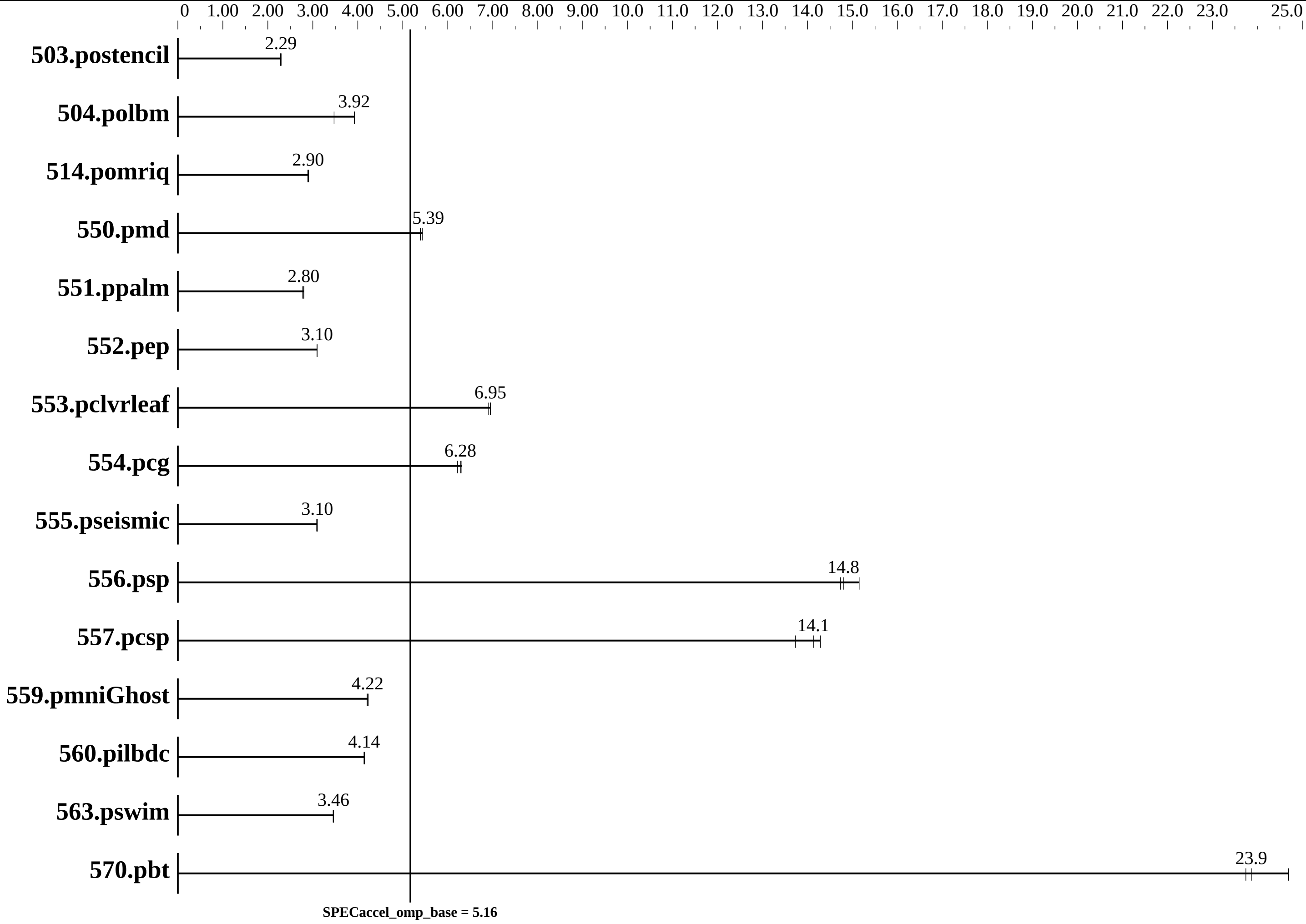
SPEC ACCEL™ OMP Result

Lenovo Global Technology
Intel Xeon Platinum 6142 CPU
ThinkSystem SR670

SPECaccel_omp_peak = Not Run

SPECaccel_omp_base = 5.16

ACCEL license:	16	**Test date:**	Feb-2019
Test sponsor:	Lenovo Global Technology	**Hardware Availability:**	Feb-2019
Tested by:	Lenovo Global Technology	**Software Availability:**	Feb-2019



Hardware

CPU Name:	(Intel Xeon Platinum 6142 CPU, 2.6 GHz)
CPU Characteristics:	Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz:	2600
CPU MHz Maximum:	3700
FPU:	Integrated
CPU(s) enabled:	32 cores, 2 chips, 16 cores/chip
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:	23040 KB I+D on chip per chip
Other Cache:	None

