CUDA OCCUPANCY CALCULATOR

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CUDA Occupancy Calculator

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OVERVIEW

The CUDA Occupancy Calculator allows you to compute the multiprocessor occupancy of a GPU by a given CUDA kernel. The multiprocessor occupancy is the ratio of active warps to the maximum number of warps supported on a multiprocessor of the GPU. Each multiprocessor on the device has a set of N registers available for use by CUDA program threads. These registers are a shared resource that are allocated among the thread blocks executing on a multiprocessor.

The CUDA compiler attempts to minimize register usage to maximize the number of thread blocks that can be active in the machine simultaneously. If a program tries to launch a kernel for which the registers used per thread times the thread block size is greater than N, the launch will fail.

Click CUDA Occupancy Calculator[XLS] to download the spreadsheet.