



Intel® Integrated Native Developer Experience (Intel® INDE)



Product Brief

Cross Platform Meets Native Performance

Create native Android and Windows* apps in C++ or Java* using Intel® INDE: a cross-OS, cross-architecture suite that integrates into popular IDEs, providing performance and saving time throughout the development workflow. Intel® INDE is a complete set of tools and libraries to build, analyze, and debug, allowing fast time to market and deliver great experiences. Intel® INDE allows you to quickly develop apps that run on ARM*-based Android devices and on Intel® Architecture-based Android and Windows* devices allow the exposing of unique Intel hardware capabilities that will delight your customers.

Excellent Performance/Fast Time: C++ and Java* tools allow developers of single and mixed-modes to code native applications that expose underlying architecture, enabling fast delivery of high performance, responsive apps with differentiated experiences. True cross-OS libraries enable development of a single code base for performance-sensitive logic, saving time so you can focus on optimizing for your target OS. With easy-to-use sample solutions to challenging coding requirements, Intel® INDE lets you get your project done fast with great performance.

IDE Choice:

INDE gives you the freedom to integrate tools into your preferred IDE, on your preferred host OS. Intel® INDE supports Microsoft* Visual Studio, Eclipse and Android Studio on Windows* host systems, and Eclipse and Android Studio on OS X* host systems, giving you the ability to create Android and Windows apps in the environment you're used to. Not a fan of any of these? Choose Intel® INDE's command line option to experience the benefit of Intel® INDE without the commitment of an IDE.



Right-size the product to meet your needs: Intel® INDE is offered in 3 tiers, allowing you to choose the level that best suits the needs of you and your team.

Starter Edition:

Experience powerful tools and samples that allow you to quickly find performance bottlenecks, add professional-grade media and context-aware capabilities to your app, develop OpenCL™ kernels for GPU offload, and integrate with popular third-party tools, all available through your preferred IDE.

Professional Edition:

Maximize your use of Microsoft Visual Studio for Android app development with native C++ debugging for VS-Android while diving deeper into debugging and analysis with expanded features for graphics. Receive audio encoding and decoding capabilities for Windows*, plus all of the benefits of the Starter Edition.

Ultimate Edition:

Improve efficiency with a single code base built around performance-sensitive logic through cross-OS and cross-architecture, award-winning libraries including Intel® Threading Building Blocks and Intel® Integrated Performance Primitives. Compile your code for maximum performance on Intel® Architecture-based targets using the Intel® C++ Compilers for Android* and Windows*. Receive the full workflow offering including features from the Starter and Professional editions.

Tools	Starter Edition	Professional Edition	Ultimate Edition
Quick Setup: IDE Integration into Visual Studio*, Android Studio* and Eclipse*	✓	✓	✓
Cross-OS and Cross-Architecture Targeting	✓	✓	✓
Increase Productivity	✓	✓	✓
Use Platform Capabilities for Differentiated Apps	✓	✓	✓
Optimize Graphics with Complete Debugging and Analysis Support		✓	✓
Maximize Productivity and Performance with Intel C++ Compilers and Optimized Libraries			✓

What's inside? Feature overview:

Getting Started

IDE Integration for Android*: Integrate popular tools targeting Android* on ARM* and Intel® Architecture devices into your IDE including the Intel® INDE native project template for Android* Studio, Android* ADT, Android* NDK, VS-Android* and Intel® INDE plugins for Eclipse*. Choose from Microsoft Visual Studio, Android Studio or Eclipse for integration, or, choose a command line option.

Build

Media RAW Accelerator for Windows*: Build applications to process RAW photos and 4K RAW video. Plus, achieve real-time performance utilizing the GPU-accelerated RAW image processing capabilities of Intel technology.

Media for Mobile: Bring professional-quality video & audio to your mobile apps using extensions enabling camera & screen capture, video editing, video streaming and audio fingerprinting. Media for Mobile supports Android, Windows-RT* and iOS*.

