

Making the Path to Reliable HPC Solutions Easier

Intel® Server Products for HPC Compute Blocks High Performance Computing (HPC)



Intel® Server Products for HPC Compute Blocks

- **Build-to-order** model saves time and money
- **Channel Opportunity** to focus resources on unique value-add software, services and support
- **Unbranded systems** allow reseller to customize and brand to meet end-user requirements
- **Intel Quality & Reliability** with world class integration, validation, certification, and support
- **Standard Intel 3-year warranty** ensures customer satisfaction

Accelerating HPC Innovations to Market

Once reserved only for governments and academia looking to solve the most complex computational problems, High Performance Computing (HPC) is now transforming many traditional sectors that are in need of supercomputer-like capabilities to gain real-time insights from increasingly large and complex data sets. To meet this challenge, Intel is evolving traditional HPC computing limits with Intel® Scalable System Framework - a flexible blueprint for developing high performance, balanced, efficient and reliable HPC systems.

The Intel® Server Products for HPC Compute Blocks embodies Intel Scalable System Framework and captures the innovations taking place in compute, fabric, storage and memory in a building block optimized for HPC environments. The HPC Compute Block is a high quality, cost-effective, build-to-order server building block that features Intel's most innovative technologies, world-class validation, warranty, and support, providing resellers an unbranded building block on which to innovate, customize and differentiate their value in the market.

"Intel® Scalable System Framework is the path forward for designing and delivering the next generation of systems for the 'HPC everywhere' era," says Charlie Wuischpard, vice president and general manager of HPC Platform Group at Intel.

"The HPC Compute Blocks are built on this architecture to maximize HPC system performance and broaden accessibility and use of HPC solutions for users."

Reducing Complexity for Partners

The process of configuring and validating the foundational components of an HPC solution that is tuned to meet specific customer requirements is a complex and resource intensive process. To help address these challenges, Intel provides high-quality, fully validated building blocks that can reduce complexity for resellers. These building blocks incorporate Intel's latest data center technologies - already optimized to work better together - allowing partners to accelerate time to market with reliable HPC solutions.

Reduce Total Cost of Ownership

Because HPC solutions are individually configured based on unique customer requirements, the cost of integration and validation can be high. With a fully validated HPC building block, partners can reduce these costs by taking advantage of Intel's world-class engineering services to accelerate the integration and validation process. This gives partners more flexibility and choice about where to invest R&D spend to ensure they remain competitive in the market. There is also increased acquisition value to the partner, since they source a validated bundle of products

rather than acquiring each component individually.

Intel Built for Quality, Reliability and Value

Intel Server Products for HPC Compute Blocks are build-to-order, fully-validated, cluster-ready building blocks, optimized for HPC workloads. They consist of a 2U rackmount chassis that holds four independent servers with each server populated with high performance Intel® Xeon processors, Intel® Xeon Phi™ coprocessors, memory, Intel® SSDs and Intel's high-speed, low-latency network products. Built with Intel quality and world-class design, manufacturing and support, the HPC Compute Blocks deliver an easier path to reliable HPC solutions.

Breakthrough Performance with Intel Xeon Phi Coprocessors

The Intel Server Products for HPC Compute Blocks feature Intel Xeon Phi coprocessors which complement the industry-leading performance and energy-efficiency of the Intel® Xeon® processor E5 family to enable dramatic performance gains for some of today's most demanding applications. Each coprocessor features many more and smaller cores, many more threads, and wider vector units. The high degree of parallelism compensates for the lower speed of each individual core to deliver higher aggregate performance for highly-parallel code.

Smart Boards Ensure System Stability and Increased Uptime

Intel® Server Boards have more than 100 sensors built in that monitor all critical functions and use management capabilities to automatically flag problems before they impact business operations.

Event logs and light-guided diagnostics also assist in rapid identification and remediation of any issues.

Verify Authenticity with Intel® Transparent Supply Chain

To address customer security concerns and guard against counterfeiting and malware, the HPC Compute Block features the Intel Transparent Supply Chain which enables the ability to verify the authenticity of board components and firmware through digitally signed statements of conformance, firmware load verification and Platform Certificates provided with a more secured Trusted Platform Module.

Enhanced Benefits for Intel Server Products for HPC Compute Blocks

To further help resellers succeed in the HPC market, Intel offers its Intel® Technology Providers additional HPC Data Center Specialty Benefits specifically designed to help resellers plan, implement and deliver HPC solutions with optimal performance and rapid efficiency. Benefits include special access to Intel HPC experts and engineering resources to assist resellers as they identify exact HPC requirements for their customers. Other benefits include access to valuable solution guides, technical support and other tools to stay ahead of the competition and build customer value.

Intel Warranty Delivers Value and Confidence

The HPC Compute Block comes with Intel's standard three-year warranty that includes the option to extend coverage to five years. This coverage comes with Intel's 24/7 technical support and commitment to replace or refund any product that fails.

Build to Order

Intel® Server Products for HPC Compute Blocks are build-to-order. This means partners can order based on the specific needs of their customer. By taking advantage of Intel's latest technologies, as well as world-class engineering and validation expertise, partners can build innovative solutions faster and with a lower total cost of ownership.

Mix and Match: Build Your Own Rack

- 1U and 2U Rack form factors
- Intel® Xeon® processor family
- Intel® Xeon Phi™ Coprocessor
- Intel Fabric, Ethernet and RAID adapters
- Intel® Server Products hardware and accessories from supported families

Engage with Intel Today

Intel continuously delivers leading edge technologies to help partners innovate and differentiate themselves in the market. This is true with Intel Server Products for HPC Compute Blocks, designed to help partners realize an easier path to reliable HPC solutions. Intel will continue to enhance the HPC Compute Blocks with technologies like Intel's next generation Intel® Omni-Path Fabric, as well as next generation of high performance processors.

Contact your Intel sales representative or Intel authorized distributor for any inquiries.

More information can be found at <http://www.intelserveredge.com/hpc/>



Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Learn more at intel.com, or from the OEM or retailer. No computer system can be absolutely secure.

Cost reduction scenarios described are intended as examples of how a given Intel-based product, in the specified circumstances and configurations, may affect future costs and provide cost savings. Circumstances will vary. Intel does not guarantee any costs or cost reduction.

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