



SPEC[®] ACCEL_OCL Result

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SuperMicro

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

SPECaccel_ocl_peak = Not Run

NVIDIA GeForce GTX TITAN 7047GR-TRF

SPECaccel_ocl_base = 2.17

ACCEL license: HPG-052A

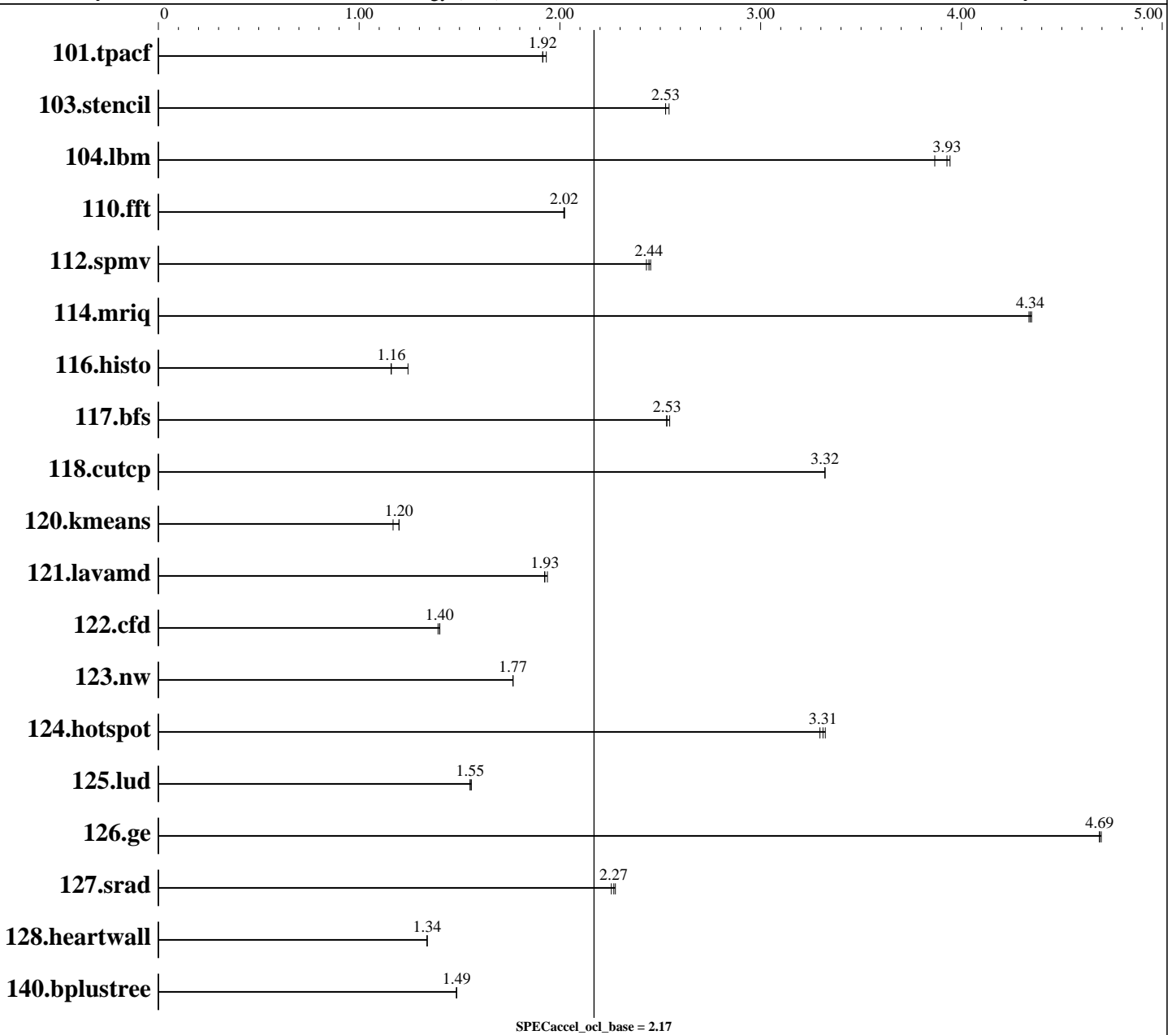
Test date: Jun-2014

Test sponsor: KIT Institute for Data Processing and Electronics

Hardware Availability: Feb-2013

Tested by: Karlsruhe Institute of Technology (KIT)

Software Availability: Feb-2014





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Hardware

CPU Name: Intel Xeon E5-2640
 CPU Characteristics:
 CPU MHz: 2500
 CPU MHz Maximum: 3000
 FPU: --
 CPU(s) enabled: 12 cores, 2 chips, 6 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: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx8 PC3-12800R-9, ECC, running at 1333 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 TITAN
 Accel Vendor: NVIDIA
 Accel Name: NVIDIA GeForce GTX TITAN
 Type of Accel: GPU
 Accel Connection: PCIe 3.0 16x
 Does Accel Use ECC: No
 Accel Description: NVIDIA GeForce GTX TITAN GPU, 2688 CUDA cores, 837 MHz, 6.0 GiB GDDR5 RAM
 Accel Driver: NVIDIA CUDA 6.0rc Driver Version 331.44

