

# Intel<sup>®</sup> Integrated Performance Primitives v6.1 for Windows\* OS Release Notes

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Installation Guide and Release Notes

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## Contents:

[Introduction](#)

[System Requirements](#)

[Installation Notes](#)

[Issues and Limitations](#)

[Disclaimer and Legal Information](#)

## 1 Introduction

Intel<sup>®</sup> Integrated Performance Primitives (Intel IPP) is a software library which provides a broad range of functionality including general signal, image, speech, graphics, data compression, cryptography, text strings and audio processing, vector manipulation and matrix math, as well as more sophisticated primitives for construction of audio, video and speech codecs such as MP3 (MPEG-1 Audio, Layer 3), MPEG-4, H.264, VC-1, H.263, JPEG, JPEG2000, GSM-AMR\* and G.729, plus computer vision. By supporting a variety of data types and layouts for each function and minimizing the number of data structures used, the Intel IPP library delivers a rich set of options for developers to choose from while designing and optimizing an application.

The Intel IPP application programming interface (API) is a cross-platform, low-level software interface that abstracts multimedia and signal processing functionality from the processor underneath. This allows transparent use of recent Intel<sup>®</sup> architecture enhancements such as Intel<sup>®</sup> Core<sup>™</sup>2 Quad and Intel<sup>®</sup> Core<sup>™</sup> 2 Duo Micro architectures, Intel<sup>®</sup> 64 Technology (Intel<sup>®</sup> EM64T), Streaming SIMD Extensions (SSE), SSE2, SSE3, SSSE3, SSE4.1, SSE4.2 and MMX<sup>™</sup> technology. Intel IPP is optimized for the broad range of Intel<sup>®</sup> microprocessors: Intel<sup>®</sup> Atom<sup>™</sup> Processor, Intel<sup>®</sup> Core<sup>™</sup>2 Quad processors, Intel<sup>®</sup> Core<sup>™</sup> 2 Duo Processors, Intel<sup>®</sup> Xeon<sup>®</sup> processors, Intel<sup>®</sup> Pentium<sup>®</sup> 4 processor and the Intel<sup>®</sup> Itanium<sup>®</sup> 2 processors. With a single API across the range of architectures, application developers can have platform compatibility and reduced cost of development. Using Intel IPP, you can simplify integration of basic functions and focus more of your time and efforts on building the value-add functionality that will differentiate your product in the market.

Intel IPP v6.1 provides new optimizations and support for the latest Intel microprocessors and new features to support algorithms/standards in image processing, cryptography, image codecs, etc. Intel IPP v6.1 also integrates into Microsoft Visual Studio\*.

#### What's New in Intel® IPP 6.1?

- Support Intel® Advanced Vector Extensions (Intel® AVX)
- Support Intel® Core™ i7 processor with new optimization and threading control/optimization
- 3D Image Processing: 3D Geometric Transforms, 3D Filters
- New Data Compression Functions APIs
- New Intel IPP Crypto support to RSA\_SSA1.5 and RSA\_PKCSv1.5
- Unified Image Classes (UIC) to add PNG format support and new features to support DXT1, DXT3, DXT5 texture compression
- Advanced lighting functions including Spherical Harmonic and Perlin Noise generation Functions
- Windows Media\* Photo Support (HD Photo): IPP PCT Functions
- New video coding areas improvement including Scene Analyzer in MPEG-2, Intensity Compensation & Overlap Smoothing in VC1
- Menu driven selection of Intel IPP functions in Microsoft Visual Studio
- New chm and help 2 formats in Intel IPP manuals
- Samples for Signal Processing, Image Processing, String Processing and C++, C# language support have been added in \Samples folder. Others can be downloadable by clicking “Free Code Samples” at [Intel IPP product site](#).
- The deprecated APIs have been added more reference information in reference manual and header files.
- The online version of the Intel IPP Reference Manual integrates into the Microsoft Visual Studio\* IDE help system and is accessible through the **Help>TOC** or **Help>Index** menu items. When working in the Visual Studio code editor, you can benefit from the context-sensitive help, which enables your one-click access to the description of a function whose name is selected.  
**Known limitations:** the context-sensitive help may fail to work for some flavors of the generated functions (with the “ippg” prefix).

