



SPEC® ACCEL_OCL Result

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SuperMicro

(Test Sponsor: KIT Institute for Data Processing and Electronics)

NVIDIA GeForce GTX 680 7046GT-TRF

SPECaccel_ocl_peak = Not Run

SPECaccel_ocl_base = 1.15

ACCEL license: HPG-052A

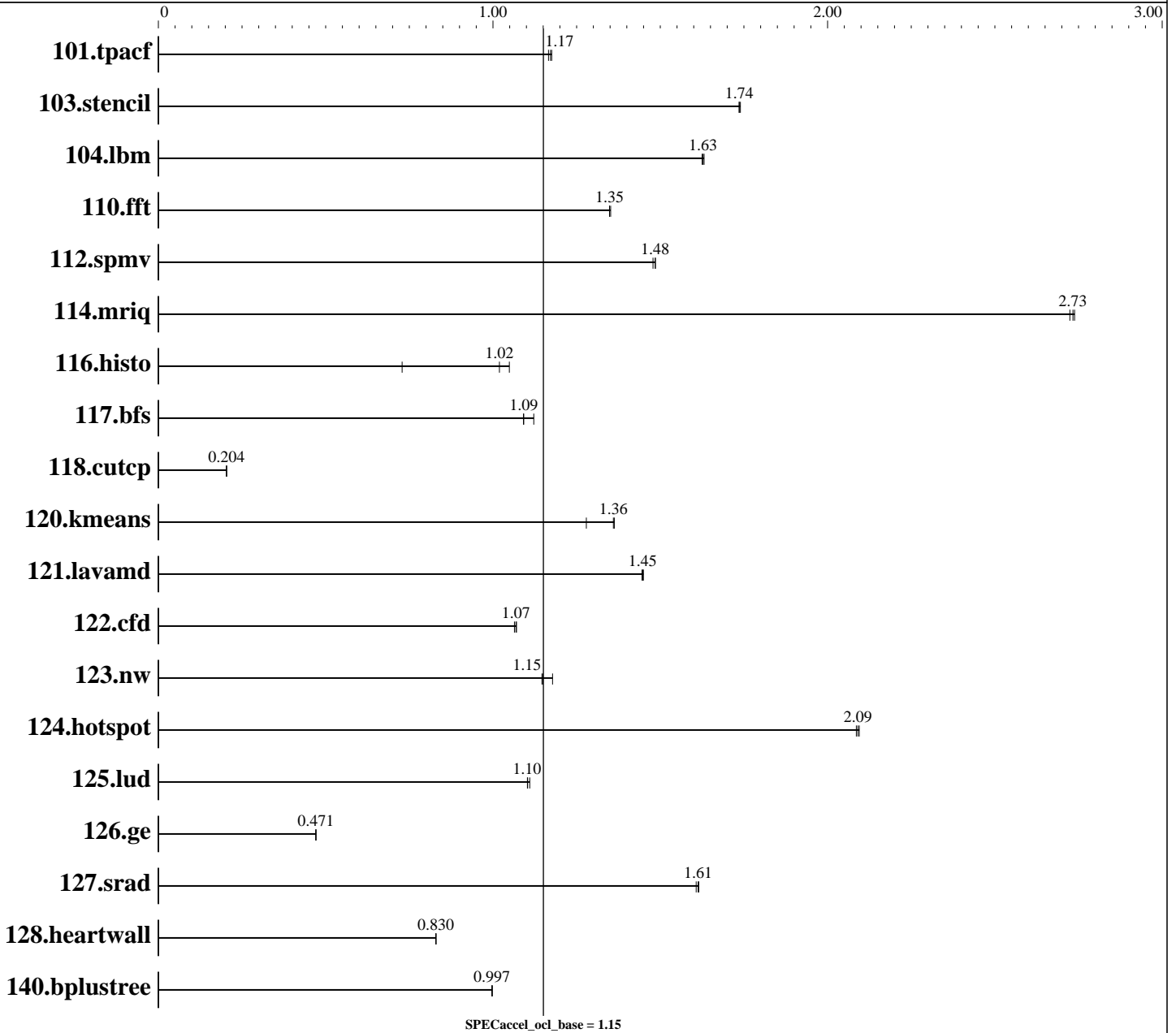
Test sponsor: KIT Institute for Data Processing and Electronics

Tested by: Karlsruhe Institute of Technology (KIT)

Test date: Jun-2014

Hardware Availability: Mar-2012

Software Availability: Oct-2013





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Hardware

CPU Name: Intel Xeon E5540
 CPU Characteristics:
 CPU MHz: 2530
 CPU MHz Maximum: 2800
 FPU: --
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 2
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 96 GB (12 x 8 GB 2Rx4 PC3-10600R, ECC, running at 1066 MHz)
 Disk Subsystem: 19 TB
 GlusterFS network storage
 2 mirroring nodes with 16 disks hardware RAID6 each
 Other Hardware: --

Accelerator

Accel Model Name: GeForce GTX 680
 Accel Vendor: NVIDIA
 Accel Name: NVIDIA GeForce GTX 680
 Type of Accel: GPU
 Accel Connection: PCIe 2.0 16x
 Does Accel Use ECC: No
 Accel Description: NVIDIA GeForce GTX 680 GPU, 1536 CUDA cores, 1006 MHz
 2 GB GDDR5 RAM
 Accel Driver: NVIDIA CUDA 5.5 Driver Version 331.22

