GPU Bench

GPU Performance Details: Quadro 600

Contents:

System Configuration

⚠ **Note that this is previously stored data and does not reflect your system configuration.**

MATLAB Release: R2016a

Host

Name	Intel(R) Xeon(R) CPU E5-1620 0 @ 3.60GHz
Clock	3601 MHz
Cache	1024 KB
NumProcessors	4
OSType	Windows
OSVersion	Microsoft Windows 7 Enterprise

GPU

Name	Quadro 600
Clock	1280 MHz
NumProcessors	2
ComputeCapability	2.1
TotalMemory	1.00 GB
CUDAVersion	7.5
DriverVersion	8.17.13.5456 (354.56)

Results for MTimes (double)

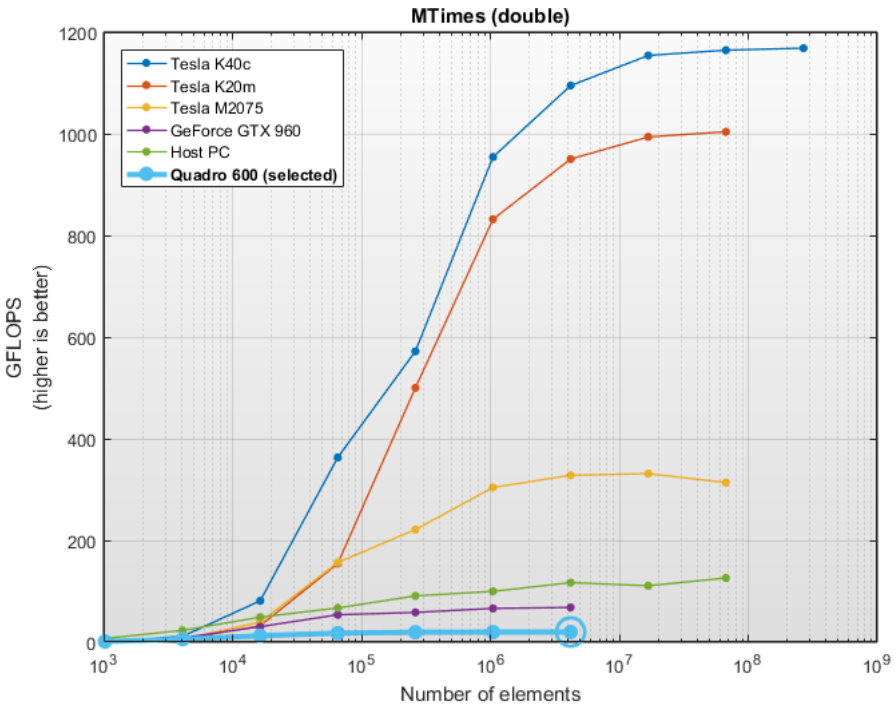
These results show the performance of the GPU or host PC when calculating a matrix multiplication of two NxN real matrices. The number of operation assumed to be `2*N^3 - N^2`.

This calculation is usually compute-bound, i.e. the performance depends mainly on how fast the GPU or host PC can perform floating-point operations.

Raw data for Quadro 600 - MTimes (double)

Array size (elements)	Num Operations	Time (ms)	GigaFLOPS
1,024	64,512	0.06	1.03
4,096	520,192	0.09	5.57
16,384	4,177,920	0.34	12.35
65,536	33,488,896	1.90	17.58
262,144	268,173,312	13.91	19.28
1,048,576	2,146,435,072	109.08	19.68
4,194,304	17,175,674,880	866.61	19.82

(N gigaflops = $N \times 10^9$ operations per second)



Results for Backslash (double)

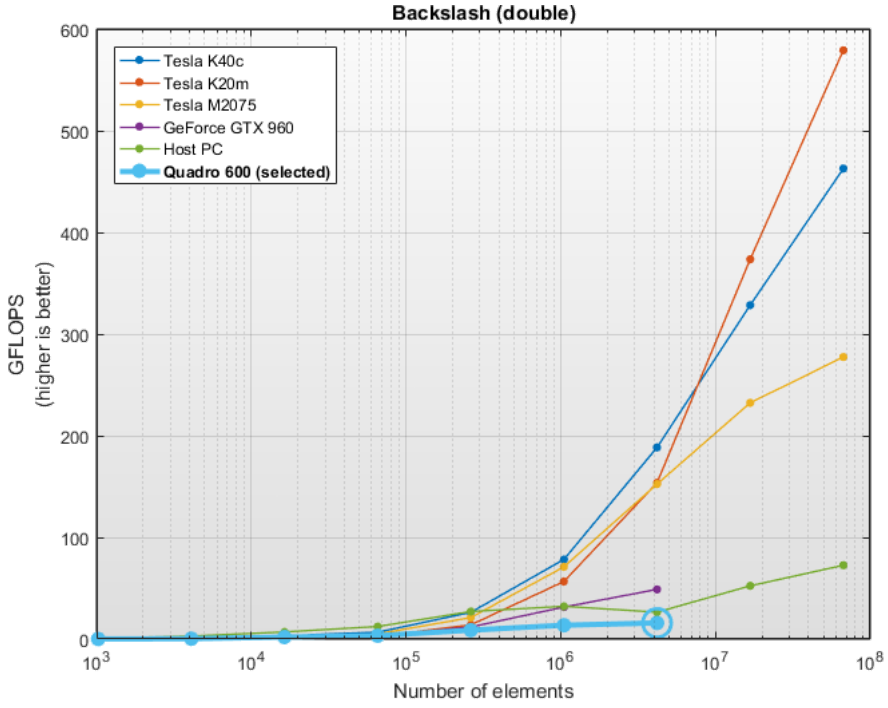
These results show the performance of the GPU or host PC when calculating the matrix left division of an `NxN` matrix with an `Nx1` vector. The number o operations is assumed to be `2/3*N^3 + 3/2*N^2`.

