SPEC ACCEL™ OCL Result

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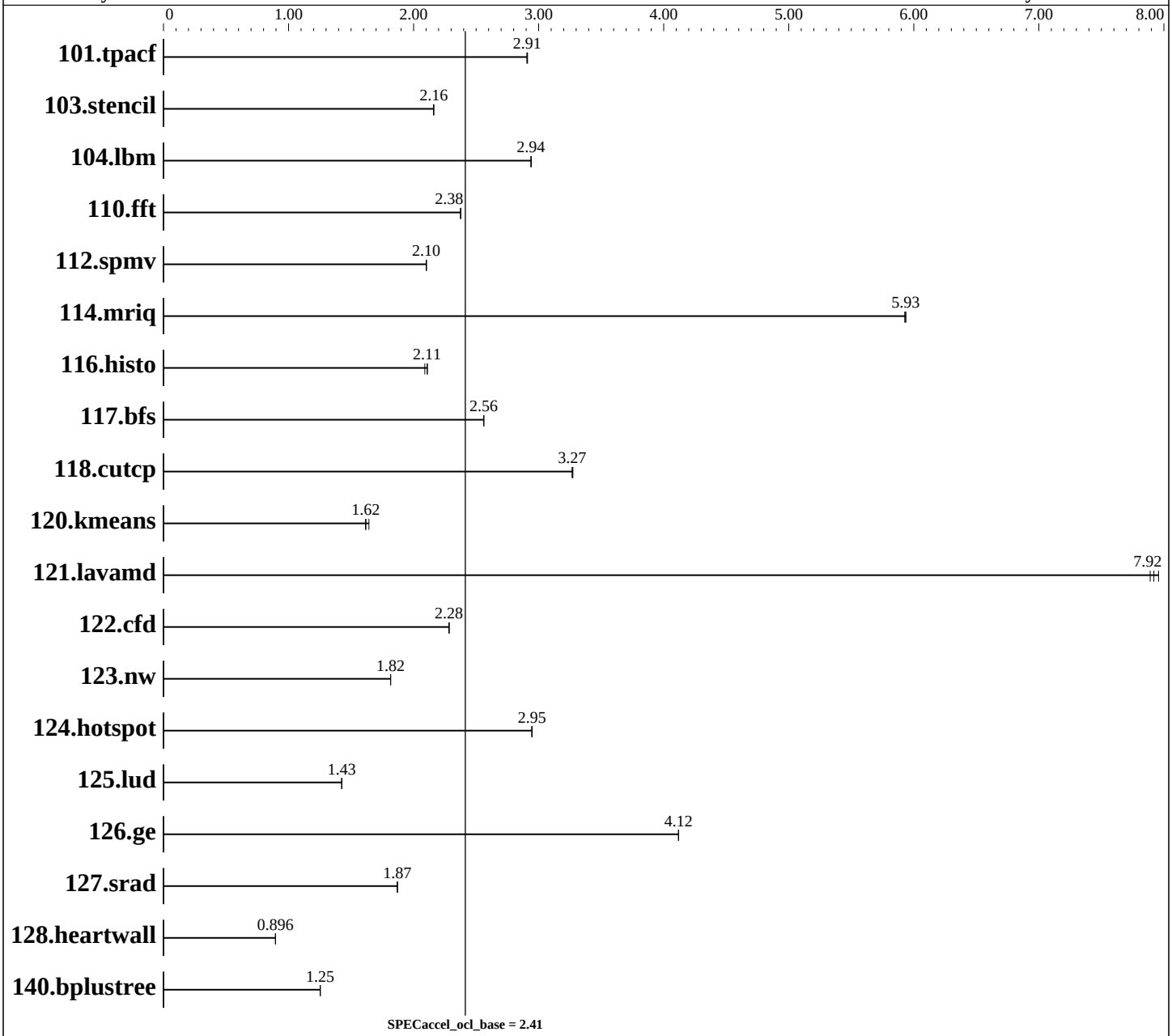
Bull
(Test Sponsor: Technische Universitaet Dresden)

NVIDIA Tesla K80
Bull R400

SPECaccel_ocl_peak = Not Run

SPECaccel_ocl_base = 2.41

ACCEL license:	37A	**Test date:**	Sep-2015
Test sponsor:	Technische Universitaet Dresden	**Hardware Availability:**	Jan-2015
Tested by:	Technische Universitaet Dresden	**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	**36.8**	**2.91**	36.8	2.91						
103.stencil	**57.8**	**2.16**	57.9	2.16	57.8	2.16						
104.lbm	38.1	2.94	38.1	2.94	**38.1**	**2.94**						
110.fft	46.7	2.38	**46.7**	**2.38**	46.7	2.38						
112.spmv	**69.9**	**2.10**	69.9	2.10	69.9	2.10						
114.mriq	18.4	5.94	**18.4**	**5.93**	18.4	5.93						
116.histo	**54.1**	**2.11**	54.0	2.11	54.6	2.09						
117.bfs	45.7	2.56	**45.7**	**2.56**	45.7	2.56						
118.cutcp	**30.3**	**3.27**	30.2	3.27	30.3	3.27						
120.kmeans	**61.8**	**1.62**	61.9	1.61	60.9	1.64						
121.lavamd	13.7	7.96	13.8	7.89	**13.8**	**7.92**						
122.cfd	55.2	2.28	**55.2**	**2.28**	55.2	2.28						
123.nw	**63.3**	**1.82**	63.3	1.82	63.3	1.82						
124.hotspot	38.7	2.95	38.7	2.95	**38.7**	**2.95**						
125.lud	**83.5**	**1.43**	83.5	1.43	83.4	1.43						
126.ge	37.6	4.12	37.6	4.12	**37.6**	**4.12**						
127.srad	**61.0**	**1.87**	61.0	1.87	60.9	1.87						
128.heartwall	118	0.896	118	0.895	**118**	**0.896**						
140.bplustree	86.2	1.25	**86.2**	**1.25**	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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