



SPEC® ACCEL_OCL Result

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SuperMicro

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

AMD Radeon R9 290

7046GT-TRF

SPECaccel_ocl_peak = Not Run

SPECaccel_ocl_base = 1.41

ACCEL license: HPG-052A

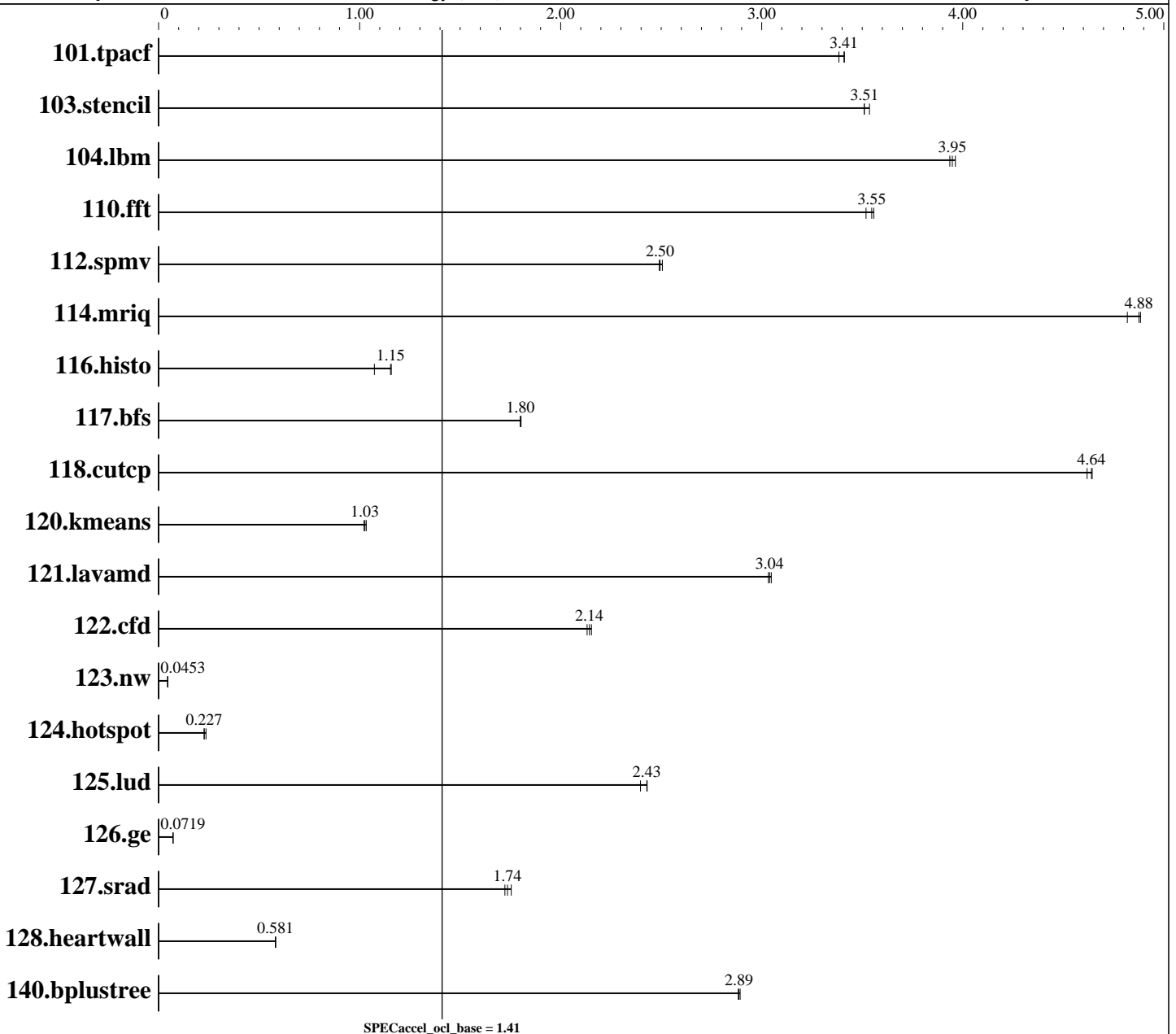
Test sponsor: KIT Institute for Data Processing and Electronics

Tested by: Karlsruhe Institute of Technology (KIT)

Test date: Jun-2014

Hardware Availability: Oct-2013

Software Availability: Nov-2013





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Hardware

CPU Name: Intel Xeon X5650
 CPU Characteristics:
 CPU MHz: 2667
 CPU MHz Maximum: 3060
 FPU: --
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
 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: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 96 GB (12 x 8 GB 2Rx4 PC3-10600R, ECC)
 Disk Subsystem: 19 TB
 GlusterFS network storage
 2 mirroring nodes with 16 disks hardware RAID6 each
 Other Hardware: --

