SPEC ACCEL™ OMP Result

Supermicro
(Test Sponsor: NVIDIA Corporation)

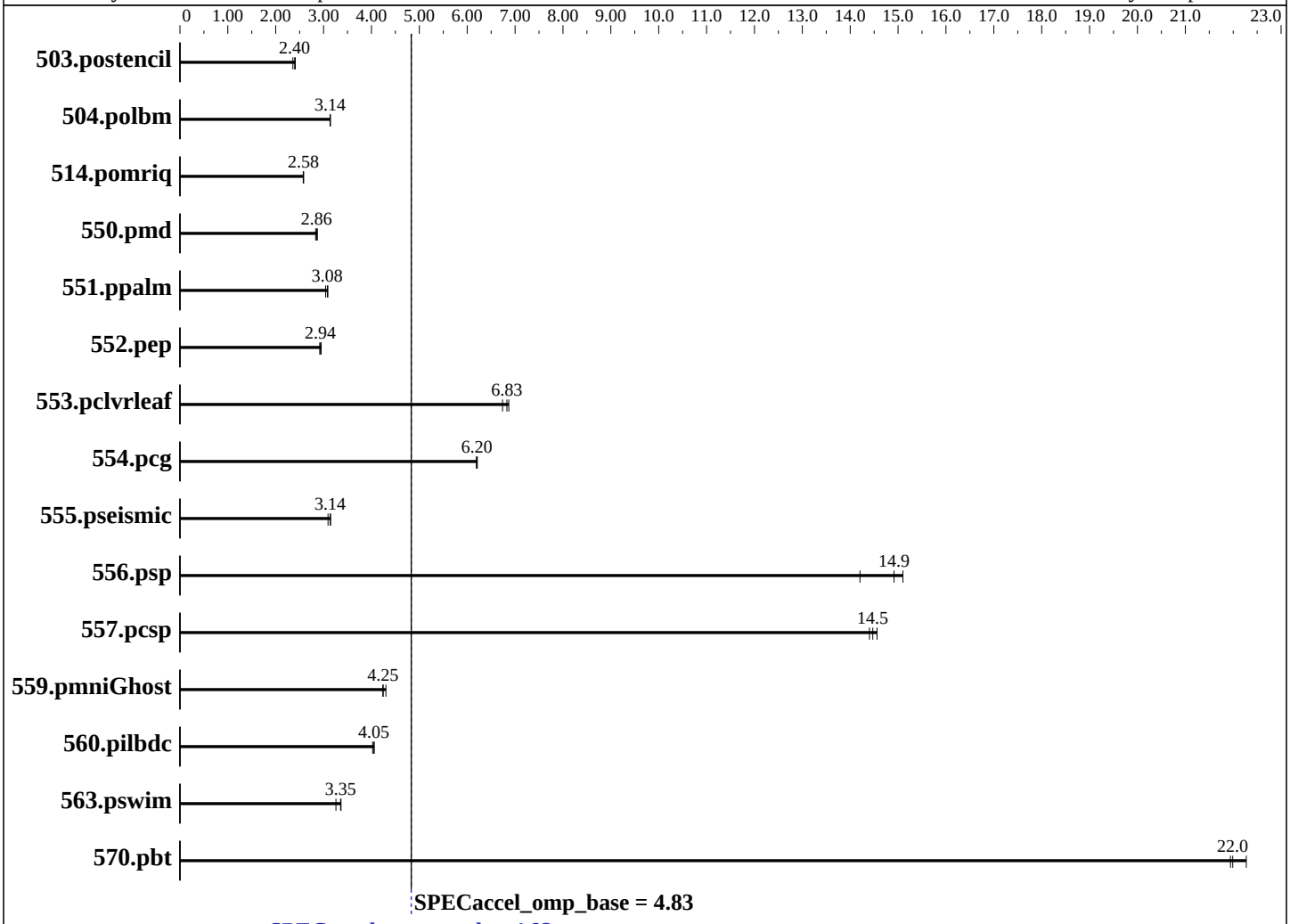
Xeon Gold 6148
SYS-1029GQ-TRT

SPECaccel_omp_peak = 4.83

SPECaccel_omp_base = 4.83

ACCEL license: 019
Test sponsor: NVIDIA Corporation
Tested by: NVIDIA Corporation

Test date: May-2019
Hardware Availability: Nov-2017
Software Availability: Apr-2019



Hardware

CPU Name:	Intel Xeon Gold 6148
CPU Characteristics:	
CPU MHz:	2400
CPU MHz Maximum:	2400
FPU:	Integrated
CPU(s) enabled:	40 cores, 2 chips, 40 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:	1 MB I+D on chip per core
L3 Cache:	28160 KB I+D on chip per chip
Other Cache:	None

Continued on next page

Accelerator

Accel Model Name:	Intel Xeon CPU Gold 6148
Accel Vendor:	Intel Corporation
Accel Name:	Xeon Gold 6148
Type of Accel:	CPU
Accel Connection:	Not Applicable
Does Accel Use ECC:	Yes
Accel Description:	--
Accel Driver:	Not Applicable

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Hardware (Continued)

Memory: 384 GB (12 x 32 GB 2Rx8 PC4-2666V-R)
Disk Subsystem: Micron 51000 ECO M.2 480GB SATA SSD
Other Hardware: None