Audio for Windows*: Build in the ability for your end users to stream screen captures and recordings from their Windows device. Deliver quality sound with audio encode and decode for AAC, MPEG-1 and MPEG-2 through a dedicated library for audio codec processing. This feature plugs into the Media SDK for Windows*.

Media SDK for Windows*: Deliver hardware-accelerated video editing and processing, media conversion, streaming and playback, and video conferencing.

Intel® Threading Building Blocks: get the most out of multi-threaded and multi-core platforms with this cross-OS C++ template library for task parallelism.

Intel® Integrated Performance Primitives: a consistent set of cross-OS APIs to optimize compute-intensives tasks regardless of the target operating system or IA platform. Developers are freed from having to develop separate code paths to address different processor optimizations since Intel IPP handles that automatically.

OpenCL™ Code Builder: Maximize the power of the platform by optimizing tasks with the compute engines. Tap into an easy-to-use development environment to build, debug, and optimize OpenCL™ Applications on Windows* and Android*, accelerated with Intel® Graphics processors.

Intel® C++ Compilers for Android* and Windows*: Experience great performance for compute-intensive applications. Both compilers are compatible with the GNU C++ Compiler for fast and easy multi-architecture support. Use the Android* compiler with NDK tools, including Eclipse, and the Windows* compiler with Visual Studio, so you can stay productive using tools you already know.

Context SDK: bring advanced sensor capabilities to mobile thru APIs, algorithms and state machines. Use Intel's next-generation integrated sensor hub (ISH) for Android with all your data aggregated to a Mashery-managed cloud service.

Intel® INDE provides:

IDE support

Microsoft Visual Studio,
Eclipse* and Android Studio

Host support

Microsoft Windows* 7-8.1
Apple OS X* 10.9

Target support

Android 4.3 & up devices on
ARM* and Intel® Architecture

Microsoft Windows* 7-8.1
devices on Intel® Architecture

**Learn More and Download a
Free Trial:**

intel.com/software/INDE

Analyze and Debug

Intel® Hardware Accelerated Execution Manager (Intel® HAXM): A hardware-assisted virtualization engine that uses Intel® Virtualization Technology to speed up Android app emulation.

Graphics Frame Analyzer: Deep dive into frame capture performance analysis and experimentation for your OpenGL-ES* and DirectX* 3D workloads. This feature was previously available through the Intel® Graphics Performance Analyzers (Intel® GPA).

Graphics Frame Debugger:** Debug and experiment with static frame captures from your OpenGL-ES* 3D workloads, explore frame construction, assets, state and more.

System Analyzer:** Graph platform, CPU, and GPU metrics and experiment with a variety of graphics overrides for your OpenGL* & DirectX* 3D workloads in real time.

Platform Analyzer:** Analyze trace captures from your OpenGL-ES* & DirectX* 3D workloads including CPU and GPU queued tasks, durations, and more.

Debugger Extension for VS-Android: Native debugging for Visual Studio* lets you perform interactive debug on real target devices or simulators, including single-step execution, call stack view, and more, so you can deliver flawless native apps for Android* and Windows*.

Download the Intel® INDE Starter Edition for free, or buy the Professional or Ultimate Editions today at www.intel.com/software/INDE

**This feature was previously available through Intel® Graphics Performance Analyzers (Intel® GPA).

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

The cost reduction scenarios described in this document are intended to enable you to get a better understanding of how the purchase of a given Intel product, combined with a number of situation-specific variables, might affect your future cost and savings. Nothing in this document should be interpreted as either a promise of or contract for a given level of costs.

Optimization Notice: Intel's compilers 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 SSE2, SSE3, 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. Certain optimizations not specific to Intel microarchitecture are reserved for Intel microprocessors. Please refer to the applicable product User and Reference Guides for more information regarding the specific instructions covered by this notice. (Notice revision #20110804).

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