



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 = 1.94

ACCEL license: 37A

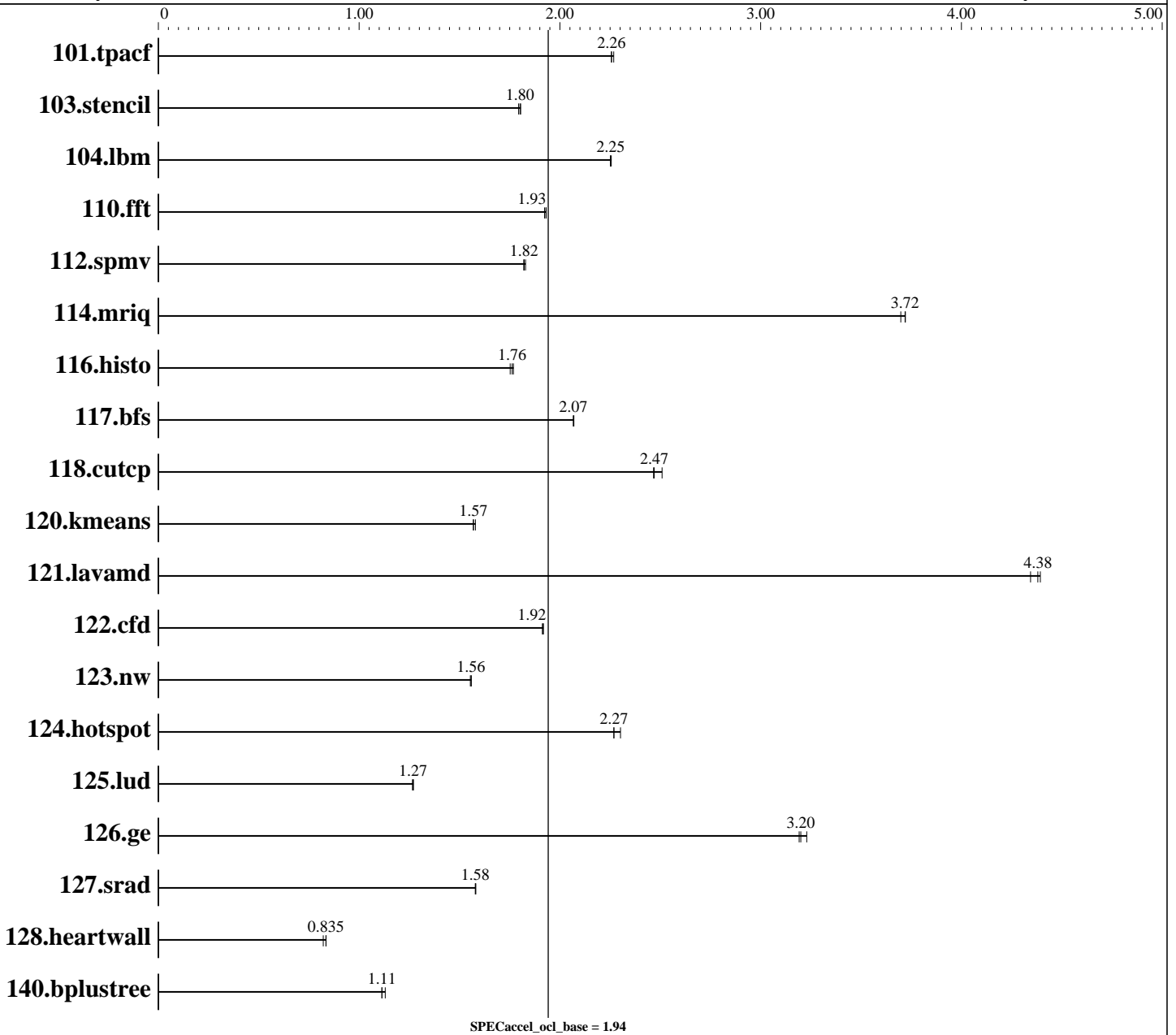
Test sponsor: Technische Universitaet Dresden

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	<u>47.4</u>	<u>2.26</u>	47.4	2.26	47.2	2.27						
103.stencil	69.7	1.79	<u>69.4</u>	<u>1.80</u>	69.3	1.80						
104.lbm	49.7	2.25	<u>49.7</u>	<u>2.25</u>	49.6	2.26						
110.fft	<u>57.5</u>	<u>1.93</u>	57.5	1.93	57.7	1.92						
112.spmv	80.4	1.83	80.8	1.82	<u>80.7</u>	<u>1.82</u>						
114.mriq	29.5	3.70	<u>29.3</u>	<u>3.72</u>	29.3	3.72						
116.histo	<u>64.7</u>	<u>1.76</u>	65.1	1.75	64.5	1.77						
117.bfs	56.6	2.07	<u>56.6</u>	<u>2.07</u>	56.5	2.07						
118.cutcp	39.5	2.51	<u>40.1</u>	<u>2.47</u>	40.1	2.47						
120.kmeans	63.7	1.57	<u>63.7</u>	<u>1.57</u>	63.3	1.58						
121.lavamd	<u>24.9</u>	<u>4.38</u>	25.1	4.34	24.8	4.39						
122.cfd	65.9	1.91	<u>65.7</u>	<u>1.92</u>	65.7	1.92						
123.nw	74.0	1.55	<u>73.8</u>	<u>1.56</u>	73.8	1.56						
124.hotspot	50.2	2.27	<u>50.2</u>	<u>2.27</u>	49.5	2.30						
125.lud	93.7	1.27	94.0	1.27	<u>93.8</u>	<u>1.27</u>						
126.ge	48.0	3.23	<u>48.4</u>	<u>3.20</u>	48.6	3.19						
127.srad	72.1	1.58	<u>72.2</u>	<u>1.58</u>	72.2	1.58						
128.heartwall	129	0.821	<u>127</u>	<u>0.835</u>	127	0.835						
140.bplustree	97.0	1.11	<u>97.0</u>	<u>1.11</u>	95.6	1.13						

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 taurusi2047 Wed Sep 9 20:43:15 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 taurusi2047 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 14:36
```

```
SPEC is set to: /home/s1428123/spec-accel
Filesystem      Type  Size  Used Avail Use% Mounted on
172.26.88.9:/hrsk_userhome
nfs              29T   24T  4.6T  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 -I/sw/taurus/libraries/cuda/7.0.28/include
-L/sw/taurus/libraries/cuda/7.0.28/lib64 -lcuda -lOpenCL

C++ benchmarks:
-O2 -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.

Tested with SPEC ACCEL v1.0.
Report generated on Wed Sep 30 11:16:00 2015 by SPEC ACCEL PS/PDF formatter v1290.
Originally published on 30 September 2015.