



SPEC ACCEL™ OCL Result

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Bull

(Test Sponsor: Technische Universitaet Dresden)

NVIDIA Tesla K80

Bull R400

SPECaccel_ocl_peak = Not Run

SPECaccel_ocl_base = 2.41

ACCEL license: 37A

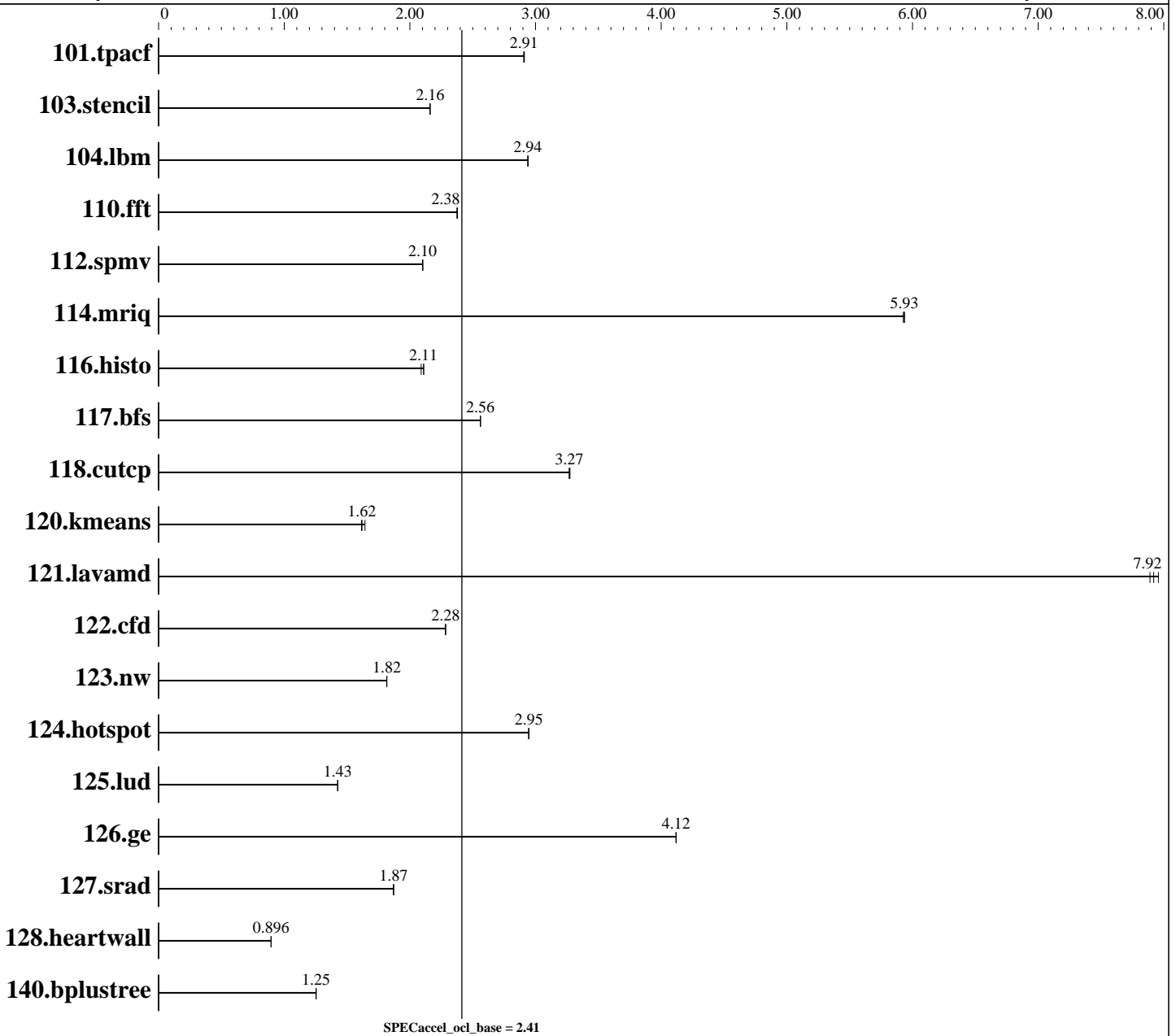
Test sponsor: Technische Universitaet Dresden

Tested by: Technische Universitaet Dresden

Test date: Sep-2015

Hardware Availability: Jan-2015

Software Availability: Mar-2015





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Hardware

CPU Name: Intel Xeon E5-2680 v3
 CPU Characteristics: Intel Turbo Boost Technology up tp 3.30 GHz
 CPU MHz: 2500
 CPU MHz Maximum: 3300
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 30 MB I+D on chip per chip
 Other Cache: None
 Memory: 64 GB (8 x 8 GB 2Rx8 PC4-2133R-10)
 Disk Subsystem: 62 GB SSD
 Other Hardware: --

