Page: Details launch: 1 - lf4_cam_merge_gb Add Baseline Apply Guide Save as PDF

Current lf4_cam_merge_gb (RTX3090) L: 1 D: 1 Time: 30.22 (manual) Cycles: 10,238,369 Regs: 40 GPU: GeForce RTX 3080 TI SM Frequency: 1.55 cycle/nsecond 1D: 1.1 Process: [12192] ncl01_ncl01_ncl_exe.exe

Shared Plane lf4_cam_merge_gb (RTX3090) L: 1 D: 1 Time: 28.19 (manual) Cycles: 10,461,537 Regs: 40 GPU: GeForce RTX 3080 TI SM Frequency: 1.54 cycle/nsecond 1D: 1.1 Process: [12192] ncl01_ncl01_ncl_exe.exe

Constant Plane lf4_cam_merge_gb (RTX3090) L: 1 D: 1 Time: 15.17 (manual) Cycles: 10,461,867 Regs: 40 GPU: GeForce RTX 3080 TI SM Frequency: 1.54 cycle/nsecond 1D: 1.1 Process: [12192] ncl01_ncl01_ncl_exe.exe

GPU Speed Of Light

Highlight and analysis of the utilization for compute and memory resources of the GPU. For each unit, the Speed Of Light (SOL) reports the achieved percentage of utilization with respect to the theoretical maximum.

SM [%]	98.44	(98.00%, 1=0.5%)	Duration [msecond]
Memory [%]	75.98	(75.60%, 1=0.5%)	Elapsed Cycles [cycle]
SM, TPC [%]	49.75	(49.50%, 1=0.5%)	SM Active Cycles [cycle]
SM, L2 [%]	75.98	(75.60%, 1=0.5%)	SM Frequency [cycle/nsecond]
SM, TA [%]	9.47	(9.40%, 1=0.5%)	Memory Frequency [cycle/nsecond]

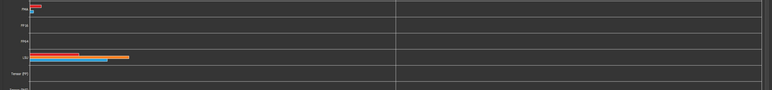
Recommendations

Bottleneck [Warning] Memory is more heavily utilized than Compute: Look at "Memory Workload Analysis" report section to see where the memory system bottleneck is. Check memory replay (coalescing) metrics to make sure you're efficiently utilizing the bytes transferred. Also consider whether it is possible to do more work per memory access (kernel fusion) or whether there are values you can (re)compute.

Computer Workload Analysis

Detailed analysis of the compute resources of the streaming multiprocessors (SM), including the achieved instructions per clock (IPC) and the utilization of each available pipeline. Pipelines with very high utilization might limit the overall performance.

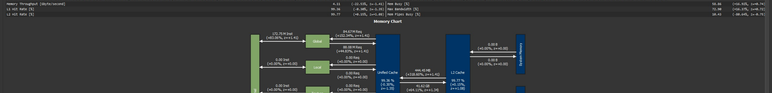
Executed Ipc Elapsed [inst/cycle]	0.13	(-84.04%, 1=-0.00)	SM Busy [%]
Executed Ipc Active [inst/cycle]	0.14	(-83.00%, 1=-0.00)	Issue Slots Busy [%]
Issued Ipc Active [inst/cycle]	0.14	(-83.00%, 1=-0.00)	



Memory Workload Analysis

Detailed analysis of the memory resources of the GPU. Memory can become a limiting factor for the overall kernel performance when fully utilizing the involved hardware units (Mem Busy), exhausting the available communication bandwidth between those units (Max Bandwidth), or by reaching the maximum throughput of issuing memory instructions (Mem Pipes Busy). Detailed chart of the memory units. Detailed tables with data for each memory unit.

memory throughput [byte/nsecond]	4.43	(-16.53%, 1=-0.4)	Mem Busy [%]
L1 hit rate [%]	99.34	(-0.00%, 1=-0.0)	Max Bandwidth [%]
L2 hit rate [%]	98.27	(-0.21%, 1=-0.0)	Mem Pipes Busy [%]


Memory Chart
L1/TEX Cache
2048 (100%, 1=1=1.0)
Global
Local
Texture
Surface
Stores
Reduction
Atomic
Shared Memory
0.00 (0.00%, 1=0.00)
0.00 (0.00%, 1=0.00)
0.00 (0.00%, 1=0.00)
0.00 (0.00%, 1=0.00)
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0.00 (0.00%, 1=0.00)
0.00 (0.00%, 1=0.00)
0.00 (0.00%, 1=0.00)
L1 Wavefronts Shared
0.00 (0.00%, 1=0.00)
L1 Wavefronts Shared Ideal
0.00 (0.00%, 1=0.00)
L1 Tag Requests Global
0.00 (0.00%, 1=0.00)
L1 Tag Requests Local
0.00 (0.00%, 1=0.00)
L1 Tag Requests Texture
0.00 (0.00%, 1=0.00)
L1 Tag Requests Surface
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L1 Tag Requests Stores
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L1 Tag Requests Reduction
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L1 Tag Requests Atomic
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L1 Tag Requests Texture Ideal
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L1 Tag Requests Surface Ideal
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L1 Wavefronts Shared Global Atom
0.00 (0.00%, 1=0.00)
L1 Wavefronts Shared Global Red
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L1 Wavefronts Shared Local Ld
0.00 (0.00%, 1=0.00)
L1 Wavefronts Shared Local St
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L1 Wavefronts Shared Local Atom
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L1 Wavefronts Shared Local Red
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L1 Wavefronts Shared Texture
0.00 (0.00%, 1=0.00)
L1 Wavefronts Shared Surface Ld
0.00 (0.00%, 1=0.00)
L1 Wavefronts Shared Surface St
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L1 Wavefronts Shared Surface Atom
0.00 (0.00%, 1=0.00)
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L1 Wavefronts Shared Reduction Ideal
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L1 Wavefronts