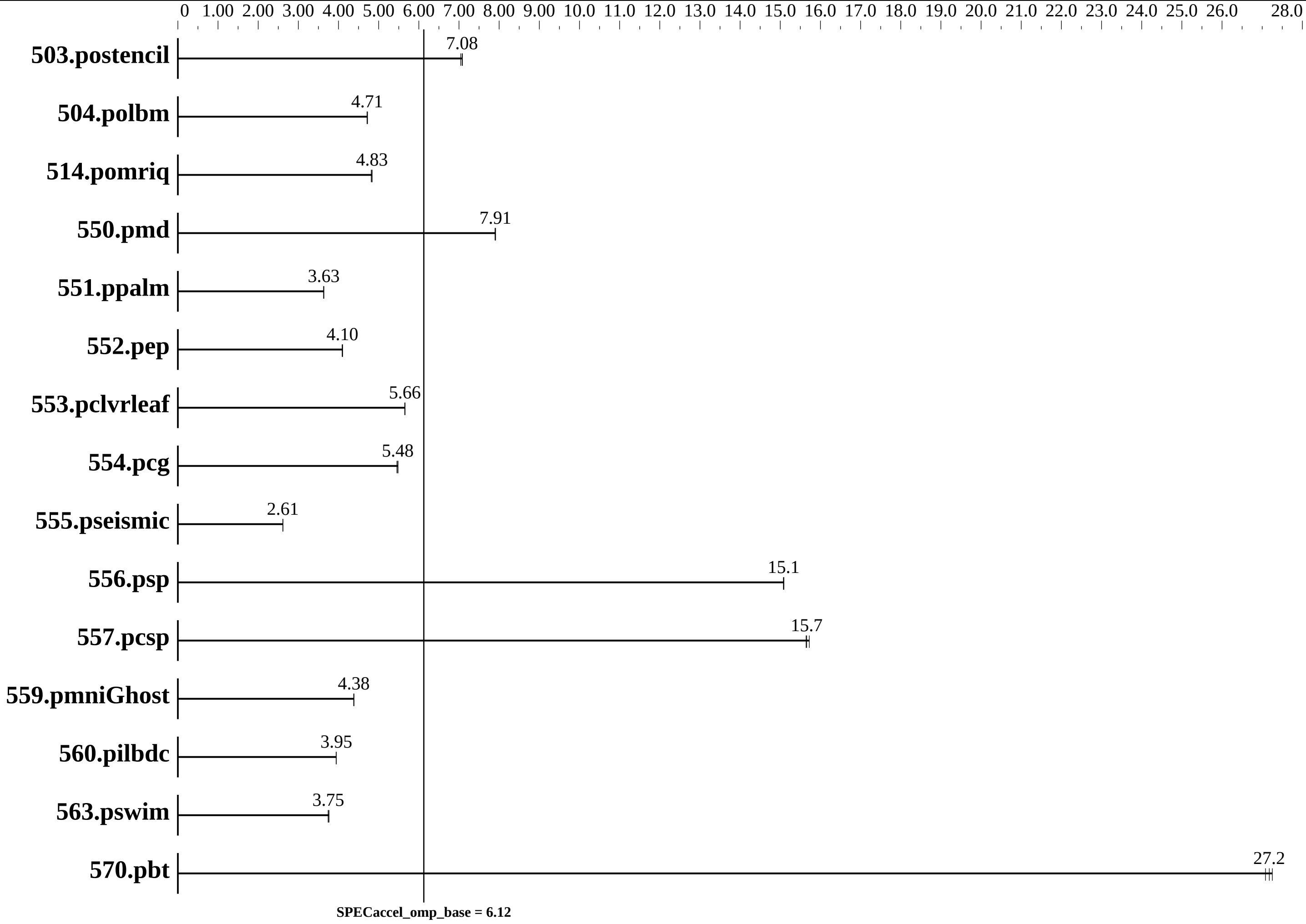
SPEC ACCEL™ OMP Result

Lenovo Global Technology
EPYC 7742 CPU
ThinkSystem SR655

SPECaccel_omp_peak = Not Run

SPECaccel_omp_base = 6.12

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



Hardware

CPU Name:	AMD EPYC 7742 CPU
CPU Characteristics:	Turbo up to 3.4 GHz
CPU MHz:	2250
CPU MHz Maximum:	3400
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 7742 CPU
Accel Vendor:	AMD
Accel Name:	EPYC 7742 CPU
Type of Accel:	CPU
Accel Connection:	Not applicable
Does Accel Use ECC:	yes
Accel Description:	1 x AMD EPYC 7742 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 12 SP4, kernel 4.12.14-94.41-default
Compiler: Intel C/C++/Fortran 19.0 Update 4 for Linux Version 19.0.4 Build 20190416
File System: xfs
System State: Run-level 3
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.postencil	15.5	7.04	15.4	7.09	**15.4**	**7.08**						
504.polbm	**25.9**	**4.71**	25.8	4.72	25.9	4.71						
514.pomriq	**128**	**4.83**	129	4.82	128	4.84						
550.pmd	**30.5**	**7.91**	30.5	7.90	30.5	7.91						
551.ppalm	150	3.63	150	3.63	**150**	**3.63**						
552.pep	56.3	4.10	56.5	4.09	**56.3**	**4.10**						
553.pclvrleaf	202	5.66	203	5.65	**202**	**5.66**						
554.pcg	61.1	5.45	60.7	5.48	**60.8**	**5.48**						
555.pseismic	108	2.61	**108**	**2.61**	108	2.61						
556.psp	**54.2**	**15.1**	54.3	15.1	54.2	15.1						
557.pcsp	54.9	15.6	54.6	15.7	**54.9**	**15.7**						
559.pmniGhost	90.7	4.38	**90.6**	**4.38**	90.5	4.39						
560.pilbdc	165	3.95	166	3.94	**166**	**3.95**						
563.pswim	**42.4**	**3.75**	42.2	3.76	42.5	3.74						
570.pbt	28.6	27.3	**28.7**	**27.2**	28.8	27.1						

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 Fri Jul 12 15:10:22 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 7742 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:       264016932 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   SUSE Linux Enterprise Server 12 SP4

From /etc/*release* /etc/*version*
   SuSE-release:
      SUSE Linux Enterprise Server 12 (x86_64)
      VERSION = 12
      PATCHLEVEL = 4
      # This file is deprecated and will be removed in a future service pack or
      release.
      # Please check /etc/os-release for details about this release.
   os-release:
      NAME="SLES"
      VERSION="12-SP4"
      VERSION_ID="12.4"
      PRETTY_NAME="SUSE Linux Enterprise Server 12 SP4"
      ID="sles"
      ANSI_COLOR="0;32"
      CPE_NAME="cpe:/o:suse:sles:12:sp4"

uname -a:
   Linux bannerrh75 4.12.14-94.41-default #1 SMP Wed Oct 31 12:25:04 UTC 2018
```

Continued on next page

Platform Notes (Continued)

```
   (3090901) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jul 12 15:01

SPEC is set to: /home/ACCEL1.2
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda4      xfs   245G   74G  171G  31% /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 CFE101Y 06/22/2019
  Memory:
   8x Samsung M393A4K40DB2-CWE 32 GB 2 rank 3200 MHz
   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.
```

Base Compiler Invocation

C benchmarks:
 icc

Fortran benchmarks:
 ifort

Benchmarks using both Fortran and C:
 icc ifort

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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

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 files that were used to format this result can be browsed at
https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20190807.html
https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.20190807.html

You can also download the XML flags sources by saving the following links:
https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20190807.xml
https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.20190807.xml

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

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