This document provides system requirements, installation instructions, issues and limitations, and legal information.

To learn more about this product's:

- New features: see above and more product information at <http://software.intel.com/en-us/intel-ipp>
- Documentation, help, and samples, see the Intel IPP Documentation item in the Start menu program folder

- Technical support, including answers to questions not addressed in the installed product, visit the Intel IPP technical support forum at: <<http://software.intel.com/en-us/forums/intel-integrated-performance-primitives/>> or Knowledge Base at <<http://software.intel.com/en-us/articles/intel-ipp-kb/all/1/>>

Please remember to register your product at <https://registrationcenter.intel.com/> by providing your email address. This helps Intel recognize you as a valued customer in the support forum.

## Product Contents

The Intel® Integrated Performance Primitives (Intel® IPP) v6.1 for Windows\* OS contains 3 separate install packages:

- Intel® IPP for Windows\* OS on IA-32 Intel® Architecture
- Intel® IPP for Windows\* OS on Intel® 64 (Intel® EM64T) architecture
- Intel® IPP for Windows\* OS on Intel® Itanium® Architecture

## 2 System Requirements

### Supported Architectures and Terminology

The Intel IPP v6.1 supports the following architectures:

- **IA-32 Architecture** refers to systems based on 32-bit processors generally compatible with the Intel Pentium® processors, (for example, Intel® Core™2 Duo, Intel® Core™, Pentium® 4, Pentium® D, Centrino®, Celeron® or Intel® Xeon®), Intel® Atom™ Processors or processors from other manufacturers supporting the same instruction set, running a 32-bit operating system.
- **Intel® 64 Architecture** refers to systems based on IA-32 architecture processors which have 64-bit architectural extensions, for example, Intel® Core™2 processor family, running a 64-bit operating system such as Microsoft Windows XP\* Professional x64 Edition or Microsoft Windows Vista\* x64. If the system is running a 32-bit version of the Windows operating system, then IA-32 architecture applies instead. Systems based on AMD processors running a 64-bit version of Windows are also supported.
- **IA-64 Architecture** refers to systems based on the Intel® Itanium® processor running a 64-bit operating system.

### Minimum System Requirements

#### Requirements to Develop IA-32 Applications:

- **Hardware**
  - IA-32 Intel Architecture processors, and software-compatible processors, including software-compatible AMD\* processors

- 900 MB of free hard disk space, plus an additional 300 MB during installation for download and temporary files.
- **Software**
  - A supported operating system (Intel IPP has been tested with the following):
    - Microsoft\* Windows Vista
    - Microsoft\* Windows XP
    - Microsoft\* Windows Server 2008
    - Microsoft\* Windows Server 2003
  - A supported C compiler (Intel IPP has been tested with the following):
    - Intel® Parallel Composer
    - Intel® C++ Compiler for Windows\* OS versions 10.1, 11.0 and 11.1
    - Microsoft\* Visual Studio\* 2008
    - Microsoft\* Visual Studio\* 2005
    - Microsoft\* Visual C++\* .NET 2003
    - Microsoft\* Windows Software Development Kit for Microsoft\* Windows Vista

#### **Requirements to Develop Intel 64 Architecture based Applications:**

- **Hardware**
  - a PC, workstation or server, with an Intel® Xeon® processor with Streaming SIMD Extensions 3 (SSE3) and Intel 64 or an Intel® Pentium® D processor
  - 800 MB of free hard disk space, plus an additional 300 MB during installation for download and temporary files.

#### **IMPORTANT NOTE FOR APPLICATIONS BUILT TO RUN ON SYSTEMS WITH INTEL 64 ARCHITECTURE**

Due to an incompatible change made by Microsoft in the Windows calling standard, code compiled and built for systems with Intel® 64 architecture against versions of the Microsoft Platform SDK earlier than Build 1289, including those compiled with version 8.1.015 or earlier of the Intel C++ Compiler, must be recompiled with the version 9.1 compiler and with Build 1289 or later of the Platform SDK. Failure to do so could cause unpredictable application failures when run on newer versions of Microsoft Windows, including Windows XP Professional x64 Edition and Windows 2003 Server x64 Edition.

