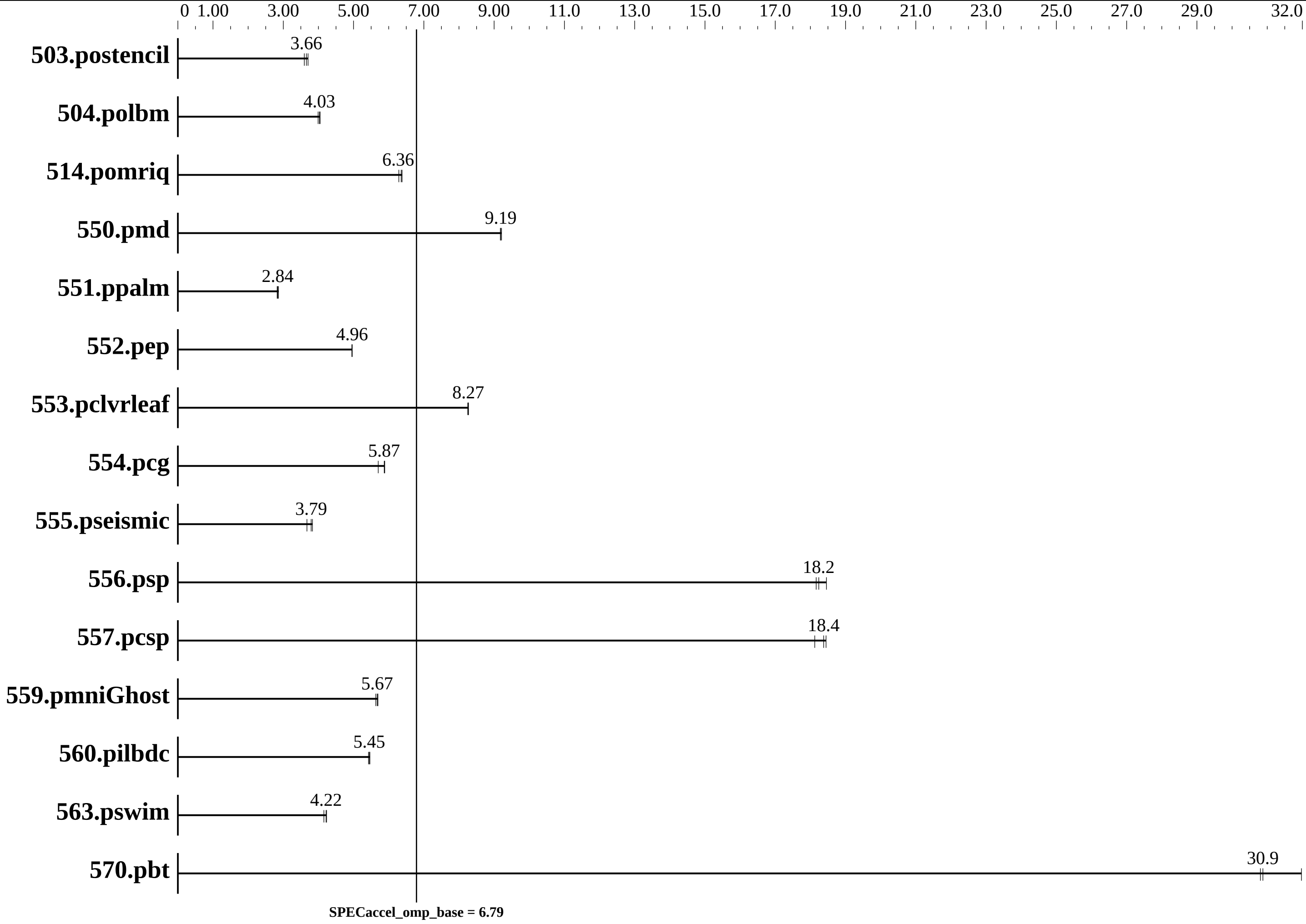
SPEC ACCEL™ OMP Result

Lenovo Global Technology
Intel Xeon Platinum 8280 CPU
ThinkSystem SR650

SPECaccel_omp_peak = Not Run

SPECaccel_omp_base = 6.79

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



Hardware

CPU Name:	(Intel Xeon Platinum 8280 CPU, 2.7 GHz)
CPU Characteristics:	Intel Turbo Boost Technology up to 4.0 GHz
CPU MHz:	2700
CPU MHz Maximum:	4000
FPU:	Integrated
CPU(s) enabled:	56 cores, 2 chips, 28 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:	38.5 MB I+D on chip per chip
Other Cache:	None

