GPU LIBRARY ADVISOR

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Application Note

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Chapter 1. OVERVIEW

The NVIDIA GPU Library Advisor is a cross-platform analysis tool that identifies opportunities to improve application performance by replacing existing CPU libraries with GPU-accelerated versions of those libraries. It is designed as a simple to use tool that provides first level information by listing GPU-accelerated library opportunities. It is recommended that a Profiler like NVProf be used to determine the performance impact of replacing a CPU library with the GPU-accelerated version.

Many standard libraries like (MKL) BLAS, FFTW and Intel IPP have GPU-accelerated versions that provide significant performance improvement. For example the cuBLAS library can directly replace the MKL BLAS library and deliver 6x to 17x faster performance, depending on your BLAS usage. The GPU Library Advisor identifies these performance improvement opportunities without requiring the application source-code to be modified or the application to be rebuilt.

Note that NVIDIA GPU Library Advisor is deprecated and will be removed in a future release of CUDA.

Chapter 2. USAGE

Here's how to use GPU Library Advisor to analyze your CPU application:

```
gpu-library-advisor [options] [application] [app. options]
```

Example for a CPU BLAS matrix-matrix multiplication:

```
$ ./gpu-library-advisor ./cpu_blas 1024 1024
CPU Matrix Multiply. Done.

GPU Library Advisor detected that your application uses functions from BLAS
 level 3 that can be accelerated using NVIDIA CUDA. The NVIDIA NVBLAS library
 is a GPU-accelerated version of the complete standard BLAS library that often
 delivers faster performance than optimized implementations on high-end CPUs.
 The NVBLAS library is freely available and can be used without recompilation of
 your application. For documentation on the NVBLAS library, please see http://
docs.nvidia.com/cuda/nvblas. For more information on the performance and the
 various BLAS library options available from NVIDIA for GPU acceleration, please
 see https://developer.nvidia.com/cublas.
```

GPU Library Advisor is designed to be very simple to use and in most cases GPU Library Advisor does not require any command line arguments. However, the following options are available:

```
--help, -h      Print this help information.
--version, -V   Print version information.
```

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