

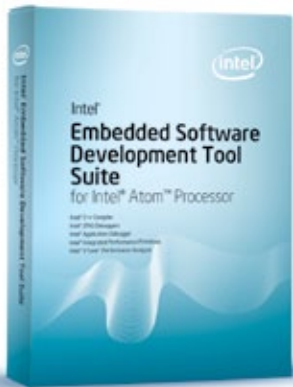


Intel® Embedded Software Development Tool Suite

for Intel® Atom™ processor

Product Brief

Intel® Embedded Software Development Tool Suite for Intel® Atom™ processor



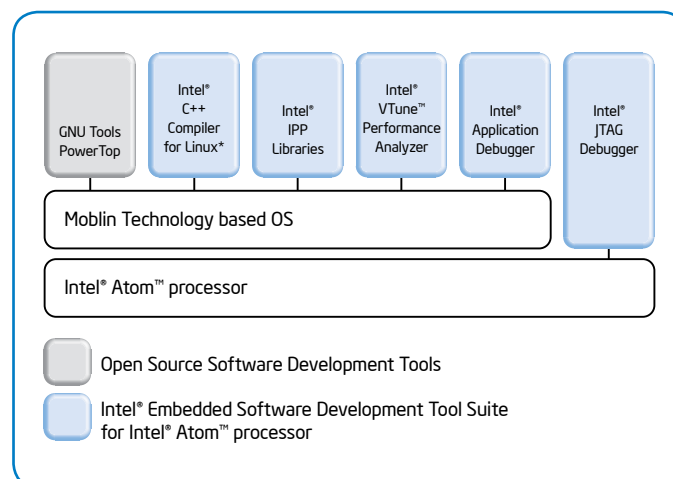
Get a complete Software Development Tools Solution for your Intel® Atom™ processor-based Embedded System and application software development. Coding, Compiling, Debugging, and Performance Tuning made simple.

The Intel® Embedded Software Development Tool Suite for Intel® Atom™ processor is a complete tools solution set to address software performance requirements of Intel Atom processor-powered MID, Embedded, Netbook, and Consumer Electronic devices, and to enhance the productivity and experience of the system and application development process.

The Embedded Tool Suite covers the entire cycle of software development: coding, compiling, debugging, and analyzing performance. All included tools are Linux* hosted and compatible with GNU tools.

- Intel® C++ Compiler for Linux* OS
- Intel® JTAG Debugger for Intel® Atom™ processor
- Intel® Application Debugger for Intel® Atom™ processor
- Intel® Integrated Performance Primitives Libraries for Linux* OS
- Intel® VTune™ Performance Analyzer for Linux* OS

Moblin* application development support



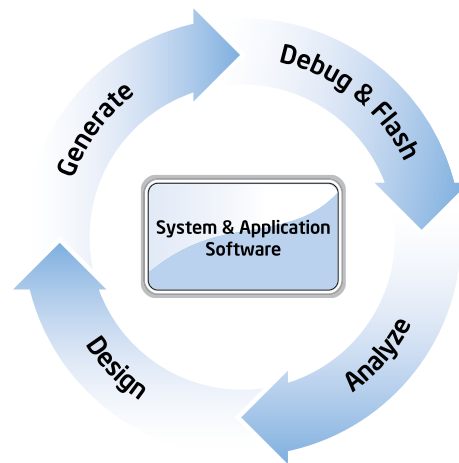
The Development Cycle: How the Embedded Tools Solution Can Help

Intel® C++ Compiler

- Latest high level and microarchitecture targeted optimization
- Full support for Intel® Atom™ processor
- GCC compatible

Intel® Integrated Performance Primitives Library

- Highly optimized multimedia functions
- Intel® Atom™ processor optimized



Intel® JTAG and Application Debuggers

- Intel® Atom™ processor and chipset support
- Kernel and low-level driver debugging
- Application debugging
- OS awareness
- Built-in flash memory tool
- Execution trace support

Intel® VTune™ Analyzer

- Tuning code actually running on device
- Event based sampling for platform targeted performance optimization
- Identifying performance bottlenecks
- Tuning Assistant

Features

Completeness

Use a set of software tools based on the latest tools technology for the entire software product development cycle (Design, Generate, Debug, and Analyze) without the need to research the components of other tools.

