

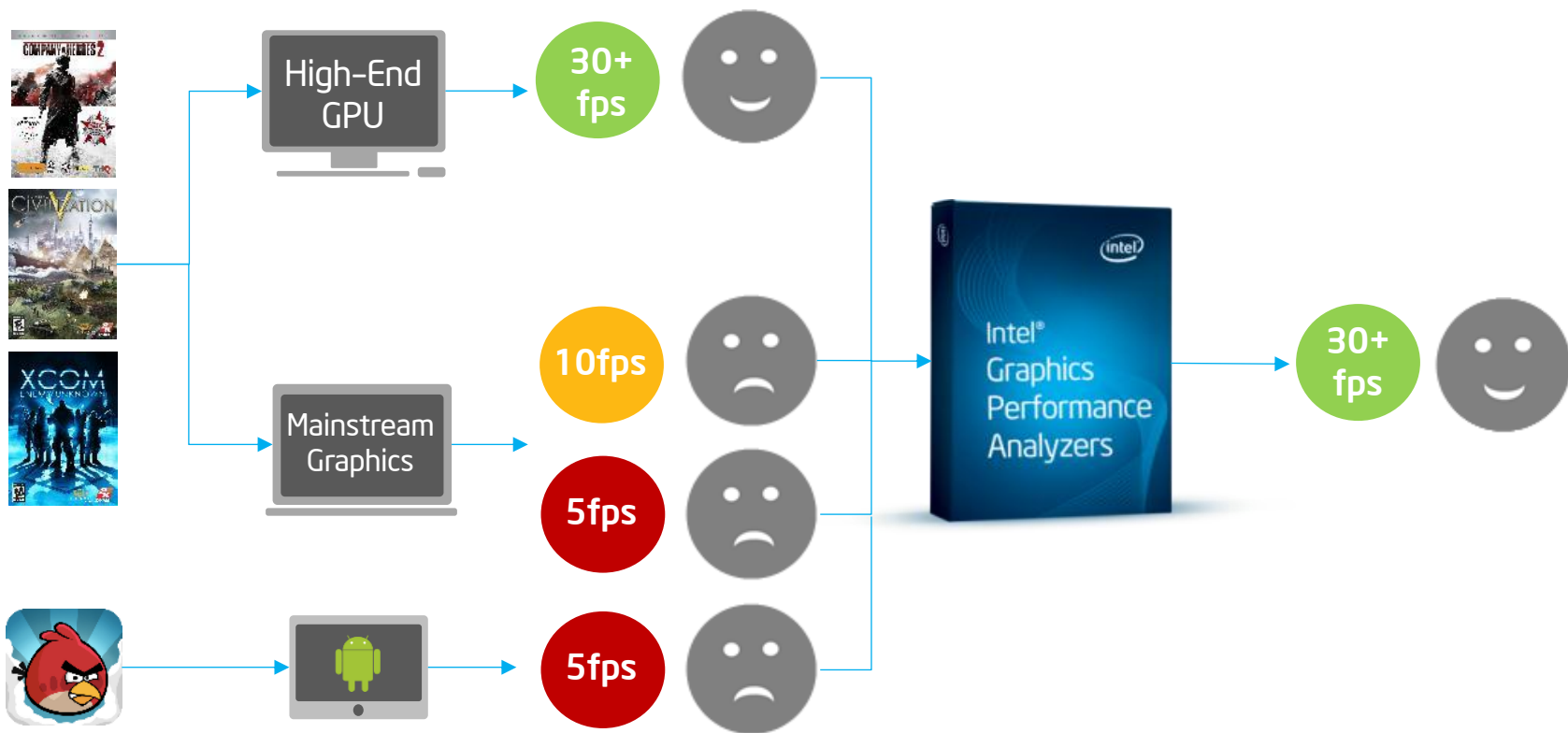


Intel® GPA Workflow Overview

Роман Хатько, Intel



We have the app to optimize your games!



Intel® Graphics Performance Analyzers (GPA)

For Windows and Android games!



Windows
Gaming

OS support

- Win 7, Win 8.1 64bit

DirectX

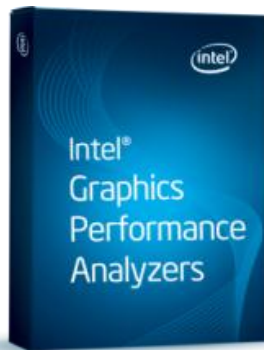
- DX 9.x, 10.x, 11.x

Hardware

- DirectX 9-compatible GPU or newer

Extra

- HTML5 in browsers
- Windows UI apps



Android
Gaming

Host OS

- Windows, Linux, MacOS X front-end

Android OS

- 4.x

Hardware

- Intel™ Atom-powered Android device

OpenGL ES

- 1.x, 2.x

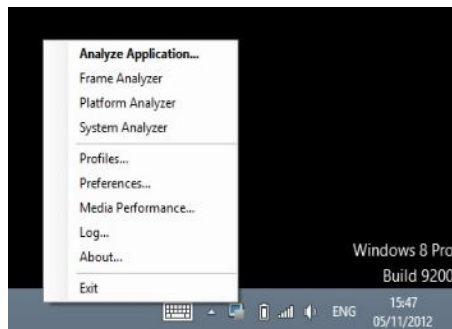
Intel® Graphics Performance Analyzers (GPA)



What's inside?

