

PA1 – Playing with OptiX

- **NVIDIA OptiX Ray Tracing Engine**
 - NVIDIA's ray tracing engine based on CUDA
 - Requires NVIDIA GPU to work



NVIDIA's commercial renderer, Iray, is built upon OptiX Technology

PA1 – Playing with OptiX

- Prerequisite - CUDA Toolkit

- NVIDIA's GPGPU interface
- Download latest version at:

<https://developer.nvidia.com/cuda-downloads>

Home > CUDA ZONE > Tools & Ecosystem > CUDA Toolkit > CUDA 7 Downloads

CUDA 7 Downloads

Check out:

- [CUDA 7 Performance Report and Webinar Recording](#)
- An informative webinar by Ujval Kapasi, NVIDIA's CUDA Product Manager [CUDA 7 Features and Overview](#)
- [The Power of C++11 in CUDA 7](#), another technical blog on Parallel Forall.

If you find any issues please [file a bug](#) (requires membership of the CUDA Registered Developer Program).

Please Note: There is a recommended patch for CUDA 7.0 which resolves an issue in the cuFFT library that can lead to incorrect results for certain inputs sizes less than or equal to 1920 in any dimension when `cufftSetStream()` is passed a non-blocking stream [e.g., one created using the `cudaStreamNonBlocking` flag of the CUDA Runtime API or the `CU_STREAM_NON_BLOCKING` flag of the CUDA Driver API].

[CUDA Toolkit 7.5 Release Candidate Now Available For All Developers Learn More.](#)

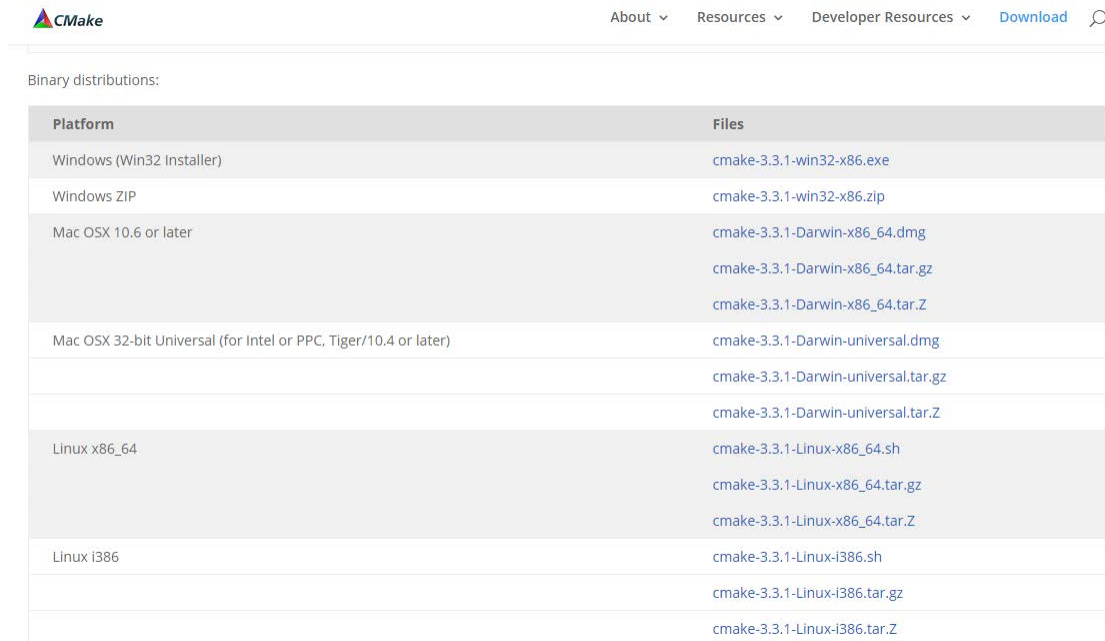
Version	Network Installer	Local Installer
Windows 8.1	EXE (8.0MB)	EXE (939MB)
Windows 7		
Win Server 2012 R2		
Win Server 2008 R2		
cuFFT Patch	ZIP (52MB) . README	

Documentation

- [Release Notes](#)
- [End User License Agreement](#)
- [Online Documentation](#)
- [CUDA Toolkit Overview](#)
- [Checksums](#)

PA1 – Playing with OptiX

- Prerequisite - CMake
 - Used for generate various open-source build environments, including OptiX samples
 - Download latest version at:
<http://www.cmake.org/download/>



The screenshot shows the CMake website's 'Binary distributions' page for version 3.3.1. The page includes a navigation bar with 'About', 'Resources', 'Developer Resources', and 'Download' links. Below the navigation bar, the text 'Binary distributions:' is followed by a table listing various operating systems and their corresponding download files.