This calculation is usually compute-bound, i.e. the performance depends mainly on how fast the GPU or host PC can perform floating-point operations.

Raw data for Quadro 600 - Backslash (double)

Array size (elements)	Num Operations	Time (ms)	GigaFLOPS
1,024	23,381	0.41	0.06
4,096	180,907	0.47	0.39
16,384	1,422,677	0.73	1.95
65,536	11,283,115	3.42	3.30
262,144	89,871,701	10.27	8.75
1,048,576	717,400,747	52.69	13.62
4,194,304	5,732,914,517	362.14	15.83

(N gigaflops = $N \times 10^9$ operations per second)



Results for FFT (double)

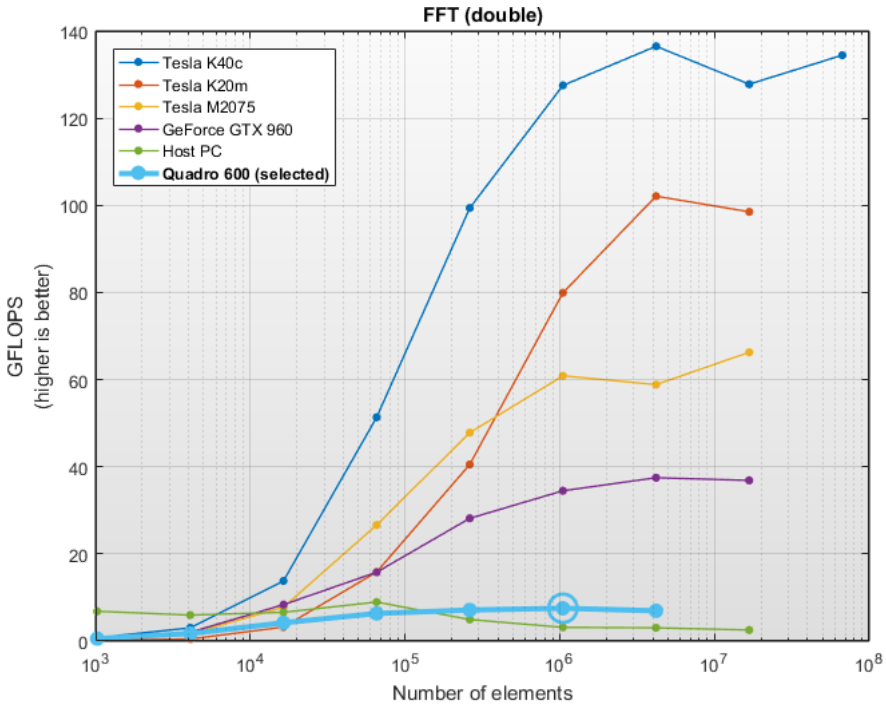
These results show the performance of the GPU or host PC when calculating the Fast-Fourier-Transform of a vector of complex numbers. The number operations for a vector of length `N` is assumed to be `5*N*log2(N)`.

This calculation is usually memory-bound, i.e. the performance depends mainly on how fast the GPU or host PC can read and write data.

Raw data for Quadro 600 - FFT (double)

Array size (elements)	Num Operations	Time (ms)	GigaFLOPS
1,024	51,200	0.09	0.57
4,096	245,760	0.14	1.73
16,384	1,146,880	0.27	4.19
65,536	5,242,880	0.83	6.33
262,144	23,592,960	3.31	7.13
1,048,576	104,857,600	13.94	7.52
4,194,304	461,373,440	66.36	6.95

(N gigaflops = $N \times 10^9$ operations per second)



Results for MTimes (single)

These results show the performance of the GPU or host PC when calculating a matrix multiplication of two NxN real matrices. The number of operation assumed to be `2*N^3 - N^2`.

This calculation is usually compute-bound, i.e. the performance depends mainly on how fast the GPU or host PC can perform floating-point operations.

