

SPEC ACCEL™ OMP Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Dell

(Test Sponsor: NVIDIA Corporation)

Epyc 7451

PowerEdge R7425

SPECaccel_omp_peak = 3.48

SPECaccel_omp_base = 3.48

ACCEL license: 019

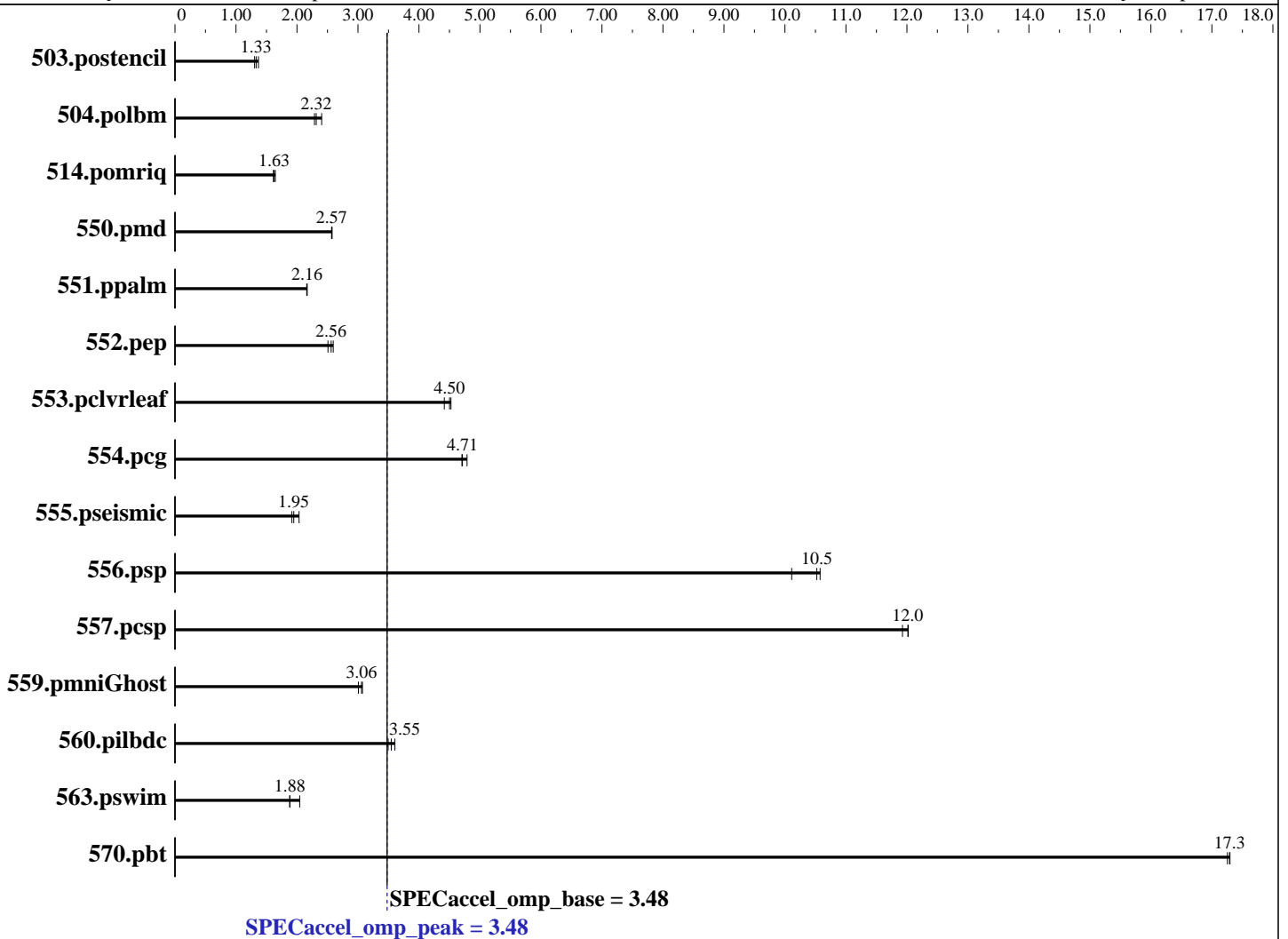
Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: May-2019

Hardware Availability: Nov-2017

Software Availability: Apr-2018



Hardware

CPU Name: AMD EPYC 7451 24-Core
CPU Characteristics:
CPU MHz: 2900
CPU MHz Maximum: 3200
FPU: Integrated
CPU(s) enabled: 48 cores, 2 chips, 24 cores/chip, 2 threads/core
CPU(s) orderable: 1,2 chips
Primary Cache: 64 KB I + 32 KB D on chip per core
Secondary Cache: 512 KB I+D on chip per core
L3 Cache: 64 MB I+D on chip per chip
Other Cache: None

Continued on next page

Accelerator

Accel Model Name: Epyc 7451
Accel Vendor: AMD
Accel Name: Epyc 7451
Type of Accel: CPU
Accel Connection: Not Applicable
Does Accel Use ECC: Yes
Accel Description: --
Accel Driver: None

SPEC ACCEL OMP Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Dell

(Test Sponsor: NVIDIA Corporation)

Epyc 7451

PowerEdge R7425

SPECaccel_omp_peak = 3.48

SPECaccel_omp_base = 3.48

ACCEL license: 019

Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: May-2019

Hardware Availability: Nov-2017

Software Availability: Apr-2018

Hardware (Continued)

Memory: 256 GB (16 x 16GB PC4-21300 2666MHz DDR4)
Disk Subsystem: Samsung 1 x 960 GB SATA SSD
Other Hardware: None