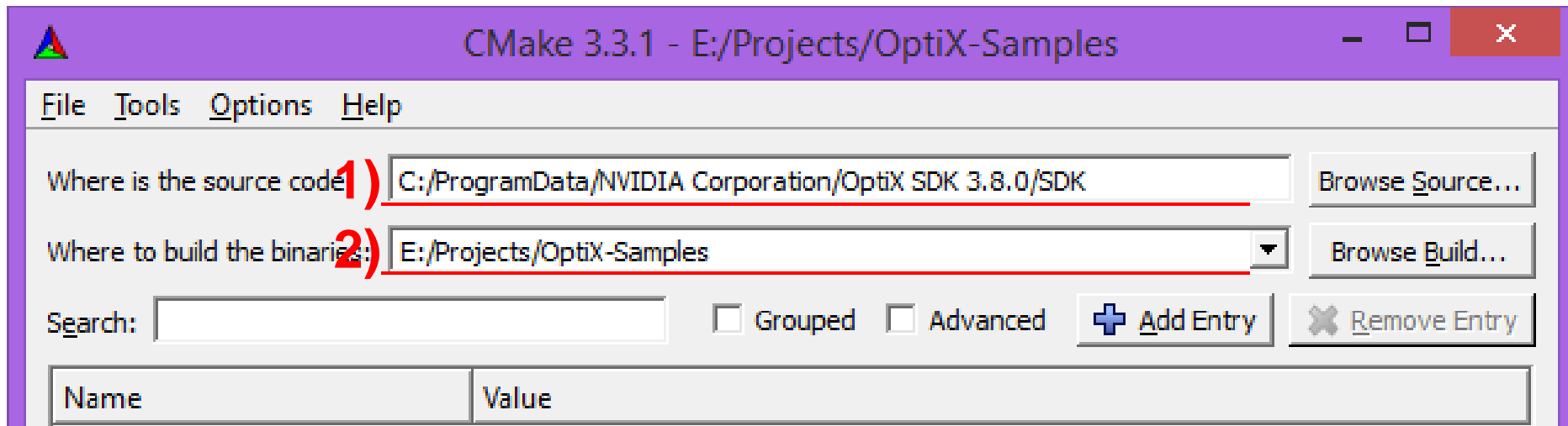
Platform	Files
Windows (Win32 Installer)	cmake-3.3.1-win32-x86.exe
Windows ZIP	cmake-3.3.1-win32-x86.zip
Mac OSX 10.6 or later	cmake-3.3.1-Darwin-x86_64.dmg
	cmake-3.3.1-Darwin-x86_64.tar.gz
	cmake-3.3.1-Darwin-x86_64.tar.Z
Mac OSX 32-bit Universal (for Intel or PPC, Tiger/10.4 or later)	cmake-3.3.1-Darwin-universal.dmg
	cmake-3.3.1-Darwin-universal.tar.gz
	cmake-3.3.1-Darwin-universal.tar.Z
Linux x86_64	cmake-3.3.1-Linux-x86_64.sh
	cmake-3.3.1-Linux-x86_64.tar.gz
	cmake-3.3.1-Linux-x86_64.tar.Z
Linux i386	cmake-3.3.1-Linux-i386.sh
	cmake-3.3.1-Linux-i386.tar.gz
	cmake-3.3.1-Linux-i386.tar.Z

PA1 – Playing with OptiX

- **Once both prerequisites are installed, grab OptiX from following location:**
 - **`https://sglab.kaist.ac.kr/`**
(Use FTP-over-SSL clients like Filezilla)
 - **ID: CS482**
 - **PW: CS482-InteractiveComputerGraphics-Fall2015-Files**
- **Install OptiX version based on following:**
 - **CUDA version 7.0: OptiX 3.8.0**
 - **CUDA version under 6.5: OptiX 3.7.0**

