

Intel® Graphics Performance Analyzers (Intel® GPA) 2016 R4 Release Notes

Thank you for choosing the Intel® Graphics Performance Analyzers (Intel® GPA), available as a standalone product and as part of Intel® System Studio.

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Introduction

Intel® GPA provides tools for graphics analysis and optimizations for making games and other graphics intensive applications run even faster. The tools support the platforms based on the latest generations of Intel® Core™ and Intel Atom™ processor families, for applications developed for Windows*, Android*, Ubuntu*, or macOS*.

Intel® GPA provides a common and integrated user interface for collecting performance data. Using it, you can quickly see performance opportunities in your application, saving time and getting products to market faster.

For detailed information and assistance in using the product, refer to the following online resources:

- [Home Page](#) - view detailed information about the tool, including links to training and support resources, as well as videos on the product to help you get started quickly.
- [Getting Started](#) - get the main features overview and learn how to start using the tools on different host systems.
- [Training and Documentation](#) - learn at your level with Getting Started guides, videos and tutorials.
- [Online Help for Windows* Host](#) - get details on how to analyze Windows* and Android* applications from a Windows* system.
- [Online Help for macOS* Host](#) - get details on how to analyze Android* or macOS* applications from a macOS* system.

- [Online Help for Ubuntu* Host](#) - get details on how to analyze Android* or Ubuntu* applications from an Ubuntu* system.
- [Support Forum](#) - report issues and get help with using Intel® GPA.

What's New

Intel® GPA 2016 R4 offers the following new features:

New Features for Analyzing All Graphics APIs

Graphics Frame Analyzer

- Bar Chart now supports grouping draw calls by regions (debug regions, shader usage, etc.) for Microsoft DirectX* 12 and OpenGL* APIs.

Graphics Trace Analyzer [Beta]

Trace Analyzer is a new timeline analysis tool supplemental to Platform Analyzer. At this moment, Trace Analyzer provides the same functionality as Platform Analyzer and adds support of platform analysis of desktop OpenGL* applications on Ubuntu* systems. For detailed information on Trace Analyzer, see the Platform Analysis topic in online help.

Note: You cannot analyze traces on a remote system using Trace Analyzer.

Here is a summary of the supported features per target application type:

- Microsoft DirectX* applications: ◦DirectX API calls
 - CPU and GPU queues and relations between CPU and GPU tasks
 - VSync
 - CPU and GPU frame boundaries
 - GPU and API metrics
 - ETW Events
 - Context switches
- Android OpenGL ES* applications: ◦OpenGL ES API calls
 - Context switches
 - GPU and API metrics
 - atrace events

Note:

- You can analyze Android* apps on both rooted and non-rooted systems.
 - x86, x64 and ARM*-based 32-bit systems are supported.
- Ubuntu* OpenGL* applications:
 - OpenGL API calls
 - API metrics
 - Context switches

New Features for Analyzing Microsoft DirectX* 12 Applications

Graphics Frame Analyzer

- Resource viewer for ResourceBarrier calls
- Resource usage history. You can watch a video illustrating this feature: <https://www.youtube.com/watch?v=CBCzMszOvsY>
- Support for MSAA textures
- Support for bundles
- Support for DirectX* 12.1
- Arguments for DirectX* 12 API call visualization.

New Features for Analyzing DirectX* 9/10/11 Applications

Graphics Frame Analyzer:

- Added support for VR games (tested on HTC Vive* and Oculus Rift*).
- Added support for high DPI Monitors.

New Features for Analyzing OpenGL/OpenGL ES* Applications

Graphics Frame Analyzer:

- Enabled support for ARB shaders
- Disabled pipeline view

Note: On Ubuntu* and macOS* host systems, Trace Analyzer is the only platform analysis tool installed by default. If you would like to analyze Android* OpenGL ES* applications with the Platform Analyzer, you need to install it separately. For desktop OpenGL* applications, you can only use Trace Analyzer to capture and analyze trace files.

Documentation Updates

- Documented all newly added product features.

Technical Support and Troubleshooting

For technical support, including answers to questions not addressed in the installed product, visit the [Support Forum](#).

*Other names and brands may be claimed as the property of others.

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For more complete information about compiler optimizations, see our [Optimization Notice](#).