**Product Brief**

“Intel® Array Building Blocks will help us take full advantage of the power of data parallelism.”

Xia Zhang  
Neusoft CTO

“(Intel® Array Building Blocks) is an exciting new technology that is very promising for data-intensive computing environments.”

Laurent Clerc  
VP Technology Services  
CGGVeritas

**Sophisticated C++ library for data parallelism**

Intel® Array Building Blocks (Intel® ArBB) provides a generalized data parallel programming solution that frees application developers from dependencies on particular low-level parallelism mechanisms or hardware architectures. It is comprised of a combination of a standard C++ library interface and powerful virtual machine. It produces scalable, portable, and deterministic parallel implementations from a single high-level source description.

Intel® ArBB is ideal for applications that require data-intensive mathematical computations such as those found in medical imaging, digital content creation, financial analytics, energy, data mining, science and engineering. It is a component of Intel® Parallel Building Blocks, and complements other Intel developer and parallel programming tools.

**Single source**

From a single C++ source program, Intel® Array Building Blocks can efficiently drive the parallel cores and vector units in the latest CPUs as well as in future Intel® Many Integrated Core and hybrid architectures.
### Intel® Array Building Blocks Technical Specifications

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<th>Features</th>
<th>Benefit</th>
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<tr>
<td><strong>Processor Support</strong></td>
<td>Intel Array Building Blocks is validated for use with multiple generations of Intel and compatible processor families including: Intel® Core™ i3, Intel® Core™ i5, Intel® Core™ i7, Intel® Xeon™, and Intel® Pentium® 4.</td>
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<td><strong>Development Tools and Environments</strong></td>
<td>The tool is compatible with other development tools from Intel such as compilers, performance profiling and correctness tools, and Intel® Performance Libraries. In addition, it is easily used and integrated with popular development tools and environments such as Microsoft Visual Studio® (2005, 2008, 2010) and the GNU Compiler Collection® (GCC*).</td>
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<td><strong>Operating Systems</strong></td>
<td>Windows* and Linux*</td>
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<td><strong>Programming Languages</strong></td>
<td>Natively supports C++. A portable low-level interface is available in C. Additional language support is under consideration.</td>
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<td><strong>System Requirements</strong></td>
<td>Please refer to <a href="http://www.intel.com/software/products/systemrequirements/">www.intel.com/software/products/systemrequirements/</a> for details on hardware and software requirements.</td>
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Intel® compilers, associated libraries and associated development tools may include or utilize options that optimize for instruction sets that are available in both Intel® and non-Intel microprocessors (for example SIMD instruction sets), but do not optimize equally for non-Intel microprocessors. In addition, certain compiler options for Intel compilers, including some that are not specific to Intel micro-architecture, are reserved for Intel microprocessors. For a detailed description of Intel compiler options, including the instruction sets and specific microprocessors they implicate, please refer to the “Intel® Compiler User and Reference Guides” under “Compiler Options.” Many library routines that are part of Intel® compiler products are more highly optimized for Intel microprocessors than for other microprocessors. While the compilers and libraries in Intel® compiler products offer optimizations for both Intel and Intel-compatible microprocessors, depending on the options you select, your code and other factors, you likely will get extra performance on Intel microprocessors.

Intel® compilers, associated libraries and associated development tools may or may not optimize to the same degree for non-Intel microprocessors for optimizations that are not unique to Intel microprocessors. These optimizations include Intel® Streaming SIMD Extensions 2 (Intel® SSE2), Intel® Streaming SIMD Extensions 3 (Intel® SSE3), and Supplemental Streaming SIMD Extensions 3 (Intel® SSSE3) instruction sets and other optimizations. Intel does not guarantee the availability, functionality, or effectiveness of any optimization on microprocessors not manufactured by Intel. Microprocessor-dependent optimizations in this product are intended for use with Intel microprocessors.

While Intel believes our compilers and libraries are excellent choices to assist in obtaining the best performance on Intel® and non-Intel microprocessors, Intel recommends that you evaluate other compilers and libraries to determine which best meet your requirements. We hope to win your business by striving to offer the best performance of any compiler or library; please let us know if you find we do not.

Notice revision #20101101