Intel® Integrated Performance Primitives v6.1 for Linux* OS Release Notes

Installation Guide and Release Notes

Document number: 321360-001US

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1 Introduction

Intel® 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® architecture enhancements such as Intel® Core™2 Quad and Intel® Core™ 2 Duo Microarchitectures, Intel® 64 Technology (Intel® EM64T), Streaming SIMD Extensions (SSE), SSE2, SSE3, SSSE3, SSE4.1, SSE4.2 and MMX™ technology. Intel IPP is optimized for the broad range of Intel® microprocessors: Intel® Atom™ Processors, Intel® Core™2 Quad processors, Intel® Core™ 2 Duo Processors, Intel® Xeon® processors, Intel® Pentium® 4 processor and the Intel® Itanium® 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
- 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 Linux* OS contains 4 separate install packages:

- Intel® IPP for Linux* OS on IA-32 Intel® Architecture
- Intel® IPP for Linux* OS on Intel® 64 (Intel® EM64T) architecture
- Intel® IPP for Linux* OS on IA-64 Architecture(Intel® Itanium®) Architecture
- Intel® IPP for Linux* OS on Intel® Atom™ Processor

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
  - 1600 MB of free hard disk space, plus an additional 800 MB during installation for download and temporary files.
- **Software**

- Linux system with glibc 2.2.4, 2.2.5, 2.2.93, 2.3.2 or 2.3.3 and the 2.4.X or 2.6.X Linux kernel as represented by the following distributions. Note: Not all distributions listed are validated and not all distributions are listed.
  - Red Hat Enterprise Linux* OS 2.1, 3, 4, 5
  - SUSE* Linux 8.2, 9.1, 10, 11;
  - SUSE Linux Enterprise Server* 8 or 9
  - Debian* 4.0r1
  - Ubuntu* 7.10
  - Asianux* Server 3.0
  - Red Flag* 5.0
- Supported C compilers (Intel IPP has been tested with the following):
  - Intel® C++ Compiler version 10.1, 11.0 and 11.1 for Linux* OS for IA-32 processors
  - Linux Developer tools component installed, including gcc, g++ and related tools. SUSE Linux Enterprise Server* 8 or 9

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® EM64T or an Intel® Pentium® D processor and software-compatible processors, including software-compatible AMD* processors
  - 1700 MB of free hard disk space, plus an additional 600 MB during installation for download and temporary files.
- **Software**
  - Linux system with glibc 2.2.4, 2.2.5, 2.2.93, 2.3.2 or 2.3.3 and the 2.4.X or 2.6.X Linux kernel as represented by the following distributions. **Note:** Not all distributions listed are validated and not all distributions are listed.
    - Red Hat Enterprise Linux* OS 3 ,4, 5
    - SUSE Linux Enterprise Server* 9
    - Debian* 4.0r1
    - Ubuntu* 7.10
    - Asianux* Server 3.0
    - Red Flag* 5.0
  - Supported C compilers (Intel IPP has been tested with the following):
    - Intel® C++ Compiler version 10.1, 11.0 and 11.1 for Linux * for processors with Intel 64 architecture
    - Linux Developer tools component installed, including gcc, g++ and related tools.

Requirements to Develop IA-64 Architecture based Applications:

- **Hardware**
  - A PC, workstation or server, with an Intel® Itanium® 2 processor

- 1100 MB of free hard disk space, plus an additional 600 MB during installation for download and temporary files.

- **Software**
  - Linux system with glibc 2.2.4, 2.2.5, 2.2.93, 2.3.2 or 2.3.3 and the 2.4.X or 2.6.X Linux kernel as represented by the following distributions. Note: Not all distributions listed are validated and not all distributions are listed.
    - Red Hat Enterprise Linux* OS 2.1, 3, or 4
    - SUSE Linux Enterprise Server* 8 or 9
    - Debian* 4.0r1
    - Ubuntu* 7.10
    - Asianux* Server 3.0
    - Red Flag* 5.0
  - Supported C compilers (Intel IPP has been tested with the following):
    - Intel® C++ Compiler version 10.1 ,11.0 and 11.1 for Linux * for Intel Itanium processors
    - Linux Developer tools component installed, including gcc, g++ and related tools.

Requirements to Develop Intel® Atom™ Processor based Applications:

- **Hardware**
  - IA-32 Intel Architecture processors, and software-compatible processors, including software-compatible AMD* processors
  - a PC, workstation or server, with Low Power Intel Architecture processors
  - 1200 MB of free hard disk space, plus an additional 340 MB during installation for download and temporary files.
- **Software**
  - Linux system with glibc 2.2.4, 2.2.5, 2.2.93, 2.3.2 or 2.3.3 and the 2.4.X or 2.6.X Linux kernel as represented by the following distributions. Note: Not all distributions listed are validated and not all distributions are listed.
    - Ubuntu* 7.10
    - Red Flag* 5.0
    - Midinux* 2
    - Supported C compilers (Intel IPP has been tested with the following): Intel® C++ Compiler version 9.1 , 10.0, 10.1 and 11.1 for Linux* OS for IA-32 processors
  - Linux Developer tools component installed, including gcc, g++ and related tools.

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

3 Installation Notes

Guidance on the installation of Intel IPP is provided at install time. Links will be provided to a file with step by step instructions (filename: Install.htm). This file can also be found in the \doc directory. Please see the separate "Installation Guide" for Intel IPP installation.
The default installation directory is:
`/opt/intel/ipp/6.1.x.xxx/ia32` (IA-32 based system)
`/opt/intel/ipp/6.1.x.xxx/em64t` (Intel 64 based system)
/`opt/intel/ipp/6.1.x.xxx/itanium` (Intel IA-64 based system)
/`opt/intel/ipp/6.1.x.xxx/lp32` (Intel Atom Processor based system)

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

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

- `/opt/intel/ipp/6.1.x.xxx/ia32`
  - `include`
  - `lib`
  - `sharedlib`
  - `Doc`
  - `Tools`

Where *x.xxx* is the version update number.

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

To obtain more detailed information, please refer to Technical Support.

Known Issues and Limitations
Not available in this version.

5 Disclaimer and Legal Information