



SPEC ACCEL™ OCL Result

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Bull

(Test Sponsor: Technische Universitaet Dresden)

NVIDIA Tesla K80

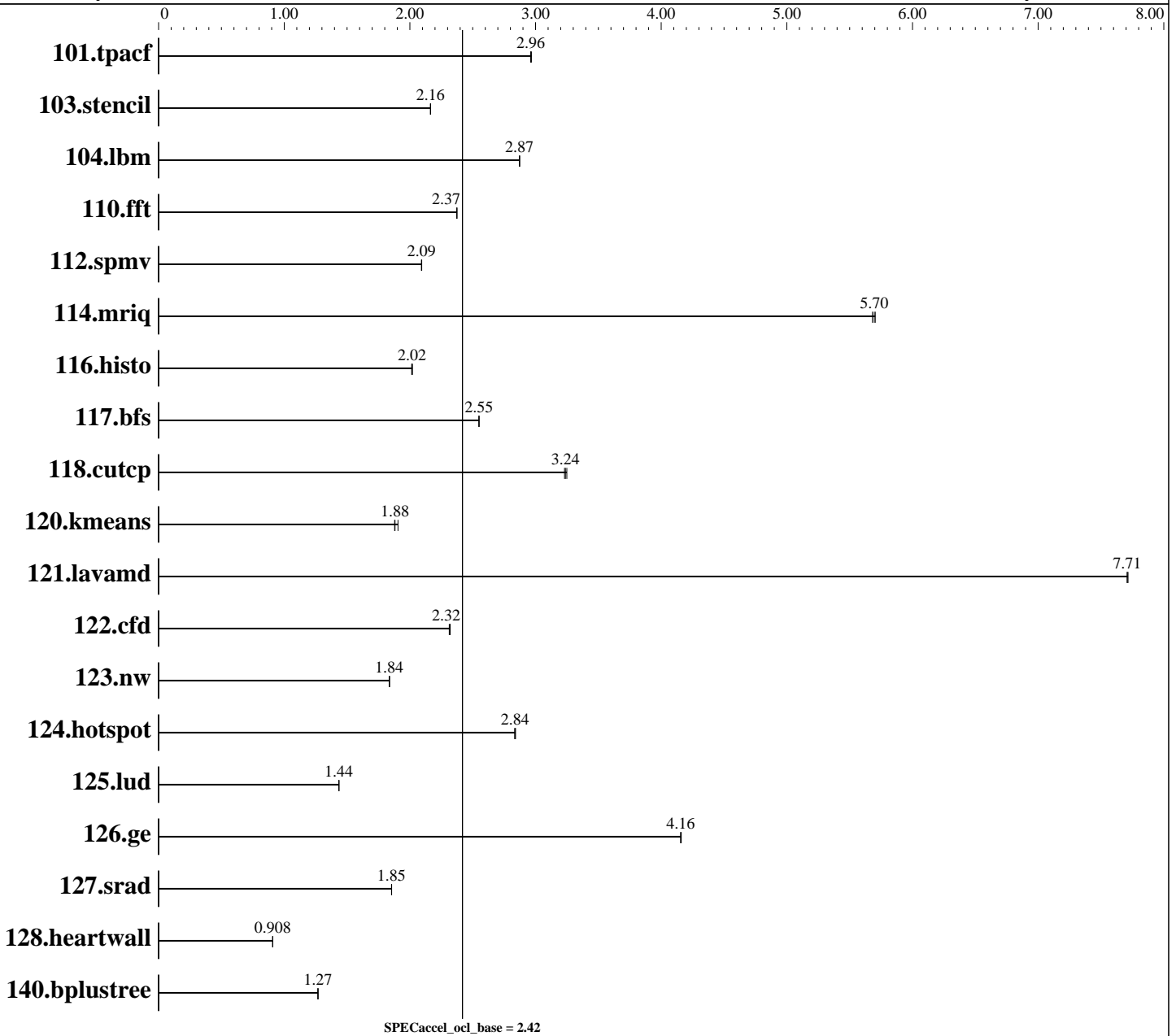
Bull R400

SPECaccel_ocl_peak = Not Run

SPECaccel_ocl_base = 2.42

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 to 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 PC4-2133P-R)
Disk Subsystem: 29 TB NetApp FAS6280
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)
2.6.32-504.12.2.el6.x86_64
Compiler: GNU Compiler C/C++ Version 4.9.1
File System: nfs
System State: Run level 3 (Multi-User)
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	36.1	2.97	<u>36.1</u>	<u>2.96</u>	36.1	2.96						
103.stencil	57.8	2.16	57.7	2.17	<u>57.8</u>	<u>2.16</u>						
104.lbm	39.0	2.87	39.0	2.87	<u>39.0</u>	<u>2.87</u>						
110.fft	<u>46.8</u>	<u>2.37</u>	46.8	2.37	46.8	2.37						
112.spmv	70.3	2.09	<u>70.2</u>	<u>2.09</u>	70.2	2.09						
114.mriq	19.2	5.68	<u>19.1</u>	<u>5.70</u>	19.1	5.70						
116.histo	56.6	2.01	<u>56.5</u>	<u>2.02</u>	56.4	2.02						
117.bfs	45.9	2.55	<u>45.9</u>	<u>2.55</u>	45.9	2.55						
118.cutcp	<u>30.6</u>	<u>3.24</u>	30.5	3.25	30.6	3.23						
120.kmeans	<u>53.1</u>	<u>1.88</u>	52.5	1.91	53.2	1.88						
121.lavamd	14.1	7.71	<u>14.1</u>	<u>7.71</u>	14.1	7.72						
122.cfd	<u>54.3</u>	<u>2.32</u>	54.5	2.31	54.3	2.32						
123.nw	62.6	1.84	<u>62.6</u>	<u>1.84</u>	62.6	1.84						
124.hotspot	40.2	2.83	<u>40.2</u>	<u>2.84</u>	40.1	2.84						
125.lud	83.0	1.43	<u>82.9</u>	<u>1.44</u>	82.9	1.44						
126.ge	37.3	4.16	<u>37.3</u>	<u>4.16</u>	37.3	4.15						
127.srad	61.5	1.85	61.5	1.85	<u>61.5</u>	<u>1.85</u>						
128.heartwall	117	0.908	117	0.908	<u>117</u>	<u>0.908</u>						
140.bplustree	85.1	1.27	85.2	1.27	<u>85.1</u>	<u>1.27</u>						

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 /home/s1428123/spec-accel/Docs/sysinfo
$Rev: 6874 $ $Date:: 2013-11-20 #$ 0953404ef7e75a5f9bbb534c6de3f831
running on taurusi2045 Sat Sep 12 04:12:09 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 taurusi2045 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 Aug 13 12:31
```

```
SPEC is set to: /home/s1428123/spec-accel
Filesystem      Type      Size  Used Avail Use% Mounted on
172.26.88.9:/hrsk_userhome
nfs             29T     25T  4.4T  85% /home
```

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 -lcuda -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 -lcuda -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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