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Accelerator

Accel Model Name:	Intel Xeon Platinum 8280 CPU
Accel Vendor:	Intel
Accel Name:	Intel Xeon Platinum 8280 CPU
Type of Accel:	CPU
Accel Connection:	10.4 GT/s UPI
Does Accel Use ECC:	yes
Accel Description:	2 x Intel Xeon Platinum 8280 CPU
Accel Driver:	None

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Hardware (Continued)

Memory: 768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R)
Disk Subsystem: 1 X Lenovo 1 TB SAS 2.5" HDD
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.6, kernel 3.10.0.957.el7.x86_64
Compiler: Intel C/C++/Fortran 18.0 Update 3 for Linux Version 18.0.3 Build 20180210
File System: xfs
System State: Default
Other Software: FFTW 3.3.8

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
503.postencil	**29.8**	**3.66**	30.3	3.60	29.4	3.71						
504.polbm	30.6	3.99	**30.3**	**4.03**	30.1	4.05						
514.pomriq	97.3	6.38	98.8	6.29	**97.7**	**6.36**						
550.pmd	**26.2**	**9.19**	26.2	9.21	26.3	9.18						
551.ppalm	**191**	**2.84**	192	2.83	190	2.86						
552.pep	**46.6**	**4.96**	46.6	4.96	46.7	4.95						
553.pclvrleaf	139	8.25	138	8.27	**138**	**8.27**						
554.pcg	58.4	5.70	56.6	5.89	**56.7**	**5.87**						
555.pseismic	**74.3**	**3.79**	73.6	3.83	76.8	3.67						
556.psp	45.0	18.2	44.3	18.5	**44.8**	**18.2**						
557.pcsp	46.6	18.4	47.4	18.1	**46.7**	**18.4**						
559.pmniGhost	**70.0**	**5.67**	69.7	5.69	70.5	5.63						
560.pilbdc	119	5.46	120	5.43	**120**	**5.45**						
563.pswim	**37.7**	**4.22**	37.6	4.23	38.3	4.16						
570.pbt	25.3	30.8	24.4	32.0	**25.3**	**30.9**						

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 slave5 Wed Mar 09 04:13:48 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) Platinum 8280 CPU @ 2.70GHz
      2 "physical id"s (chips)
      112 "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 : 28
      siblings  : 56
      physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
      physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
   cache size : 39424 KB

From /proc/meminfo
   MemTotal:       792031280 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux Server"
      VERSION="7.6 (Maipo)"
      ID="rhel"
      ID_LIKE="fedora"
      VARIANT="Server"
      VARIANT_ID="server"
      VERSION_ID="7.6"
      PRETTY_NAME="Red Hat Enterprise Linux Server 7.6 (Maipo)"
   redhat-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)
   system-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:7.6:ga:server

uname -a:
   Linux slave5 3.10.0-957.el7.x86_64 #1 SMP Thu Oct 4 20:48:51 UTC 2018 x86_64
   x86_64 x86_64 GNU/Linux

run-level 3 Mar 09 16:15

SPEC is set to: /home/ACCEL1.2
```

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Platform Notes (Continued)

```
    Filesystem     Type  Size  Used Avail Use% Mounted on
    /dev/sda3      xfs   221G   42G  179G  20% /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 -[IVE135S-2.10]- 03/08/2019
   Memory:
    24x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933 MT/s

 (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
552.pep: -DSPEC_USE_INNER_SIMD

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Base Portability Flags (Continued)

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.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.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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