Software

Operating System: CentOS Linux release 7.6.1810 (Core)
3.10.0-957.1.3.el7.x86_64
Compiler: PGI Professional Edition, Release 19.4
File System: xfs
System State: Run level 3 (multi-user)
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.postencil	46.2	2.36	**45.5**	**2.40**	45.2	2.41	46.2	2.36	**45.5**	**2.40**	45.2	2.41
504.polbm	**38.9**	**3.14**	38.8	3.14	38.9	3.14	**38.9**	**3.14**	38.8	3.14	38.9	3.14
514.pomriq	240	2.58	241	2.57	**241**	**2.58**	240	2.58	241	2.57	**241**	**2.58**
550.pmd	**84.4**	**2.86**	84.0	2.87	85.1	2.83	**84.4**	**2.86**	84.0	2.87	85.1	2.83
551.ppalm	176	3.09	**177**	**3.08**	179	3.04	176	3.09	**177**	**3.08**	179	3.04
552.pep	79.1	2.92	78.3	2.95	**78.7**	**2.94**	79.1	2.92	78.3	2.95	**78.7**	**2.94**
553.pclvrleaf	**168**	**6.83**	167	6.87	170	6.74	**168**	**6.83**	167	6.87	170	6.74
554.pcg	53.6	6.21	**53.7**	**6.20**	53.8	6.19	53.6	6.21	**53.7**	**6.20**	53.8	6.19
555.pseismic	89.6	3.15	**89.8**	**3.14**	91.2	3.09	89.6	3.15	**89.8**	**3.14**	91.2	3.09
556.psp	57.6	14.2	54.2	15.1	**54.8**	**14.9**	57.6	14.2	54.2	15.1	**54.8**	**14.9**
557.pcsp	59.0	14.6	59.6	14.4	**59.4**	**14.5**	59.0	14.6	59.6	14.4	**59.4**	**14.5**
559.pmniGhost	92.3	4.30	93.7	4.24	**93.5**	**4.25**	92.3	4.30	93.7	4.24	**93.5**	**4.25**
560.pilbdc	162	4.02	**161**	**4.05**	161	4.06	162	4.02	**161**	**4.05**	161	4.06
563.pswim	47.3	3.36	48.8	3.26	**47.4**	**3.35**	47.3	3.36	48.8	3.26	**47.4**	**3.35**
570.pbt	35.5	21.9	35.0	22.3	**35.5**	**22.0**	35.5	21.9	35.0	22.3	**35.5**	**22.0**

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

Operating System Notes

```
Stacksize set to 'unlimited'
```

Platform Notes

```
Sysinfo program /local/home/toepfer/SPECACCEL/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on perf-sky6 Wed May 29 14:05:12 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) Gold 6148 CPU @ 2.40GHz
      2 "physical id"s (chips)
      80 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 20
      siblings  : 40
      physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
      physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
   cache size : 28160 KB

From /proc/meminfo
   MemTotal:       394869788 kB
   HugePages_Total:      20
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   CentOS Linux release 7.6.1810 (Core)

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 perf-sky6 3.10.0-957.1.3.el7.x86_64 #1 SMP Thu Nov 29 14:49:43 UTC 2018
   x86_64 x86_64 x86_64 GNU/Linux
```

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Platform Notes (Continued)

```
run-level 3 Jan 28 10:37

SPEC is set to: /local/home/toepfer/SPECACCEL
   Filesystem                     Type  Size  Used Avail Use% Mounted on
   /dev/mapper/centos_perf--sky6-root xfs   443G   32G  411G   8% /
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.


(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
OMP_NUM_THREADS = "80"
HUGETLB_PATH = "/mnt/hugetlb"
OMP_PROC_BIND = "true"

551.ppalm (base): "advec_ws_private" src.alt was used.
```

Base Compiler Invocation

C benchmarks:
pgcc

Fortran benchmarks:
pgfortran

Benchmarks using both Fortran and C:
pgcc pgfortran

Base Portability Flags

503.postencil: -DSPEC_USE_INNER_SIMD
504.polbm: -DSPEC_USE_INNER_SIMD
514.pomriq: -DSPEC_USE_INNER_SIMD
550.pmd: -DSPEC_USE_INNER_SIMD
551.ppalm: -DSPEC_USE_INNER_SIMD

Continued on next page

Base Portability Flags (Continued)

552.pep: -DSPEC_USE_INNER_SIMD
553.pclvrleaf: -DSPEC_USE_INNER_SIMD
554.pcg: -DSPEC_USE_INNER_SIMD
555.pseismic: -DSPEC_USE_INNER_SIMD
556.psp: -DSPEC_USE_INNER_SIMD
557.pcsp: -DSPEC_USE_INNER_SIMD
559.pmniGhost: -DSPEC_USE_INNER_SIMD
560.pilbdc: -DSPEC_USE_INNER_SIMD
563.pswim: -DSPEC_USE_INNER_SIMD
570.pbt: -DSPEC_USE_INNER_SIMD

Base Optimization Flags

C benchmarks:
-fast -mp -Mnouniform -Mhugetlb

Fortran benchmarks:
-fast -mp -Mnouniform -Mhugetlb

Benchmarks using both Fortran and C:

553.pclvrleaf: -fast -mp -Mnouniform -Mhugetlb

559.pmniGhost: -fast -mp -Mnouniform -Mhugetlb -Mnomain

Peak Optimization Flags

C benchmarks:

503.postencil: basepeak = yes

504.polbm: basepeak = yes

514.pomriq: basepeak = yes

552.pep: basepeak = yes

554.pcg: basepeak = yes

557.pcsp: basepeak = yes

570.pbt: basepeak = yes

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Peak Optimization Flags (Continued)

Fortran benchmarks:

550.pmd: `basepeak = yes`

551.ppalm: `basepeak = yes`

555.pseismic: `basepeak = yes`

556.psp: `basepeak = yes`

560.pilbdc: `basepeak = yes`

563.pswim: `basepeak = yes`

Benchmarks using both Fortran and C:

553.pclvrleaf: `basepeak = yes`

559.pmniGhost: `basepeak = yes`

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

Tested with SPEC ACCEL v1.2.
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