Software

Operating System: openSUSE 12.2 (x86_64)
 Kernel 3.4.47-2.38-desktop
 Compiler: Version 4.7.1 of GCC
 File System: fuse.glusterfs
 System State: Run level 3 (multi-user)
 Other Software: NVIDIA CUDA 6.0rc Driver Version 331.44



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
101.tpacf	<u>55.9</u>	<u>1.92</u>	55.4	1.93	55.9	1.91						
103.stencil	49.1	2.54	<u>49.5</u>	<u>2.53</u>	49.5	2.53						
104.lbm	28.4	3.94	<u>28.5</u>	<u>3.93</u>	29.0	3.87						
110.fft	<u>54.9</u>	<u>2.02</u>	55.0	2.02	54.9	2.02						
112.spmv	60.5	2.43	<u>60.2</u>	<u>2.44</u>	59.9	2.45						
114.mriq	25.1	4.35	<u>25.1</u>	<u>4.34</u>	25.1	4.34						
116.histo	<u>98.2</u>	<u>1.16</u>	91.7	1.24	98.3	1.16						
117.bfs	45.9	2.55	<u>46.2</u>	<u>2.53</u>	46.2	2.53						
118.cutcp	29.8	3.32	<u>29.8</u>	<u>3.32</u>	29.8	3.32						
120.kmeans	83.4	1.20	<u>83.4</u>	<u>1.20</u>	85.5	1.17						
121.lavamd	56.7	1.92	<u>56.6</u>	<u>1.93</u>	56.2	1.94						
122.cfd	<u>89.9</u>	<u>1.40</u>	89.9	1.40	90.5	1.39						
123.nw	65.1	1.77	<u>65.1</u>	<u>1.77</u>	65.1	1.77						
124.hotspot	<u>34.4</u>	<u>3.31</u>	34.3	3.32	34.6	3.30						
125.lud	76.6	1.55	<u>76.6</u>	<u>1.55</u>	76.3	1.56						
126.ge	33.0	4.70	33.1	4.69	<u>33.1</u>	<u>4.69</u>						
127.srad	50.1	2.28	50.5	2.26	<u>50.3</u>	<u>2.27</u>						
128.heartwall	79.2	1.34	79.2	1.34	<u>79.2</u>	<u>1.34</u>						
140.bplustree	72.6	1.49	<u>72.7</u>	<u>1.49</u>	72.8	1.48						

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/609bclb89b8a955fb5270ebe25f0c37d/server2/ACCELv1/install/Docs/sysinfo
$Rev: 6874 $ $Date:: 2013-11-20 #$ 0953404ef7e75a5f9bbb534c6de3f831
running on ipepdvcompute2 Thu Jun 5 00:47:51 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 E5-2640 0 @ 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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7047GR-TRF**

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Platform Notes (Continued)

```
caution.)
  cpu cores : 6
  siblings  : 12
  physical 0: cores 0 1 2 3 4 5
  physical 1: cores 0 1 2 3 4 5
  cache size : 15360 KB
```

```
From /proc/meminfo
MemTotal:      264648676 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsb_release -d
openSUSE 12.2 (x86_64)
```

```
From /etc/*release* /etc/*version*
SuSE-release:
  openSUSE 12.2 (x86_64)
  VERSION = 12.2
  CODENAME = Mantis
os-release:
  NAME=openSUSE
  VERSION="12.2 (Mantis)"
  VERSION_ID="12.2"
  PRETTY_NAME="openSUSE 12.2 (Mantis) (x86_64)"
  ID=openSUSE
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:opensuse:opensuse:12.2"
```

```
uname -a:
Linux ipepdvcompute2 3.4.47-2.38-desktop #1 SMP PREEMPT Fri May 31 20:17:40
UTC 2013 (3961086) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Apr 14 19:59

```
SPEC is set to:
/pdv/home/student/users/609bc1b89b8a955fb5270ebe25f0c37d/server2/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)



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Base Runtime Environment

C benchmarks:

OpenCL Platform: NVIDIA CUDA, OpenCL 1.1 CUDA 6.0.1

OpenCL Device #2: GeForce GTX TITAN, v 331.44

C++ benchmarks:

OpenCL Platform: NVIDIA CUDA, OpenCL 1.1 CUDA 6.0.1

OpenCL Device #2: GeForce GTX TITAN, v 331.44

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.20150303.00.html

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

http://www.spec.org/accel/flags/gcc_flags.20150303.00.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 Tue Mar 3 14:21:37 2015 by SPEC ACCEL PS/PDF formatter v1212.

Originally published on 20 August 2014.

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