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Accelerator

Accel Model Name:	Intel Xeon Platinum 6142 CPU
Accel Vendor:	Intel
Accel Name:	Intel Xeon Platinum 6142 CPU
Type of Accel:	CPU
Accel Connection:	10.4 GT/s UPI
Does Accel Use ECC:	yes
Accel Description:	2 x Intel Xeon Platinum 6142 CPU
Accel Driver:	None

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Hardware (Continued)

Memory:	768 GB (24 x 32 GB 2Rx4 PC4-2666V)
Disk Subsystem:	Micron 480 GB 6 Gbps SATA 2.5" SSD (4XB7A10153)
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 7.5, kernel 3.10.0.862.el7.x86_64
Compiler:	Intel C/C++/Fortran 18.0 Update 5 for Linux Version 18.0.5 Build 20180823
File System:	xfs
System State:	Default
Other Software:	FFTW 3.3.8

Results Table

	Base						Peak					
Benchmark	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.postencil	47.5	2.30	**47.6**	**2.29**	47.8	2.28						
504.polbm	31.1	3.93	35.1	3.47	**31.1**	**3.92**						
514.pomriq	215	2.89	**214**	**2.90**	214	2.91						
550.pmd	**44.7**	**5.39**	44.3	5.44	44.7	5.39						
551.ppalm	**194**	**2.80**	196	2.78	194	2.80						
552.pep	74.6	3.10	**74.6**	**3.10**	74.6	3.10						
553.pclvrleaf	166	6.91	165	6.95	**165**	**6.95**						
554.pcg	53.6	6.22	52.7	6.31	**53.0**	**6.28**						
555.pseismic	91.0	3.10	91.4	3.09	**91.0**	**3.10**						
556.psp	55.5	14.7	**55.3**	**14.8**	54.0	15.1						
557.pcsp	62.6	13.7	**60.8**	**14.1**	60.1	14.3						
559.pmniGhost	94.4	4.21	93.8	4.23	**94.1**	**4.22**						
560.pilbdc	**158**	**4.14**	158	4.14	157	4.15						
563.pswim	46.1	3.45	**46.0**	**3.46**	45.9	3.46						
570.pbt	32.9	23.7	**32.7**	**23.9**	31.6	24.7						

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

Submit Notes

```
The config file option 'submit' was used.
```

Platform Notes

```
Sysinfo program /home/ACCEL1.2/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on bannerrh75 Tue Feb 26 04:24:56 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 6142 CPU @ 2.60GHz
      2 "physical id"s (chips)
      64 "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 : 16
      siblings  : 32
      physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
      physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
   cache size : 22528 KB

From /proc/meminfo
   MemTotal:       792040060 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 7.5 (Maipo)

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux Server"
      VERSION="7.5 (Maipo)"
      ID="rhel"
      ID_LIKE="fedora"
      VARIANT="Server"
      VARIANT_ID="server"
      VERSION_ID="7.5"
      PRETTY_NAME="Red Hat Enterprise Linux Server 7.5 (Maipo)"
   redhat-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
   system-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:7.5:ga:server

uname -a:
   Linux bannerrh75 3.10.0-862.el7.x86_64 #1 SMP Wed Mar 21 18:14:51 EDT 2018
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 26 02:44
```

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Platform Notes (Continued)

```
SPEC is set to: /home/ACCEL1.2
   Filesystem              Type  Size  Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs   192G   67G  126G  35% /home
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 Lenovo -[G1E105G-1.10]- 12/07/2018
  Memory:
   24x Micron 36ASF4G72PZ-2G6D1 32 GB 2 rank 2666 MHz

(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 Compiler Invocation

C benchmarks:
 icc

Fortran benchmarks:
 ifort

Benchmarks using both Fortran and C:
 icc ifort

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 -80
551.ppalm: -DSPEC_USE_INNER_SIMD

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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 -nofor-main
560.pilbdc: -DSPEC_USE_INNER_SIMD
563.pswim: -DSPEC_USE_INNER_SIMD
570.pbt: -DSPEC_USE_INNER_SIMD

Base Optimization Flags

C benchmarks:
-O3 -xCOMMON-AVX512 -qopenmp -qopenmp-offload=host

Fortran benchmarks:
-O3 -xCOMMON-AVX512 -qopenmp -qopenmp-offload=host

Benchmarks using both Fortran and C:
-O3 -xCOMMON-AVX512 -qopenmp -qopenmp-offload=host

The flags files that were used to format this result can be browsed at
https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.20190321.html
https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20190321.html

You can also download the XML flags sources by saving the following links:
https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.20190321.xml
https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20190321.xml

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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