Vendor	Intel	nVidia	nVidia	AMD
Family	Xeon CPU	GeForce GPU	GeForce GPU	Radeon GPU
Device	E5-2630	GTX Titan Black	GTX 980	R9 290X
Codename	Sandy Bridge	Kepler GK110	Maxwell GM204	GCN Hawaii
#Cores	6	15	16	44
#SIMD units	6×256-bit wide	2880 CUDA cores	2048 CUDA cores	2816 Radeon cores
Clock	2.3 GHz	889 MHz	1126 MHz	1050 MHz
SP flop/cycle	96	5760	4096	5632
SP Peak	220.8 GFlop/s	5120.6 GFlop/s	4612.1 GFlop/s	5913.6 GFlop/s
DP flop/cycle	48	1920	128	704
DP Peak	110.4 GFlop/s	1706.9 GFlop/s	144.1 GFlop/s	739.2 GFlop/s
On-chip scratchpad	N/A	720 kB	1536 kB	2816 kB
Memory	32 GB DDR3-1333 (4 channels)	6 GB GDDR5	4 GB GDDR5	4 GB GDDR5
Bandwidth	42.6 GB/s	336 GB/s	224 GB/s	345.6 GB/s
OS (64-bit)	Ubuntu 12.04	Ubuntu 14.04	Ubuntu 14.04	Ubuntu 14.04
Device driver	N/A	v344.16	v344.16	v14.41
Compiler	Intel C++ v14.0	g++ v4.9, nvcc v6.5.19	g++ v4.9, nvcc v6.5.19	g++ v4.9, OpenCL v1.2
Library	Intel MKL v11.0	CUSP v0.4.0, cuSPARSE v6.5, RMerge, bhSPARSE	CUSP v0.4.0, cuSPARSE v6.5, RMerge, bhSPARSE	bhSPARSE