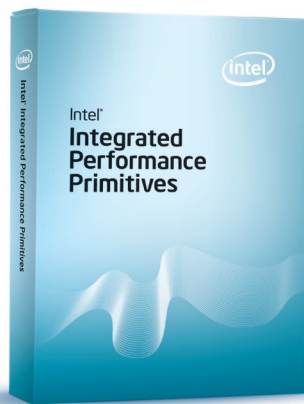




Intel® Integrated Performance Primitives 6.1

Product Brief

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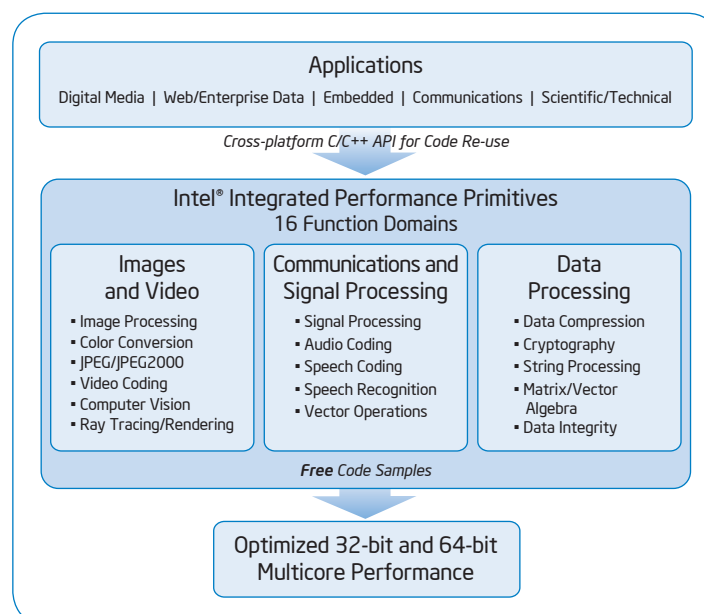
“Intel® IPP provided a 300 percent improvement in the number of users who can simultaneously participate in a webcast.”

Leo Volfson, President and Chief Technology Officer
Inetcam, Inc.

Multicore Power for Multimedia and Data Processing

Intel® Integrated Performance Primitives (Intel® IPP) 6.1 is an extensive library of multicore-ready, highly optimized software functions for multimedia, data processing, and communications applications. For a more complete and cost-effective solution Intel IPP is available as a component of Intel® Parallel Studio, Intel® Compiler Professional Editions and Intel® Compiler Suite Editions or as a standalone product. Intel IPP offers thousands of optimized functions covering frequently used fundamental algorithms in:

- Video coding
- Signal processing
- Audio coding
- Image processing
- Speech coding
- JPEG coding
- Speech recognition
- Computer vision
- Data compression
- Data integrity
- Image color conversion
- Cryptography/CAVP validated
- String processing/regular expressions
- Vector/matrix mathematics
- Ray tracing/rendering



Features

Support for Multicore Processors

Intel IPP functions are fully thread-safe, and many are internally threaded, to help you get the most out of today's multicore processors, including the Intel® Core™ i7 and Intel® Atom™ processors.

Multiplatform Compatibility

Use the same API for application development on multiple operating systems: Windows*, Linux*, and Mac OS*.

Enhancements in Intel IPP 6.1 include:

- Initial support (65 functions) for the Intel® Advanced Vector Extensions (Intel® AVX) 256-bit instruction set extension to SSE, which will be introduced in an upcoming Intel® processor.
- Major enhancements to the Deferred Mode Image Processing framework, including improved multicore performance scaling, extended node types, and thread affinity API
- Visual Studio IntelliSense* integration for function name and parameter autocompletion
- `ipp_zlib` and `ipp_gzip` redesigned for improved performance and better zlib integration
- PNG lossless image format now supported under Unified Image Codec (UIC) framework
- DXT1, DXT3, and DXT5 texture compression support
- Photo core transform functions to support High Definition Photo (HD Photo) codec development
- Cryptography functions supporting RSA_SSA1.5 and RSA_PKCS1.5 algorithms
- Spherical harmonic transform function for advanced lighting
- Improved noise detection signal processing function
- Super-sampling 3-D geometric transform for image size reduction
- IPP documentation now available in Help 2 format for Visual Studio* integration and CHM* for improved searchability

Freely Downloadable Code Samples

Jumpstart your application development with source code samples from Intel IPP, including video/audio/speech codecs, image processing, signal processing, and more.

Royalty-free Redistribution

Redistribute unlimited copies of the runtime libraries with your application.

Performance

Intel IPP functions are designed to deliver performance beyond what optimized compilers alone can deliver, by matching the function algorithms to low-level optimizations based on the processor's available features such as Streaming SIMD Extensions (SSE) and other optimized instruction sets.

For more up-to-date performance data, please visit the Intel IPP product web page at www.intel.com/software/products/ipp.

Compatibility

Intel IPP is validated for use with multiple generations of Intel and compatible AMD* processors.

Development Tools and Environments

Intel IPP is fully compatible with other development tools from Intel, such as compilers, performance and threading analyzers, and other Intel® Performance Libraries. In addition, Intel IPP is easily used and integrated with popular development tools and environments, such as Microsoft Visual Studio*, Xcode*, Eclipse*, and the GNU Compiler Collection* (GCC*).

System Requirements

Please refer to www.intel.com/software/products/systemrequirements/ for details on hardware and software requirements.

Support

Every purchase of an Intel® Software Development Product includes a year of support services, which provides access to Intel® Premier Support and all product updates during that time. Intel Premier Support gives you online access to technical notes, application notes, and documentation.

Intel® Software Development Products

Intel Software Development Products help you create the fastest software possible by offering a full suite of tools:

- Intel® Parallel Studio
- Intel® Compilers
- Intel® VTune™ Performance Analyzers
- Intel® Performance Libraries
- Intel® Threading Analysis Tools
- Intel® Cluster Tools

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