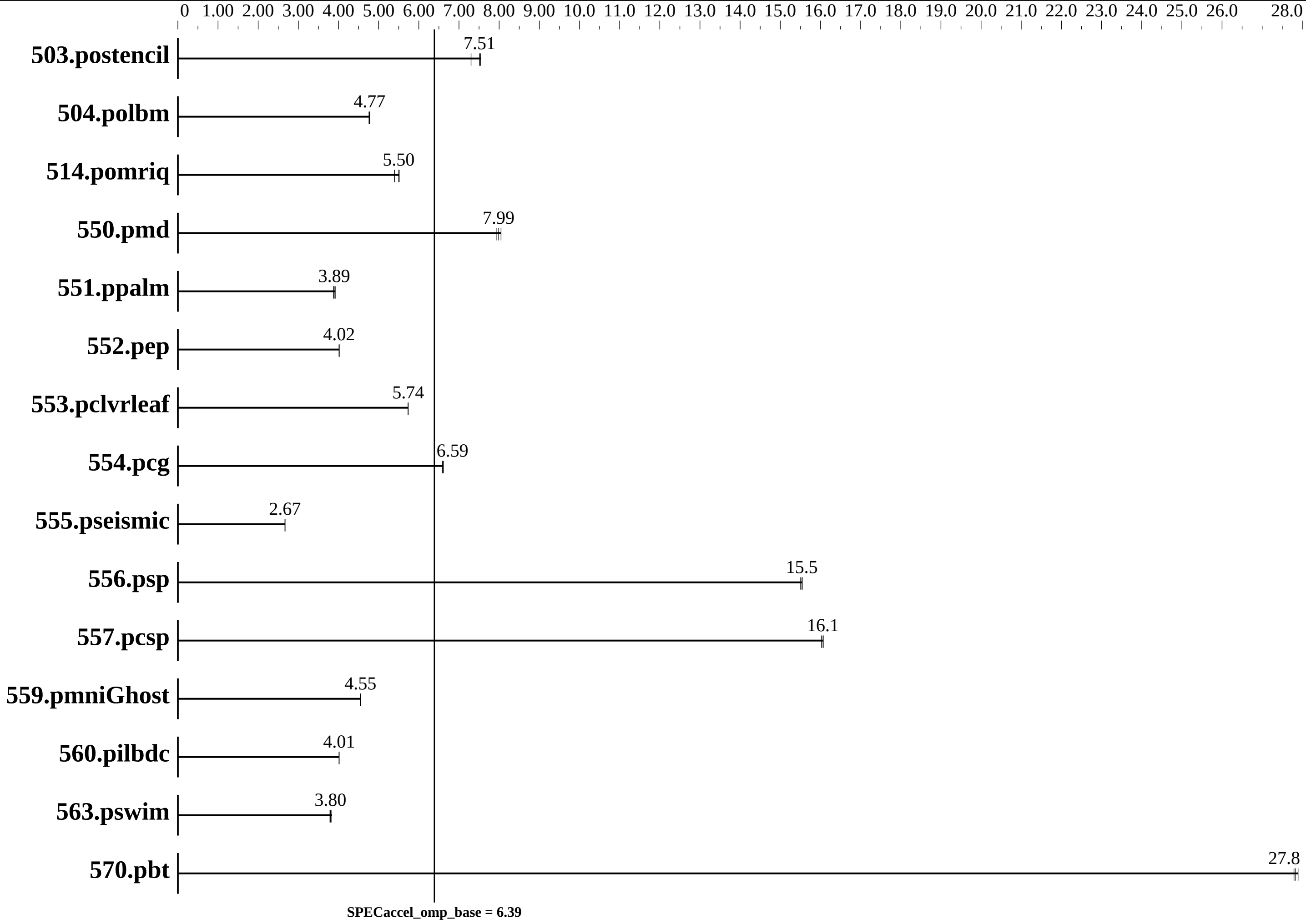
SPEC ACCEL™ OMP Result

Lenovo Global Technology
EPYC 7H12 CPU
ThinkSystem SR655

SPECaccel_omp_peak = Not Run

SPECaccel_omp_base = 6.39

ACCEL license:	16	**Test date:**	Jan-2020
Test sponsor:	Lenovo Global Technology	**Hardware Availability:**	Jun-2020
Tested by:	Lenovo Global Technology	**Software Availability:**	Aug-2019



Hardware

CPU Name:	AMD EPYC 7H12 CPU
CPU Characteristics:	Turbo up to 3.3 GHz
CPU MHz:	2600
CPU MHz Maximum:	3300
FPU:	Integrated
CPU(s) enabled:	64 cores, 1 chip, 64 cores/chip, 2 threads/core
CPU(s) orderable:	1 Chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	512 KB I+D on chip per core
L3 Cache:	256 MB I+D on chip per chip 16 MB shared / 4 cores