Performance

New highly optimized in-order scheduler and latest Intel® Atom™ processor specific improvements in the compiler provide a significant performance advantage over GCC. Highly optimized Intel® Integrated Performance Primitives (Intel® IPP) provide the same simple API as for IA-32 architecture, while highly optimized for Intel® Atom processors. Intel VTune Performance Analyzer helps to identify performance bottlenecks.

Multimedia and Performance Libraries

With Intel Integrated Performance Primitives 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 the Intel IPP functions by illustrating the implementation of multithreaded application blocks such as video, audio, and speech codecs.

Efficiency and Productivity

Debuggers

Intel® Debuggers for Intel Atom Processor support all aspects of debugging, from low-level driver and kernel debugging to high-level language C++ application debugging, with full execution trace support, and flash memory writer capabilities (only with JTAG hardware interface). Applications can be debugged on the host development environment as well as remotely via TCP/IP.

JTAG Debugger

The Intel® JTAG Debugger for Intel Atom processor is the recommended debug solution for hardware manufacturers, Embedded Developers, and Operating System Vendors who need to deal with kernel debugging and low-level driver development. A JTAG debug solution does not require a running OS system on the device. So it's ideal for bootcode and firmware debugging as well as kernel debugging while booting the OS. Through a JTAG interface the target hardware is connected to the debugger on the host system. The JTAG debugger allows in-depth access of IA-specific features (execution trace support), as well as access to system-on-chip and chipset peripheral register content. This feature is unique and makes it valuable for driver development and debugging. Even the entire processor and peripheral registers are fully documented in the JTAG debugger solution.

Supported JTAG devices:

- 3rd party vendor JTAG interface support available at Macraigor*. Get hardware device through www.macraigor.com/intel.
- Intel® XDP3 JTAG interface (enabling product only, no public product—please contact us if you are a hardware manufacturer: MIDDevTools@intel.com)

Application Debugger

The Application Debugger supports native development and testing of Moblin* technology-based applications within a KVM environment on the development host before they run on a real Intel Atom processor-powered device. Native testing reduces time and simplifies the development process. The full GUI-driven application debugger supports execution trace support to look back to the history of an executed program, and provides OS awareness and thread-aware debugging.

Moblin* SDK and Intel Tools

The Intel® Embedded Tool Suite is a set of highly optimizing software development tools, with powerful debuggers 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 Moblin Image Creator 2 (MIC2). Kickstart scripts tightly integrate the Intel® C++ Compiler and Intel® IPP into MIC2'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 also install the Intel® C++ Compiler and the Intel® IPP into a Moblin 2* virtual image running under KVM*. Simply downloading a developer Moblin 2 image and installing Intel® Software Development Tool Suite components directly into it let you start even faster with the development of Moblin technology-based system and application software.

The flexible cross-development targeted installation concept of the Intel® Application Software Development Tool Suite opens it up to be customized to the developer's setup and to be easily adjustable to future directions of the Moblin* and MeeGO* projects.

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 support for low-power Intel Atom processors permits determining causes for execution stalls that impact performance.

System Requirements

Host System:

- Ubuntu 9.x*
- Asianux 3*
- Fedora 10* and Fedora 11*

Target System:

- Support of all Intel® Atom™ processor variants (Zxx, Nxx series)
- JTAG Debugger supports:
 - Intel® Atom™ processor Z5xx
 - SCH US15W
- Intel® Media processor CE 3100
- Intel® Atom™ processor CE 4100
- Linux kernel 2.6.x*, Moblin 2.x*, Moblin compliant OS

Support

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

Download a trial version today.
Intel® Embedded Software Development Tool Suite for Intel® Atom™ processor www.intel.com/software/products/compilers/flin

