AMD CodeXL 1.0 GA Release Notes
(version 1.0.)

CodeXL 1.0 is finally here! Thank you for using CodeXL. We appreciate any feedback you have! Please use our CodeXL Forum to provide your feedback.

You can also check out the Getting Started guide on the CodeXL Web Page and Milind Kukanur's CodeXL blog at AMD Developer Central - Blogs

This version contains:

- CodeXL Visual Studio package and Standalone application, for 32-bit and 64-bit Windows platforms
- CodeXL for 64-bit Linux platforms
- Kernel Analyzer v2 for both Windows and Linux platforms

System Requirements
CodeXL contains a host of development features with varying system requirements:

- **GPU Profiling and OpenCL Kernel Debugging**
    - An AMD GPU (Radeon HD 5xxx or newer) or APU is required
    - The AMD Catalyst Driver must be installed, release 12.8 or later. Catalyst 12.12 is the recommended version (will become available later in December 2012).
- For **GPU API-Level Debugging**, a working OpenCL/OpenGL configuration is required (AMD or other).
- **CPU Profiling**
    - Time Based Profiling can be performed on any x86 or AMD64 (x86-64) CPU/APU.
    - The Event Based Profiling (EBP) and Instruction Based Sampling (IBS) session types require an AMD CPU or APU processor.

Supported platforms:

- Windows platforms: Windows 7, 32-bit and 64-bit are supported
    - Visual Studio 2010 must be installed on the station before the CodeXL Visual Studio Package is installed.
- Linux platforms: Red Hat EL 6 u2 64-bit and Ubuntu 11.10 64-bit

New in this version

The following items were not part of the Beta release and are new to this version:

- A unified installer for Windows which installs both CodeXL and APP KernelAnalyzer2 on 32 and 64 bit platforms, packaged in a single executable file.
- Support for debugging and profiling projects located in folders with non-ASCII Unicode characters.
- Compatibility with Catalyst 12.9 or later (previous Beta versions had several limitations with 12.9 or newer releases, see Fixed Issues section).

Fixed Issues

The following fixes were not part of the Beta release and are new to this version:

- CodeXL has the following limitations when working with AMD Catalyst 12.9:
    - GPU Profiling - for profiling sessions of type "GPU: Performance Counters", the code view window will not display ISA code. (364285)
    - GPU Debugging – kernel debugging may be unavailable and may cause the debugged application to crash. (364272)
    - Kernel Analyzer - ISA codes are not generated for the selected devices. (362986)
- Cannot remove CodeXL VS plug-in using the 'modify' feature. (362196)
- Over a hundred various stability and usability fixes across all features of CodeXL!

Known Issues

- Debugging OpenCL kernels that use read-modify-write atomic operations is not supported.
- GPU Debugging on OpenCL Static C++ Kernels is not supported. (ENH345852)
- __read_only and __write_only Image variables are not shown in locals during GPU Debugging. (ENH345852)
- OpenCL 1.2 keyword printf is not supported during kernel debugging.
- Building kernels with OpenCL 1.2 clCreateProgramWithBinaries and clLinkProgram API prevents debugging these kernels. (369183)
- On Linux, CodeXL is currently supported only on GNOME based Window Manager and may not work properly on other Window Managers such as KDE or XFCE.
- CPU profiling for managed code (OpenCL, OpenGL, Java, .Net …) is not supported. Module/Source information will not be available for managed code.
- Running CpuProfiling with Call-Stack Sampling (CSS) enabled, on systems with discrete graphics card (5000, 6000, 7000 series), may result in Linux kernel panic. This kernel panic does not occur with Linux kernel version 3.2 onwards.
- CPU Profiling on Linux platforms
    - Instruction-Based Profiling on Linux requires Linux kernel 3.5 and above, and must be used with system-wide profiling.
    - Call chain analysis on Linux currently depends on the call chain information provided by Linux PERF. This requires the profiled binaries to have stack frame pointer. (i.e. compiled with -fno-omit-frame-pointer).

- o PERF call chain which contains call stack across modules has shown to be truncated. This results in inaccurate "Deep Samples", "Downstream Samples", and "call path" analysis.
  - o CPU profiling uses PERF which requires kernel 2.6.32 or later. CPU Profiling with Call Stack Sampling requires Linux kernel 3.0 or later. However, we recommend using kernel 3.2 and above which has shown to be more stable.
- Call Stack data collection may result in kernel panic on Ubuntu with kernel version 3.0 or lower. Workaround: Upgrade the Ubuntu kernel to 3.2 or above. (352399)
- On RHEL6 U2, PERF has a known issue with CSS data on Time Based Profile run i.e. CSS data is not correctly shown for Time based profile run on RHEL6 U2. Workaround: Upgrade the kernel to 3.0 or above. (355108)
- On Linux, for non-root users to run CodeXL CPU profiling, "/proc/sys/kernel/perf_event_paranoid" needs to be set to "-1". (351065)
- Call chain information (stack trace) for inline functions is not available (356546)
- Importing a thread based session generated from CodeAnalyst sometimes results in CodeXL crash. (356479)
- [GUI] if gDEBugger is installed, mouse click doesn't start CodeXL text fields editing. Workaround: Navigate to the text fields using TAB. (344811)
- Menu items are present but not visible after a minimization of CodeXL in Ubuntu system using Unity. Workaround: Use Unity 2D instead of Unity. (353082)
- Teapot sample may exhibit crash while debugging OpenCL kernel after multiple step in operations (45 or more) and Info level log or lower. (357741)
- The variable type displayed for 'int4' variables appears as an unnamed struct. (362152)
- Locals view shows constant numeric value 0x0000 for local memory variables although viewing local memory variables is unsupported (332624)
- Incorrect step-in order when debugging APP SDK MatrixMulImage sample (345842)
- APP SDK QuasiRandomSequence reports 0 for all performance counters on Cape Verde platforms (357699)
- CodeXL crashes if you put BP at glUniformMatrix4fv (364063)
- On Red Hat EL 6 U2 systems, CodeXL may throw a segmentation violation when the application is being closed. (366197)
- On Ubuntu systems, CodeXL may throw a segmentation violation while debugging the Teapot sample. (366589)
- When running CodeXL remotely on a Trinity platform with Ubuntu using putty/xming a segmentation violation is thrown (367512)
- CodeXL crashes when debugging APP SDK sample MatrixTranspose on a FirePro W8000 or FirePro W9000 card (368026)
- CodeXL points to incorrect source line on first step into kernel (370960)

Support

Please use our CodeXL Forum to request support and our development team will contact you.