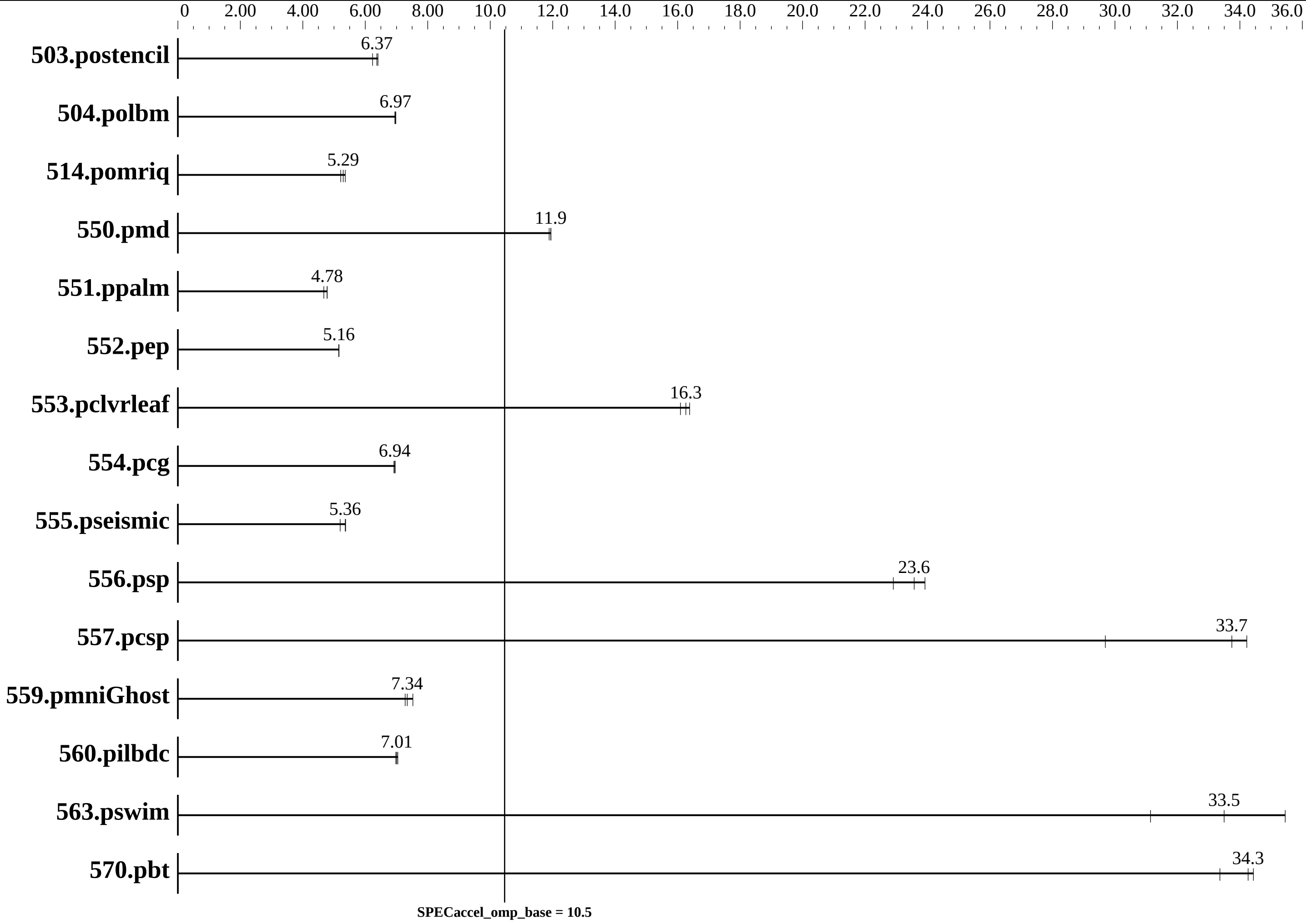
SPEC ACCEL™ OMP Result

Lenovo Global Technology
EPYC 7H12 CPU
ThinkSystem SR665

SPECaccel_omp_peak = Not Run

SPECaccel_omp_base = 10.5

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



Hardware

CPU Name:	AMD EPYC 7H12
CPU Characteristics:	Turbo up to 3.3 GHz
CPU MHz:	2600
CPU MHz Maximum:	3300
FPU:	Integrated
CPU(s) enabled:	128 cores, 2 chips, 64 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:	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: 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R)
Disk Subsystem: 1 x 480 GB 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 20.0 for Linux Version 19.1.0.166 Build 20191121
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	**17.1**	**6.37**	17.0	6.41	17.5	6.23						
504.polbm	17.6	6.95	**17.5**	**6.97**	17.5	6.98						
514.pomriq	**117**	**5.29**	116	5.36	119	5.21						
550.pmd	20.3	11.9	**20.2**	**11.9**	20.2	11.9						
551.ppalm	114	4.78	**114**	**4.78**	116	4.67						
552.pep	44.9	5.15	**44.8**	**5.16**	44.8	5.16						
553.pclvrleaf	**70.4**	**16.3**	71.2	16.1	69.9	16.4						
554.pcg	**47.9**	**6.94**	48.1	6.92	47.9	6.96						
555.pseismic	54.3	5.20	52.5	5.37	**52.6**	**5.36**						
556.psp	**34.7**	**23.6**	35.7	22.9	34.2	23.9						
557.pcsp	25.1	34.2	28.9	29.7	**25.5**	**33.7**						
559.pmniGhost	54.6	7.28	52.8	7.52	**54.1**	**7.34**						
560.pilbdc	92.7	7.04	93.6	6.98	**93.2**	**7.01**						
563.pswim	4.48	35.5	5.11	31.1	**4.75**	**33.5**						
570.pbt	**22.8**	**34.3**	23.4	33.4	22.7	34.4						

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
running on linux-x8nq Fri Feb 15 00:13:46 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 : AMD EPYC 7H12 64-Core Processor
      2 "physical id"s (chips)
      256 "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
      physical 1: 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:       1056669592 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 Tue May 7 10:55:11 UTC 2019
   (8fba516) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 14 22:22

SPEC is set to: /home/ACCEL1.3
   Filesystem     Type   Size  Used Avail Use% Mounted on
   /dev/sda4      btrfs  444G  160G  284G  37% /home
```

Continued on next page

Platform Notes (Continued)

```
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 D8E105F-1.00 03/19/2020
  Memory:
   16x Samsung M393A8G40AB2-CWE 64 kB 2 rank 3200 MT/s
   16x Unknown Unknown

(End of data from sysinfo program)
```

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
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

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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-ICC-linux64.html

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