Accelerator

Accel Model Name: Tesla K80
 Accel Vendor: NVIDIA
 Accel Name: NVIDIA Tesla K80
 Type of Accel: GPU
 Accel Connection: PCIe 2.0 16x
 Does Accel Use ECC: yes
 Accel Description: NVIDIA Tesla K80, 2496 CUDA cores, 875 MHz
 12 GB GDDR5 RAM (Kepler Generation)
 Accel Driver: NVIDIA UNIX x86_64 Kernel Module 346.46

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-504.12.2.el6.x86_64
 Compiler: GNU Compiler C/C++ Version 5.2.0
 File System: ext4
 System State: Run level 3 (add definition here)
 Other Software: NVIDIA Cuda SDK 7.0, driver version 346.46



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
101.tpacf	36.8	2.91	<u>36.8</u>	<u>2.91</u>	36.8	2.91						
103.stencil	<u>57.8</u>	<u>2.16</u>	57.9	2.16	57.8	2.16						
104.lbm	38.1	2.94	38.1	2.94	<u>38.1</u>	<u>2.94</u>						
110.fft	46.7	2.38	<u>46.7</u>	<u>2.38</u>	46.7	2.38						
112.spmv	<u>69.9</u>	<u>2.10</u>	69.9	2.10	69.9	2.10						
114.mriq	18.4	5.94	<u>18.4</u>	<u>5.93</u>	18.4	5.93						
116.histo	<u>54.1</u>	<u>2.11</u>	54.0	2.11	54.6	2.09						
117.bfs	45.7	2.56	<u>45.7</u>	<u>2.56</u>	45.7	2.56						
118.cutcp	<u>30.3</u>	<u>3.27</u>	30.2	3.27	30.3	3.27						
120.kmeans	<u>61.8</u>	<u>1.62</u>	61.9	1.61	60.9	1.64						
121.lavamd	13.7	7.96	13.8	7.89	<u>13.8</u>	<u>7.92</u>						
122.cfd	55.2	2.28	<u>55.2</u>	<u>2.28</u>	55.2	2.28						
123.nw	<u>63.3</u>	<u>1.82</u>	63.3	1.82	63.3	1.82						
124.hotspot	38.7	2.95	38.7	2.95	<u>38.7</u>	<u>2.95</u>						
125.lud	<u>83.5</u>	<u>1.43</u>	83.5	1.43	83.4	1.43						
126.ge	37.6	4.12	37.6	4.12	<u>37.6</u>	<u>4.12</u>						
127.srad	<u>61.0</u>	<u>1.87</u>	61.0	1.87	60.9	1.87						
128.heartwall	118	0.896	118	0.895	<u>118</u>	<u>0.896</u>						
140.bplustree	86.2	1.25	<u>86.2</u>	<u>1.25</u>	86.1	1.25						

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

Platform Notes

MultiThreading disabled in BIOS

sysinfo program /tmp/spec-accel/1.1/Docs/sysinfo

\$Rev: 6965 \$ \$Date:: 2015-04-21 # \$ c05a7f14b1b1765e3fe1df68447e8a35

running on taurusi2073 Mon Sep 21 13:17:28 2015

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 E5-2680 v3 @ 2.50GHz

2 "physical id"s (chips)

24 "processors"

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

Continued on next page

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Platform Notes (Continued)

```
caution.)
  cpu cores : 12
  siblings  : 12
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
  cache size : 30720 KB
```

```
From /proc/meminfo
MemTotal:      65868116 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux taurusi2073 2.6.32-504.12.2.el6.x86_64 #1 SMP Sun Feb 1 12:14:02 EST
2015 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jul 8 14:37
```

```
SPEC is set to: /tmp/spec-accel/1.1
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3       ext4  62G  4.2G  55G   8% /tmp
```

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 7.0.28
OpenCL Device #0: Tesla K80, v 346.46

C++ benchmarks:
OpenCL Platform: NVIDIA CUDA, OpenCL 1.1 CUDA 7.0.28
OpenCL Device #0: Tesla K80, v 346.46



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Base Compiler Invocation

C benchmarks:
gcc

C++ benchmarks:
g++

Base Optimization Flags

C benchmarks:
-O2 -march=core-avx2 -I/sw/taurus/libraries/cuda/7.0.28/include
-L/sw/taurus/libraries/cuda/7.0.28/lib64 -lOpenCL

C++ benchmarks:
-O2 -march=core-avx2 -I/sw/taurus/libraries/cuda/7.0.28/include
-L/sw/taurus/libraries/cuda/7.0.28/lib64 -lOpenCL

The flags file that was used to format this result can be browsed at
<http://www.spec.org/accel/flags/flags-advanced.20150930.html>

You can also download the XML flags source by saving the following link:
<http://www.spec.org/accel/flags/flags-advanced.20150930.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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