Intel® Application Software Development Tool Suite

For Intel® Atom™ processor

Product Brief

Intel® Application Software Development Tool Suite

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Get a complete software development tools solution for your Intel® Atom™ processor-based application software development. Coding, compiling, debugging, and performance tuning made simple.

The Intel® Application Software Development Tool Suite for Intel® Atom™ processors is a complete solution that addresses software performance requirements of Intel® Atom™ processor-powered tablets, netbooks, smartphones, handhelds, and IVI- and TV-targeted devices. It also enhances the productivity and experience of the application development process.

The application tool suite covers the entire software development cycle: coding, compiling, debugging, and analyzing performance. All included tools are Linux* hosted and compatible with GNU tools.

- Intel® C++ Compiler for Linux*
- Intel® Application Debugger for Intel® Atom™ processor
- Intel® Integrated Performance Primitives for Linux*
- Intel® VTune™ Performance Analyzer for Linux*
- MeeGo* Integration and Support

The Development Cycle: How the Application Tools Solution Can Help

Intel® C++ Compiler

- Highly optimizing
- Full support for Intel Atom processor
- GCC compatible

Intel® Integrated Performance Primitives

- Highly optimized multimedia functions
- Intel Atom processor optimized

Intel® Application Debugger

- Intel Atom processor support
- Application debugging
- OS aware
- Execution trace support

Intel® VTune™ Performance Analyzer

- Tune code actually running on device
- Performance bottleneck identification
- Tuning assistant

MeeGo* Compatibility

- Validated for MeeGo*-based target devices
- Remote debug support for QEMU* MeeGo* image
- Support for Image Creator and chroot build environment

Features

Completeness

Use a set of software tools based on the latest technology to address the entire software product development cycle (design, generate, debug, and analyze) without the need to research the components of other tools.

Performance

The in-order scheduler and a wide variety of Intel Atom processor-targeted optimization improvements in the compiler provide a significant performance advantage over GCC. The highly optimized Intel® Integrated Performance Primitives (Intel® IPP) provides the same simple API as for Intel® Architecture (IA)-32, while also being highly optimized for Intel Atom processors. The Intel VTune Performance Analyzer helps identify performance bottlenecks and analyze performance data collected on the Intel Atom processor-based target device.

Multimedia and Performance Libraries

With Intel IPP, application developers can concentrate on feature implementation rather than optimization of application code. Intel IPP provides performance-optimized, building-block functions for key software applications such as: multimedia playback/recording, editing, image processing, audio/speech/signal processing, and network data communications. Free code samples downloadable from the Intel® website enhance the value of Intel IPP functions by illustrating the implementation of multithreaded application blocks such as video, audio, and speech codecs.

Efficiency and Productivity

Intel® Application Debugger

Intel Application Debugger for Intel Atom processor supports all aspects of debugging, from low-level assembler debugging to high-level language C++ application debugging. This includes full execution trace support, which helps identify errors that are normally hard to detect.

On the development host, Intel Application Debugger supports TCP/IP-based development and testing of MeeGo* applications within a QEMU*-based virtual machine environment, as well as an Image Creator chroot-based environment enhanced with Xephyr* GUI simulation. Thus, the debugger can be used not only to debug applications that are running on actual Intel Atom processor-powered devices, but also for host development system-based debug before deployment to the targeted device. Native testing and remote debugging of processes running on a virtual machine reduce time and simplify the development process. The full GUI-driven application debugger supports execution trace support to look back at the history of an executed program, providing OS awareness and thread-aware debugging.

MeeGo* SDK and Intel® Tools

The Intel® Application Tool Suite is a set of highly optimizing software development tools, including a powerful debugger application for more efficient debug cycles. The tools are compatible with the GNU world and complement the standard open source GNU tools offering, which are part of the Moblin* development environment.

Furthermore, the tool suite integrates into the MeeGo* Image Creator (MIC). Kickstart scripts tightly integrate the Intel® C++ Compiler and Intel IPP into MIC's jailroot environment. This allows for save and host environment pollution-free development, while taking advantage of the full performance of your development system at build time. Alternatively, you can install Intel C++ Compiler and Intel IPP into a MeeGo* virtual image running under QEMU*. Simply download a developer MeeGo* image for use in a virtual machine environment

and install Intel® Application Software Development Tool Suite components directly into it to start even faster with the development of MeeGo*-based system and application software.

Intel® VTune™ Performance Analyzer

Intel VTune Performance Analyzer makes it fast and easy to find performance bottlenecks with a list of the most active functions. Click on a function name to display the source and show the most time-consuming source statements. Furthermore, event-based sampling's support for low-power Intel Atom processors permits determining the causes for execution stalls that impact performance.

System Requirements

Host System:

- Ubuntu 9.10*
- SLES 11*
- Fedora 10* and Fedora 11*

Target System:

- Support of most Intel® Atom™ processor variants (Zxxx, Nxxx, Dxxx, and Exxx series)
- Intel® Media processor CE 3100
- Intel® Atom™ processor CE 4100, and CE 4200
- Linux kernel 2.6.x*, Moblin 2.x* and MeeGo 1.0* compliant OS

Support

Every purchase of an Intel® Software Development Product includes one year of support services, which includes 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.

Additional help can be found at:
https://registrationcenter.intel.com/support/

User forum:
http://software.intel.com/en-us/forums/software-development-toolsuite-atom/

Download a Trial Version Today

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www.intel.com/software/products/atomtools

Optimization Notice

Intel® Compiler includes compiler 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® Compiler are reserved for Intel microprocessors. For a detailed description of these compiler options, including the instruction sets they implicate, please refer to "Intel® Compiler User and Reference Guides > Compiler Options." Many library routines that are part of Intel® Compiler are more highly optimized for Intel microprocessors than for other microprocessors. While the compilers and libraries in Intel® Compiler 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.

While the paragraph above describes the basic optimization approach for Intel® Compiler, with respect to Intel's compilers and associated libraries as a whole, Intel® Compiler 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.

Intel recommends that you evaluate other compilers to determine which best meet your requirements.

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