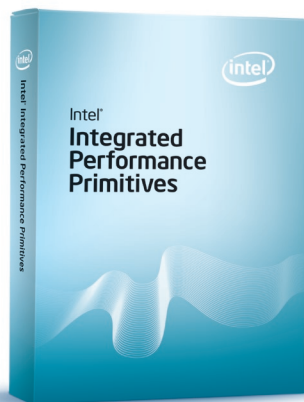




# Intel® Integrated Performance Primitives 6.1

## Product Brief

Intel® Integrated Performance Primitives 6.1



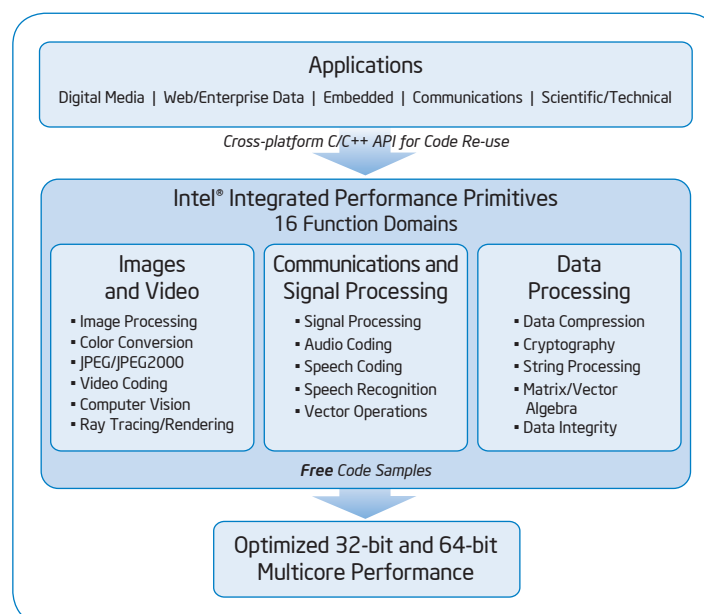
“Intel® IPP provided a 300 percent improvement in the number of users who can simultaneously participate in a webcast.”

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](http://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/](http://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

Visit our website at [www.intel.com/software/products](http://www.intel.com/software/products) for details about our entire line of products.

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