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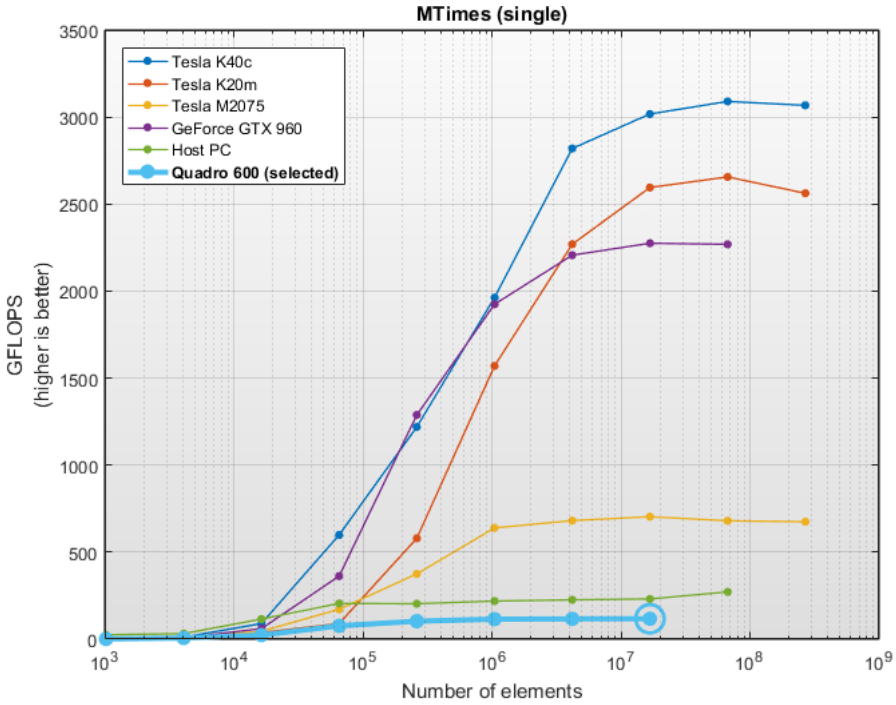
Array size (elements)	Num Operations	Time (ms)	GigaFLOPS
1,024	64,512	0.06	1.07
4,096	520,192	0.08	6.58
16,384	4,177,920	0.18	23.35

65,536	33,488,896	0.44	76.41
262,144	268,173,312	2.60	103.23
1,048,576	2,146,435,072	18.67	114.96
4,194,304	17,175,674,880	147.46	116.48
16,777,216	137,422,176,256	1171.99	117.26

(N gigaflops = Nx10^9 operations per second)



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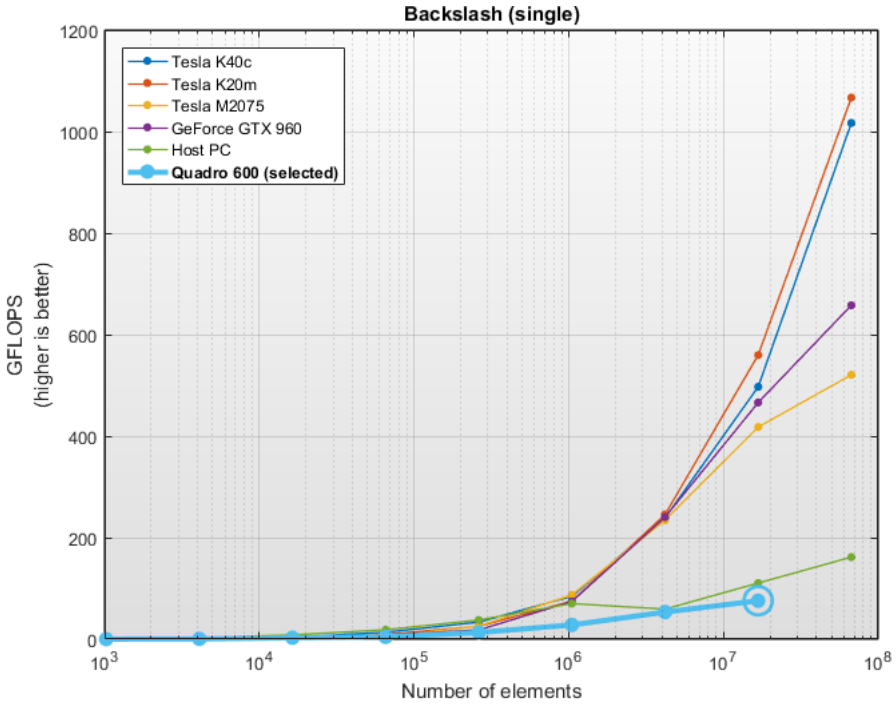
262,144	89,871,701	6.86	13.10
1,048,576	717,400,747	25.59	28.03
4,194,304	5,732,914,517	107.41	53.38
16,777,216	45,838,150,315	605.35	75.72

(N gigaflops = Nx10^9 operations per second)



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16,384	1,146,880	0.15	7.55
65,536	5,242,880	0.31	16.75
262,144	23,592,960	0.97	24.28

1,048,576	104,857,600	3.84	27.29
4,194,304	461,373,440	16.50	27.96

(N gigaflops = $Nx10^9$ operations per second)