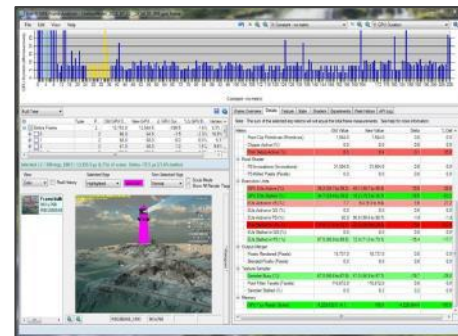
GPA Monitor

GPA configuration tool
Analysis starting point
HUD profiles
Settings



Frame Analyzer

Frame-level analysis
Draw-call bar-chart
DX GL ES resources
Metrics, experiments



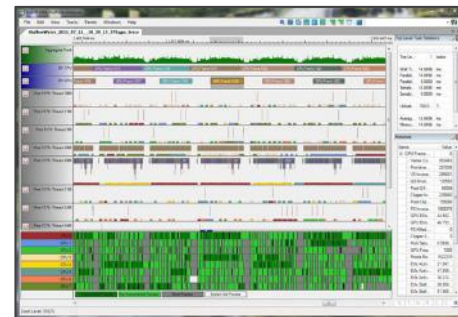
System Analyzer / HUD

Real-time analysis
Frame-rate and metrics
Overrides
Frame/Trace capture



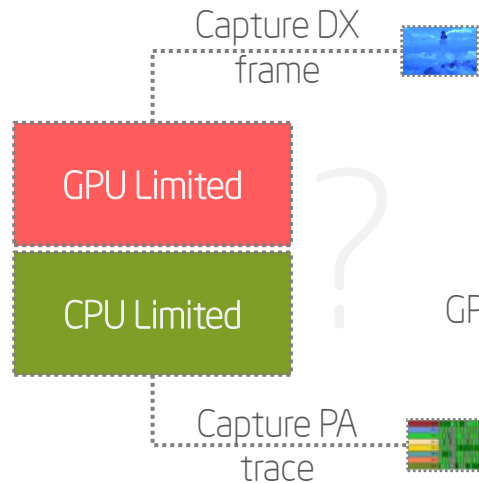
Platform Analyzer

Visual tasks timeline
GPU / DX frame graph
DX / CPU tasks
ETW tasks



Workflow

Game with HUD / System Analyzer:
Real-time in-game Analysis / Experiments



Frame Analyzer:
Deep frame-level Analysis / Experiments



Platform Analyzer:
GPU / DX / CPU tasks visual timeline



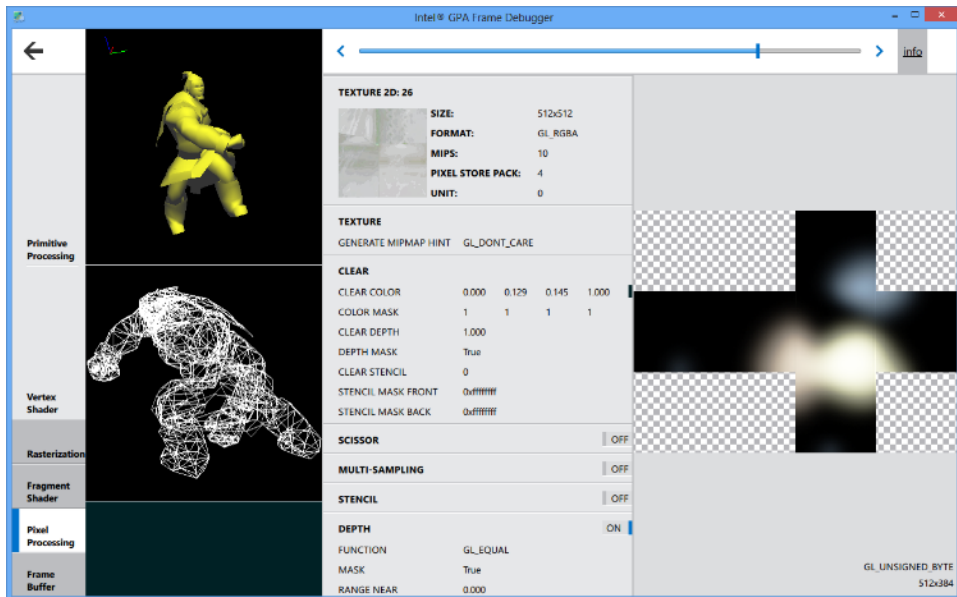
1 Run with the tool

2 Find main limiting factor

3 Do detailed analysis

Intel® GPA Frame Debugger

 <http://intel.com/software/gpa>



Debugging on Android

- An easy way to debug rendering problems in OpenGL ES games
- Quick test for portability issues
- Supports GL ES 1.x, 2.0
- Runs on Windows