- **Software**
  - A supported operating system (Intel IPP has been tested with the following):
    - Microsoft\* Windows Vista x64 Edition
    - Microsoft\* Windows XP x64 Edition Version 2003
    - Microsoft\* Windows Server 2008
    - Microsoft\* Windows Server 2003 x64 Edition
  - A supported C compiler (Intel IPP has been tested with the following):
    - Microsoft\* Visual Studio\* 2008

- Microsoft\* Visual Studio\* 2005
- Intel® C++ Compiler for Windows\* OS versions 10.1, 11.0 and 11.1 for processors with Intel® 64
- Microsoft\* Platform SDK, Version 3790.1830 (April 2005)
- Microsoft\* Platform SDK R2, Version 3790.2075 (March 2006)

### Requirements to Develop IA-64 Architecture based Applications:

- **Hardware**
  - a PC, workstation or server, with an Intel® Itanium® 2 processor
  - 600 MB of free hard disk space, plus an additional 300 MB during installation for download and temporary files
- **Software**
  - A supported operating system (Intel IPP has been tested with the following):
    - Microsoft\* Windows Server 2008
    - Microsoft\* Windows Server 2003
  - A supported C compiler (Intel IPP has been tested with the following):
    - Intel® C++ Compiler for Windows\* OS version 10.1,11.0 and 11.1 for Intel Itanium Processors
    - Microsoft\* Platform SDK, Version 3790.1830 (April 2005)
    - Microsoft\* Platform SDK R2, Version 3790.2075 (March 2006)

To read the installed documentation, check this “install.htm” file under \doc directory.

## 3 Installation Notes

If you are installing the product for the first time, please be sure to have the product serial number available so you can type it in during installation. A valid license is required for installation and use.

To begin installation, do one of the following:

- If you received your product as a downloadable file, double-click on the executable file (.EXE) to begin installation. If several different downloadable files are available (such as for different components), please read the download web page carefully to determine which file is appropriate for you.
- If you received your product on CD-ROM media, insert the first product CD in your computer’s CD-ROM drive; the installation should start automatically. If it does not, open the top-level folder of the CD-ROM drive in Windows Explorer and double-click on setup.exe.

Because this product supports the ability for multiple versions to coexist, you do not need to uninstall previous versions or updates before installing a newer version. If you want to remove older versions, you may do so before or after installing the newer one, by using the Control panel > Add/Remove Programs icon.

## Default Installation Folders

The default top-level installation folder for this product is:

- C:\Program Files\Intel\IPP\6.1.x.xxx\ia32 ( IA-32 based system)  
or
- C:\Program Files\Intel\IPP\6.1.x.xxx\em64t (Intel 64 based system)  
or
- C:\Program Files\Intel\IPP\6.1.x.xxx\itanium (Intel IA-64 based system)

If you are installing on a system with a non-English language version of Windows, the name of the Program Files folder may be different. On Intel® 64 architecture systems, the folder name is Program Files (X86) or the equivalent.

This product installs into an arrangement of folders shown in the diagram below

- C:\Program Files\Intel\IPP\6.1.x.xxx\ia32
  - bin
  - include
  - lib
  - stublib
  - Doc
  - Tools
  - Demo
  - Samples

Where x.xxx is the version update number.

## Changing, Updating and Removing the Product

If you want to add or remove components from an installation, open the Control Panel and select the Add or Remove Programs applet, select “Intel® Integrated Performance Primitives” and click **Change**. To remove the product, select **Remove** instead of **Change**.

When installing an updated version of the product, you do not need to remove the older version first. You can have multiple versions of the product installed.

## 4 Issues and Limitations

### Resolved Issues

Not available in this version.

Bug Number	Description

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To obtain more detailed information, please refer to [Technical Support](#).

## Known Issues and Limitations

Not available in this version.

## 5 Disclaimer and Legal Information

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MPEG-1, MPEG-2, MPEG-4, H.263, H.264, MP3, DV SD/25/50/100, VC-1, G.711, G.722, G.722.1, G.723.1A, G.726, G.728, G.729, GSM/AMR, GSM/FR, JPEG, JPEG 2000, Aurora, TwinVQ, AC3 and AAC are international standards promoted by ISO, IEC, ITU, SMPTE, ETSI and other organizations. Implementations of these standards or the standard enabled platforms

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