SPEC ACCEL™ OCL Result

Uniwide Technologies

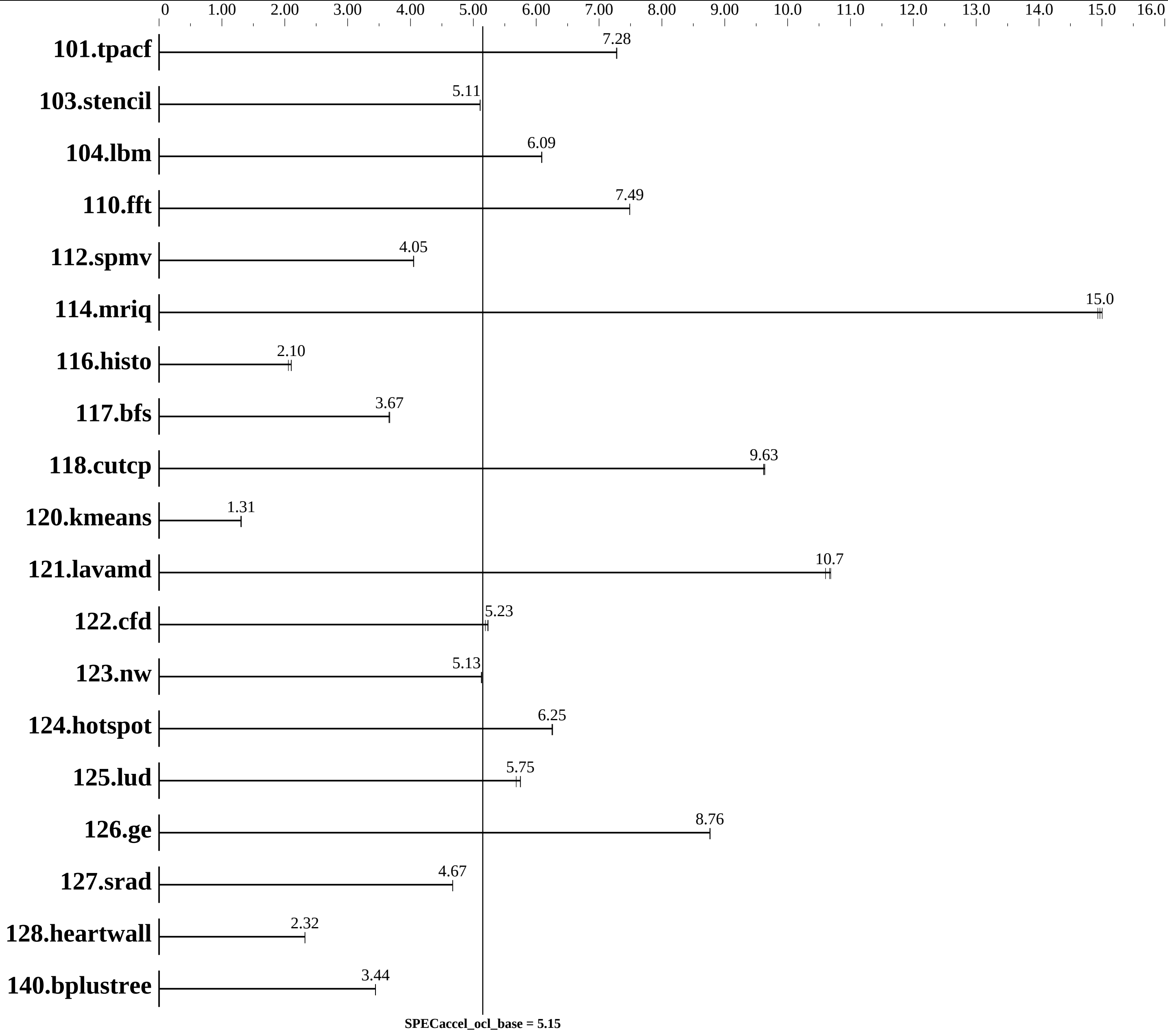
(Test Sponsor: Telecommunications Technology Association)

NVIDIA Tesla P100-PCIE-12GB RB228H

SPECaccel_ocl_peak = Not Run

SPECaccel_ocl_base = 5.15

ACCEL license:	HPG068A	**Test date:**	Oct-2019
Test sponsor:	Telecommunications Technology Association	**Hardware Availability:**	Apr 2016
Tested by:	Telecommunications Technology Association	**Software Availability:**	Apr 2016



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Hardware

CPU Name:	Intel Xeon E5-2699 v4
CPU Characteristics:	Hyper-threading off.
CPU MHz:	2200
CPU MHz Maximum:	3600
FPU:	--
CPU(s) enabled:	44 cores, 2 chips, 22 cores/chip, 2 threads/core
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:	55 MB I+D on chip pere chip
Other Cache:	None
Memory:	512GB (16 x 32 GB 2Rx4 PC4-2400T-R)
Disk Subsystem:	2 300GB SEAGATE ST300MM0048 SAS RAID0
Other Hardware:	--

Accelerator

Accel Model Name:	Tesla P100-PCIE-12GB
Accel Vendor:	NVIDIA Corporation
Accel Name:	NVIDIA Tesla P100-PCIE-12GB
Type of Accel:	GPU
Accel Connection:	PCIe 3.0 16x
Does Accel Use ECC:	Yes
Accel Description:	NVIDIA Tesla P100-PCIE-12GB, 3584 CUDA cores, 1189 MHz 12GB HBM2 RAM
Accel Driver:	NVIDIA Driver Version 418.87.01