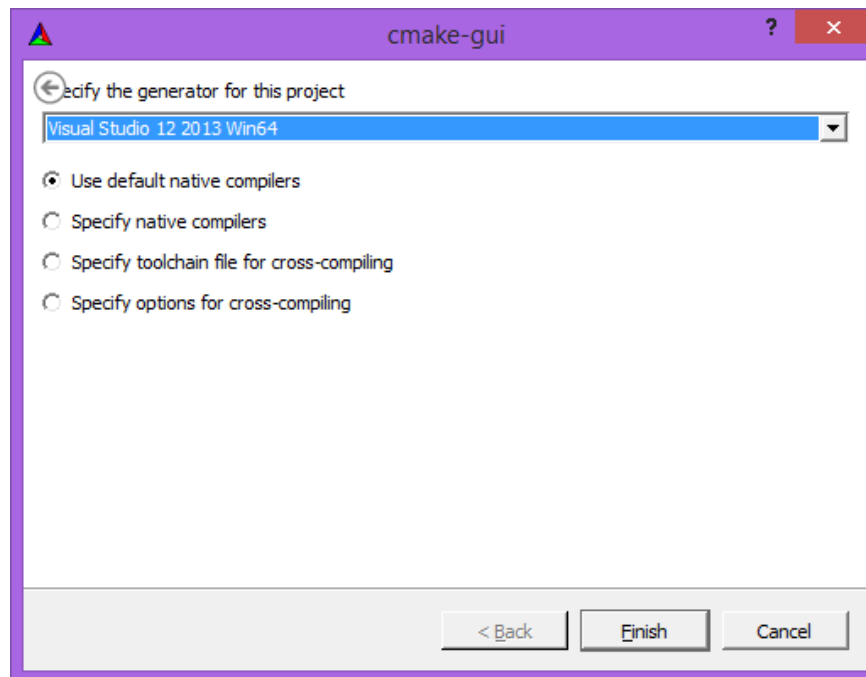
PA1 – Playing with OptiX

- Let's make project files for OptiX samples!
 - Run cmake-gui
 - 1) Set source code to OptiX SDK location
 - In Windows, default location is following:
 - %ProgramData%\ NVIDIA Corporation\ OptiX SDK {version}\ SDK
 - 2) Set destination to a new folder
 - Don't set it to the same folder of SDK itself



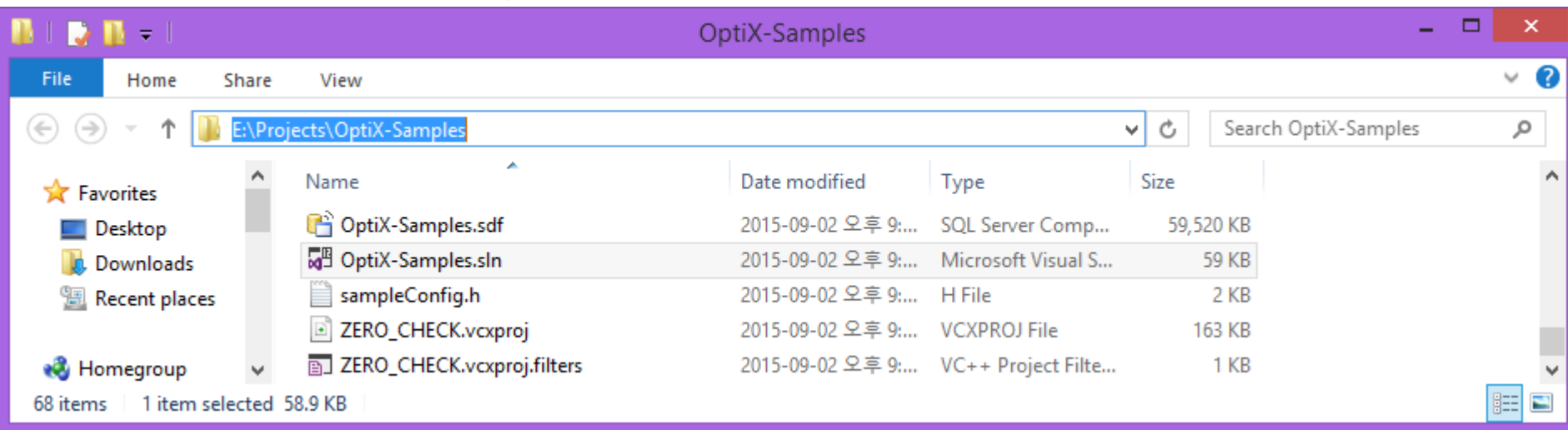
PA1 – Playing with OptiX

- Let's make project files for OptiX samples!
 - 3) Click "Generate" button below
 - 4) Set appropriate build environment
 - Now you have your build environment!



PA1 – Playing with OptiX

- **Compile with your environments**
 - In Unix-like OS, default is Makefile
 - Just compile it with “make all”
 - In Windows, use Visual Studio solutions
 - Build “ALL_BUILD” project to compile everything



PA1 – Playing with OptiX

- PA1 (OptiX)
submit screenshots of following projects:
 - path_tracer, ocean, cook
- Also, take a look at codes for simple projects to learn how they works
 - sample1 ~ 8, tutorial, whitted