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Accelerator

Accel Model Name:	EPYC 7H12 CPU
Accel Vendor:	AMD
Accel Name:	EPYC 7H12 CPU
Type of Accel:	CPU
Accel Connection:	Not applicable
Does Accel Use ECC:	yes
Accel Description:	1 x AMD EPYC 7H12 CPU
Accel Driver:	Not applicable

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Hardware (Continued)

Other Cache: None
Memory: 256 GB (8 x 32 GB 2Rx4 PC4-3200AA-R)
Disk Subsystem: 1 x 480 GB SATA 2.5" SSD
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 15 SP1, kernel 4.12.14-195-default
Compiler: Intel C/C++/Fortran 19.0 Update 4 for Linux Version 19.0.4 Build 20190416
File System: btrfs
System State: Run-level 3
Other Software: None

Results Table

	Base						Peak					
Benchmark	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.postencil	14.5	7.54	14.9	7.30	**14.5**	**7.51**						
504.polbm	25.6	4.76	25.5	4.78	**25.6**	**4.77**						
514.pomriq	113	5.51	115	5.40	**113**	**5.50**						
550.pmd	29.9	8.05	30.3	7.94	**30.2**	**7.99**						
551.ppalm	**140**	**3.89**	139	3.92	140	3.88						
552.pep	57.6	4.01	**57.5**	**4.02**	57.5	4.02						
553.pclvrleaf	200	5.73	200	5.74	**200**	**5.74**						
554.pcg	50.4	6.61	50.5	6.59	**50.5**	**6.59**						
555.pseismic	106	2.67	106	2.67	**106**	**2.67**						
556.psp	52.8	15.5	52.6	15.5	**52.6**	**15.5**						
557.pcsp	**53.5**	**16.1**	53.4	16.1	53.6	16.0						
559.pmniGhost	87.3	4.55	**87.3**	**4.55**	87.2	4.55						
560.pilbdc	163	4.01	163	4.02	**163**	**4.01**						
563.pswim	42.0	3.79	**41.8**	**3.80**	41.5	3.83						
570.pbt	28.0	27.9	28.1	27.8	**28.0**	**27.8**						

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/ACCEL1.3/Docs/sysinfo
$Rev: 6965 $ $Date:: 2020-01-20 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on linux-x8nq Thu Jan 20 10:55:08 2020

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 : AMD EPYC 7H12 64-Core Processor
      1 "physical id"s (chips)
      128 "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 : 64
      siblings  : 128
      physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
      22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
      47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
   cache size : 512 KB

From /proc/meminfo
   MemTotal:       263971608 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="SLES"
      VERSION="15-SP1"
      VERSION_ID="15.1"
      PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
      ID="sles"
      ID_LIKE="suse"
      ANSI_COLOR="0;32"
      CPE_NAME="cpe:/o:suse:sles:15:sp1"

uname -a:
   Linux linux-x8nq 4.12.14-195-default #1 SMP Mon Jan 20 10:55:11 UTC 2020
   (8fba516) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 20 10:55

SPEC is set to: /home/ACCEL1.3
   Filesystem     Type   Size  Used Avail Use% Mounted on
   /dev/sda4      btrfs  444G  144G  301G  33% /home
Additional information from dmidecode:
```

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Platform Notes (Continued)

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    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             CFE111A 12/31/2019
   Memory:
    8x Samsung M393A4K40DB2-CWE 32 kB 2 rank 3200 MT/s
    8x Unknown Unknown

 (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.
BIOS Setting notes:
 Operating Mode set to Maximum Performance
```

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
553.pclvrleaf: -DSPEC_USE_INNER_SIMD

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Base Portability Flags (Continued)

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 -march=core-avx2 -qopenmp -qopenmp-offload=host -no-prec-div -no-prec-sqrt -ansi-alias -ipo -fp-model fast=2

Fortran benchmarks:
-O3 -march=core-avx2 -qopenmp -qopenmp-offload=host -no-prec-div -no-prec-sqrt -ansi-alias -ipo -fp-model fast=2

Benchmarks using both Fortran and C:
-O3 -march=core-avx2 -qopenmp -qopenmp-offload=host -no-prec-div -no-prec-sqrt -ansi-alias -ipo -fp-model fast=2

The flags file that was used to format this result can be browsed at
https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20200316.html

You can also download the XML flags source by saving the following link:
https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20200316.xml

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

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