Software

Operating System:	CentOS Linux release 7.6.1810 (Core) 3.10.0-957.el7.x86_64
Compiler:	GCC version 4.8.5 20150623
File System:	xfs
System State:	Multi-user, run level 3
Other Software:	NVIDIA CUDA 10.1

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Results Table

	Base						Peak					
Benchmark	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
101.tpacf	**14.7**	**7.28**	14.7	7.29	14.7	7.28						
103.stencil	**24.5**	**5.11**	24.5	5.11	24.5	5.11						
104.lbm	18.4	6.09	**18.4**	**6.09**	18.4	6.09						
110.fft	**14.8**	**7.49**	14.8	7.49	14.8	7.49						
112.spmv	36.3	4.05	**36.3**	**4.05**	36.3	4.05						
114.mriq	**7.28**	**15.0**	7.30	14.9	7.26	15.0						
116.histo	55.4	2.06	**54.2**	**2.10**	54.2	2.10						
117.bfs	**31.9**	**3.67**	32.0	3.66	31.9	3.67						
118.cutcp	10.3	9.62	10.3	9.64	**10.3**	**9.63**						
120.kmeans	76.9	1.30	**76.6**	**1.31**	76.4	1.31						
121.lavamd	**10.2**	**10.7**	10.3	10.6	10.2	10.7						
122.cfd	24.1	5.24	24.3	5.19	**24.1**	**5.23**						
123.nw	22.4	5.13	22.4	5.13	**22.4**	**5.13**						
124.hotspot	18.2	6.26	18.2	6.25	**18.2**	**6.25**						
125.lud	**20.7**	**5.75**	20.7	5.75	20.9	5.68						
126.ge	17.7	8.76	17.7	8.77	**17.7**	**8.76**						
127.srad	24.4	4.67	24.4	4.67	**24.4**	**4.67**						
128.heartwall	**45.7**	**2.32**	45.7	2.32	45.7	2.32						
140.bplustree	31.4	3.44	**31.4**	**3.44**	31.4	3.44						

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

```
Sysinfo program /usr/accel-1.3/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on uniwide-rb228h Thu Oct 31 02:18:43 2019

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 E5-2699 v4 @ 2.20GHz
      2 "physical id"s (chips)
      44 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
```

Continued on next page

Platform Notes (Continued)

```
        cpu cores : 22
        siblings  : 22
        physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27
        28
        physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27
        28
     cache size : 56320 KB

  From /proc/meminfo
     MemTotal:       528093948 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  From /etc/*release* /etc/*version*
     centos-release: CentOS Linux release 7.6.1810 (Core)
     centos-release-upstream: Derived from Red Hat Enterprise Linux 7.6 (Source)
     os-release:
        NAME="CentOS Linux"
        VERSION="7 (Core)"
        ID="centos"
        ID_LIKE="rhel fedora"
        VERSION_ID="7"
        PRETTY_NAME="CentOS Linux 7 (Core)"
        ANSI_COLOR="0;31"
        CPE_NAME="cpe:/o:centos:centos:7"
     redhat-release: CentOS Linux release 7.6.1810 (Core)
     system-release: CentOS Linux release 7.6.1810 (Core)
     system-release-cpe: cpe:/o:centos:centos:7

  uname -a:
     Linux uniwide-rb228h 3.10.0-957.el7.x86_64 #1 SMP Thu Nov 8 23:39:32 UTC 2018
     x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Oct 28 08:33

  SPEC is set to: /usr/accel-1.3
     Filesystem              Type  Size  Used Avail Use% Mounted on
     /dev/mapper/centos-root xfs    50G   32G   19G  63% /
  Additional information from dmidecode:

     Warning: Use caution when you interpret this section. The 'dmidecode' program
     reads system data which is "intended to allow hardware to be accurately
     determined", but the intent may not be met, as there are frequent changes to
     hardware, firmware, and the "DMTF SMBIOS" standard.

    BIOS American Megatrends Inc. 3404 09/22/2017
    Memory:
     16x Hynix Semiconductor HMA84GR7AFR4N-UH 32 GB 2 rank 2400 MT/s, configured
     at 2133 MT/s
```

Continued on next page

Platform Notes (Continued)

```
(End of data from sysinfo program)
```

General Notes

```
Yes: The test sponsor attests, as of date of publication,
that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication,
that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication,
that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.
```

Base Runtime Environment

C benchmarks:
```
OpenCL Platform: NVIDIA CUDA, OpenCL 1.2 CUDA 10.1.236
OpenCL Device #0: Tesla P100-PCIE-12GB, v 418.87.01
```

C++ benchmarks:
```
OpenCL Platform: NVIDIA CUDA, OpenCL 1.2 CUDA 10.1.236
OpenCL Device #0: Tesla P100-PCIE-12GB, v 418.87.01
```

Base Compiler Invocation

C benchmarks:
```
gcc
```

C++ benchmarks:
```
g++
```

Base Portability Flags

116.histo: `-DSPEC_LOCAL_MEMORY_HEADROOM=2`

Base Optimization Flags

C benchmarks:
```
-O2 -I/usr/local/cuda/include -L/usr/local/cuda/lib64 -lOpenCL
```

Continued on next page

Base Optimization Flags (Continued)

C++ benchmarks:

`-O2 -I/usr/local/cuda/include -L/usr/local/cuda/lib64 -lOpenCL`

The flags file that was used to format this result can be browsed at
https://www.spec.org/accel/flags/gcc_flags.20190605.html

You can also download the XML flags source by saving the following link:
https://www.spec.org/accel/flags/gcc_flags.20190605.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC ACCEL v1.3.
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