Accelerator

Accel Model Name: Radeon R9 290
 Accel Vendor: AMD
 Accel Name: AMD Radeon R9 290
 Type of Accel: GPU
 Accel Connection: PCIe 2.0 16x
 Does Accel Use ECC: No
 Accel Description: AMD Radeon R9 290, 2560 streaming processors, 662 MHz
 3.0 GiB GDDR5 RAM
 Accel Driver: AMDAPP 2.9

Software

Operating System: openSUSE 12.3 (x86_64)
 Kernel 3.7.10-1.1-desktop
 Compiler: Version 4.7.2 of GCC
 File System: nfs
 System State: Run level 5 (multi-user)
 Other Software: AMDAPP 2.9



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
101.tpacf	<u>31.4</u>	<u>3.41</u>	31.4	3.41	31.6	3.38						
103.stencil	35.4	3.54	<u>35.6</u>	<u>3.51</u>	35.6	3.51						
104.lbm	28.3	3.96	28.5	3.94	<u>28.4</u>	<u>3.95</u>						
110.fft	31.2	3.56	<u>31.3</u>	<u>3.55</u>	31.5	3.52						
112.spmv	<u>58.9</u>	<u>2.50</u>	58.7	2.51	59.0	2.49						
114.mriq	22.6	4.82	<u>22.4</u>	<u>4.88</u>	22.3	4.88						
116.histo	98.5	1.16	<u>98.8</u>	<u>1.15</u>	106	1.07						
117.bfs	64.9	1.80	<u>65.0</u>	<u>1.80</u>	65.0	1.80						
118.cutcp	21.3	4.64	<u>21.3</u>	<u>4.64</u>	21.4	4.62						
120.kmeans	<u>97.4</u>	<u>1.03</u>	96.8	1.03	97.8	1.02						
121.lavamd	35.9	3.03	35.8	3.05	<u>35.9</u>	<u>3.04</u>						
122.cfd	59.1	2.13	58.5	2.15	<u>58.8</u>	<u>2.14</u>						
123.nw	2540	0.0453	<u>2539</u>	<u>0.0453</u>	2539	0.0453						
124.hotspot	503	0.227	<u>502</u>	<u>0.227</u>	484	0.236						
125.lud	49.6	2.40	<u>49.0</u>	<u>2.43</u>	49.0	2.43						
126.ge	<u>2157</u>	<u>0.0719</u>	2156	0.0719	2161	0.0717						
127.srad	<u>65.7</u>	<u>1.74</u>	65.0	1.75	66.2	1.72						
128.heartwall	<u>182</u>	<u>0.581</u>	183	0.581	182	0.583						
140.bplustree	37.5	2.88	37.3	2.89	<u>37.4</u>	<u>2.89</u>						

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/609bc1b89b8a955fb5270ebe25f0c37d/server3/ACCELv1/install/Docs/sysinfo
$Rev: 6874 $ $Date:: 2013-11-20 #$ 0953404ef7e75a5f9bbb534c6de3f831
running on ipepdvcompute3 Wed Jun 4 23:35:33 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 X5650 @ 2.67GHz
 2 "physical id"s (chips)
 12 "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 : 6
  siblings  : 6
  physical 0: cores 0 1 2 8 9 10
  physical 1: cores 0 1 2 8 9 10
  cache size : 12288 KB
```

```
From /proc/meminfo
MemTotal:      99196156 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsb_release -d
openSUSE 12.3 (x86_64)
```

```
From /etc/*release* /etc/*version*
SuSE-release:
  openSUSE 12.3 (x86_64)
  VERSION = 12.3
  CODENAME = Dartmouth
os-release:
  NAME=openSUSE
  VERSION="12.3 (Dartmouth)"
  VERSION_ID="12.3"
  PRETTY_NAME="openSUSE 12.3 (Dartmouth) (x86_64)"
  ID=openSUSE
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:opensuse:opensuse:12.3"
```

```
uname -a:
Linux ipepdvcompute3 3.7.10-1.1-desktop #1 SMP PREEMPT Thu Feb 28 15:06:29
UTC 2013 (82d3f21) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 5 Mar 24 18:40

```
SPEC is set to:
/pdv/home/student/users/609bc1b89b8a955fb5270ebe25f0c37d/server3/ACCELV1/install
Filesystem      Type  Size  Used Avail Use% Mounted on
ipepdvcomputel:/storage nfs    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: AMD Accelerated Parallel Processing, OpenCL 1.2 AMD-APP (1411.4)
OpenCL Device #0: Hawaii, v 1411.4 (VM)

C++ benchmarks:

OpenCL Platform: AMD Accelerated Parallel Processing, OpenCL 1.2 AMD-APP (1411.4)
OpenCL Device #0: Hawaii, v 1411.4 (VM)

Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

Base Optimization Flags

C benchmarks:

-O2 -I/opt/AMDAPP/include -lOpenCL

C++ benchmarks:

-O2 -I/opt/AMDAPP/include -lOpenCL

The flags file that was used to format this result can be browsed at

http://www.spec.org/accel/flags/gcc_flags.20150303.html

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

http://www.spec.org/accel/flags/gcc_flags.20150303.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.

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