPC/cBLS COM-HPC Client Size C modules are particularly suitable for high-performance real-time applications with workload consolidation. The firmware-integrated hypervisor-on-module facilitates direct access to the benefits of system consolidation.

The module is an economical alternative to classic motherboards, particularly for applications that constantly require maximum performance and therefore regular performance upgrades. Compared to motherboards, standardized COMs offer high scalability and an easy upgrade path through a simple module exchange, even across processor generations. The basic design does not need to be changed.

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> The heterogeneous computing architecture, featuring Intel® Graphics and Deep Learning Boost, makes the module a high-performance, low-power server for AI inference in power-hungry edge applications."
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> *Jürgen Jungbauer, Senior Product Line Manager at congatec*

"The heterogeneous computing architecture, featuring powerful Intel® Graphics and Deep Learning Boost, makes the module a highly performant, low-power server capable of AI inference for power-hungry edge applications. When used as a GPGPU, it offers a unique performance-per-dollar ratio. Support for Intel® TSN and TCC provides an ideal foundation for networked real-time applications in sectors such as medical technology, automation, and industrial solutions," explains Jürgen Jungbauer, Senior Product Line Manager at congatec.

Application-ready and available as Hypervisor-on-Modules

congatec's new conga-HPC/cBLS Computer-on-Modules offer up to 42 PCIe lanes, including 16 lanes with PCIe Gen 5 and up to 12 lanes with PCIe Gen 4. The integrated Intel® Graphics with up to 32 execution units delivers impressive AI inference performance for AI edge applications. Fast DDR5-4000 memory with ECC support is available for data-critical applications.

The new COM-HPC Client Size C modules are also available as application-ready, custom-configured aReady.COMs, including validated pre-installed and licensed operating systems such as ctrlX OS, Ubuntu, and/or RT-Linux. Optional features include system consolidation with aReady.VT and IoT connectivity. For even faster time-to-market, the modules can be preloaded with the customer's application, enabling users to simply plug them into their finished systems.

With the firmware-integrated Hypervisor-on-Modules, the COMs offer a highly economical and flexible solution for system designs, replacing several systems in various use cases. Examples include test & measurement systems for visualization, real-time control of production cells with HMIs and IoT gateways, and edge servers in smart grids.

In addition, congatec's high-performance ecosystem and design-in services simplify application development. The service portfolio includes comprehensive board support packages, evaluation and production-ready application carrier boards, customized cooling solutions, extensive documentation and training, and high-speed signal integrity measurements. Application developers can also install the new COM-HPC COMs on congatec's Micro-ATX application carrier board ([conga-HPC/mATX)](#) for COM-HPC client modules. This provides immediate access to the full benefits and improvements of the new modules, including ultra-fast PCIe connectivity.

Further information about the new conga-HPC/cBLS modules is available at:
https://www.congatec.com/en/products/com-hpc/conga-hpccbls/

For further information about the COM-HPC standard, visit:
https://www.congatec.com/en/technologies/com-hpc/

For more information on aReady.COM, please visit: aready.com

Visit congatec at embedded world 2025 in Hall 3 at Stand 241.

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Please make a note of the press conference on all the latest news about congatec on March 11th from 2 - 2:30pm in the NCC east. An invitation will follow. Please contact us directly if you are interested in joining the press conference and/or a one-to-one meeting at the stand. (edited)

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About congatec

congatec is a leading global provider of high-performance hardware and software building blocks for embedded and edge computing solutions based on Computer-on-Modules (COMs). These advanced computer modules drive systems and devices across industries such as industrial automation, medical technology, robotics, telecommunications, and more. congatec's high-performance aReady. ecosystems simplify and accelerate the solution development, from COM to cloud. This application-ready approach combines COMs with services and customizable technologies that enable cutting-edge advancements in system consolidation, IoT, security, and artificial intelligence. Supported by its majority shareholder, DBAG Fund VIII – a German mid-market fund focused on driving growth for industrial enterprises – congatec has the financial backing and M&A expertise to capitalize on expanding market opportunities. For more information, visit www.congatec.com or follow us on LinkedIn and YouTube.

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