Software

Operating System: openSUSE 12.1 (x86_64)
 Kernel 3.3.2-1.1-desktop
 Compiler: Version 4.6.2 of GCC
 File System: fuse.glusterfs
 System State: Run level 5 (multi-user)
 Other Software: NVIDIA CUDA 5.5 Driver Version 331.22



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
101.tpacf	91.0	1.18	91.8	1.17	<u>91.3</u>	<u>1.17</u>						
103.stencil	<u>72.0</u>	<u>1.74</u>	72.0	1.74	71.9	1.74						
104.lbm	68.9	1.63	68.7	1.63	<u>68.8</u>	<u>1.63</u>						
110.fft	<u>82.3</u>	<u>1.35</u>	82.1	1.35	82.3	1.35						
112.spmv	<u>99.0</u>	<u>1.48</u>	99.4	1.48	99.0	1.49						
114.mriq	39.8	2.74	40.0	2.72	<u>39.9</u>	<u>2.73</u>						
116.histo	109	1.05	156	0.728	<u>112</u>	<u>1.02</u>						
117.bfs	107	1.09	<u>107</u>	<u>1.09</u>	104	1.12						
118.cutcp	486	0.204	<u>486</u>	<u>0.204</u>	486	0.204						
120.kmeans	73.4	1.36	<u>73.5</u>	<u>1.36</u>	78.2	1.28						
121.lavamd	<u>75.3</u>	<u>1.45</u>	75.4	1.45	75.2	1.45						
122.cfd	118	1.06	<u>118</u>	<u>1.07</u>	118	1.07						
123.nw	100	1.15	<u>100</u>	<u>1.15</u>	97.6	1.18						
124.hotspot	54.7	2.09	<u>54.5</u>	<u>2.09</u>	54.4	2.09						
125.lud	107	1.11	108	1.10	<u>108</u>	<u>1.10</u>						
126.ge	<u>329</u>	<u>0.471</u>	329	0.471	329	0.471						
127.srad	70.6	1.62	<u>70.7</u>	<u>1.61</u>	70.9	1.61						
128.heartwall	128	0.829	128	0.830	<u>128</u>	<u>0.830</u>						
140.bplustree	108	0.997	108	0.998	<u>108</u>	<u>0.997</u>						

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

Sysinfo program

```
/pdv/home/student/users/609bc1b89b8a955fb5270ebe25f0c37d/server1/ACCELv1/install/Docs/sysinfo
$Rev: 6874 $ $Date:: 2013-11-20 #$ 0953404ef7e75a5f9bbb534c6de3f831
running on ipepdvcomputel Wed Jun 4 23:18:22 2014
```

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

<http://www.spec.org/accel/Docs/config.html#sysinfo>

From /proc/cpuinfo

```
model name : Intel(R) Xeon(R) CPU E5540 @ 2.53GHz
```

```
2 "physical id"s (chips)
```

```
16 "processors"
```

```
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with
```

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**NVIDIA GeForce GTX 680
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Platform Notes (Continued)

```
caution.)
  cpu cores : 4
  siblings  : 8
  physical 0: cores 0 1 2 3
  physical 1: cores 0 1 2 3
  cache size : 8192 KB
```

```
From /proc/meminfo
MemTotal:          99195232 kB
HugePages_Total:   0
Hugepagesize:      2048 kB
```

```
/usr/bin/lsb_release -d
openSUSE 12.1 (x86_64)
```

```
From /etc/*release* /etc/*version*
SuSE-release:
  openSUSE 12.1 (x86_64)
  VERSION = 12.1
  CODENAME = Asparagus
os-release:
  NAME=openSUSE
  VERSION = 12.1 (Asparagus)
  VERSION_ID="12.1"
  PRETTY_NAME="openSUSE 12.1 (Asparagus) (x86_64)"
  ID=openSUSE
```

```
uname -a:
Linux ipepdvcomputel 3.3.2-1.1-desktop #1 SMP PREEMPT Fri Apr 13 22:52:58
CEST 2012 (adbbdfa) x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 5 Feb 5 12:05
```

```
SPEC is set to:
/pdv/home/student/users/609bc1b89b8a955fb5270ebe25f0c37d/server1/ACCELV1/install
Filesystem      Type              Size  Used Avail Use% Mounted on
192.168.11.1:storage fuse.glusterfs  19T   16T  3.0T  84% /pdv
```

Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(End of data from sysinfo program)

Base Runtime Environment

C benchmarks:

OpenCL Platform: NVIDIA CUDA, OpenCL 1.1 CUDA 6.0.1
OpenCL Device #0: GeForce GTX 680, v 331.22

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Base Runtime Environment (Continued)

C++ benchmarks:

OpenCL Platform: NVIDIA CUDA, OpenCL 1.1 CUDA 6.0.1

OpenCL Device #0: GeForce GTX 680, v 331.22

Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

Base Optimization Flags

C benchmarks:

-O2 -lOpenCL

C++ benchmarks:

-O2 -lOpenCL

The flags file that was used to format this result can be browsed at

http://www.spec.org/accel/flags/gcc_flags.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/accel/flags/gcc_flags.xml

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC ACCEL v1.0.

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