Software

Operating System: CentOS Linux release 7.5.1804 (Core)
4.19.0-1.el7.elrepo.x86_64
Compiler: PGI Community Edition, Release 19.4
File System: xfs
System State: Run level 3 (add definition here)
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.postencil	79.6	1.37	81.9	1.33	83.5	1.31	79.6	1.37	81.9	1.33	83.5	1.31
504.polbm	52.7	2.32	50.7	2.40	53.3	2.29	52.7	2.32	50.7	2.40	53.3	2.29
514.pomriq	377	1.65	382	1.63	385	1.61	377	1.65	382	1.63	385	1.61
550.pmd	93.8	2.57	93.8	2.57	93.6	2.58	93.8	2.57	93.8	2.57	93.6	2.58
551.ppalm	252	2.16	251	2.16	251	2.17	252	2.16	251	2.16	251	2.17
552.pep	90.2	2.56	89.0	2.59	92.1	2.51	90.2	2.56	89.0	2.59	92.1	2.51
553.pclvrleaf	254	4.50	253	4.52	259	4.42	254	4.50	253	4.52	259	4.42
554.pcg	69.5	4.79	70.8	4.70	70.7	4.71	69.5	4.79	70.8	4.70	70.7	4.71
555.pseismic	147	1.92	145	1.95	139	2.03	147	1.92	145	1.95	139	2.03
556.psp	77.7	10.5	80.9	10.1	77.3	10.6	77.7	10.5	80.9	10.1	77.3	10.6
557.pcsp	71.5	12.0	71.5	12.0	72.0	11.9	71.5	12.0	71.5	12.0	72.0	11.9
559.pmniGhost	129	3.07	132	3.01	130	3.06	129	3.07	132	3.01	130	3.06
560.pilbdc	184	3.55	181	3.61	187	3.49	184	3.55	181	3.61	187	3.49
563.pswim	84.5	1.88	84.4	1.88	77.8	2.04	84.5	1.88	84.4	1.88	77.8	2.04
570.pbt	45.2	17.3	45.1	17.3	45.1	17.3	45.2	17.3	45.1	17.3	45.1	17.3

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.

SPEC ACCEL OMP Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Dell

(Test Sponsor: NVIDIA Corporation)

Epyc 7451

PowerEdge R7425

SPECaccel_omp_peak = 3.48

SPECaccel_omp_base = 3.48

ACCEL license: 019

Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: May-2019

Hardware Availability: Nov-2017

Software Availability: Apr-2018

Platform Notes

```
Sysinfo program /local/home/toepfer/SPECACCEL/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3feldf68447e8a35
running on perf-epyc4 Wed May 29 13:16:31 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 7451 24-Core Processor
 2 "physical id"s (chips)
 96 "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 : 24
  siblings  : 48
  physical 0: cores 0 1 8 9 10 12 13 14 16 17 18 20 21 22 24 25 26 28 29 30
  physical 1: cores 0 1 8 9 10 12 13 14 16 17 18 20 21 22 24 25 26 28 29 30
cache size : 512 KB
```

From /proc/meminfo

```
MemTotal:      263857152 kB
HugePages_Total:       20
Hugepagesize:   2048 kB
```

/usr/bin/lsc_release -d

```
CentOS Linux release 7.5.1804 (Core)
```

From /etc/*release* /etc/*version*

```
centos-release: CentOS Linux release 7.5.1804 (Core)
centos-release-upstream: Derived from Red Hat Enterprise Linux 7.5 (Source)
os-release:
  NAME="CentOS Linux"
  VERSION="7 (Core)"
  ID="centos"
  ID_LIKE="rhel fedora"
  VERSION_ID="7"
  PRETTY_NAME="CentOS Linux 7 (Core)"
  ANSI_COLOR="0;31"
  CPE_NAME="cpe:/o:centos:centos:7"
redhat-release: CentOS Linux release 7.5.1804 (Core)
system-release: CentOS Linux release 7.5.1804 (Core)
system-release-cpe: cpe:/o:centos:centos:7
```

uname -a:

```
Linux perf-epyc4 4.19.0-1.el7.elrepo.x86_64 #1 SMP Mon Oct 22 10:40:32 EDT
2018 x86_64 x86_64 x86_64 GNU/Linux
```

Continued on next page

SPEC ACCEL OMP Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Dell

(Test Sponsor: NVIDIA Corporation)

Epyc 7451

PowerEdge R7425

SPECaccel_omp_peak = 3.48

SPECaccel_omp_base = 3.48

ACCEL license: 019

Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: May-2019

Hardware Availability: Nov-2017

Software Availability: Apr-2018

Platform Notes (Continued)

run-level 3 Nov 20 11:12

SPEC is set to: /local/home/toepfer/SPECACCEL

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/centos_epyc4-root	xfs	890G	49G	841G	6%	/

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.

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

OMP_NUM_THREADS = "96"
HUGETLB_PATH = "/mnt/hugetlb"
OMP_PROC_BIND = "true"

551.ppalm (base): "advec_ws_private" src.alt was used.

Base Compiler Invocation

C benchmarks:

pgcc

Fortran benchmarks:

pgfortran

Benchmarks using both Fortran and C:

pgcc pgfortran

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
551.ppalm: -DSPEC_USE_INNER_SIMD

Continued on next page

SPEC ACCEL OMP Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Dell

(Test Sponsor: NVIDIA Corporation)

Epyc 7451

PowerEdge R7425

SPECaccel_omp_peak = 3.48

SPECaccel_omp_base = 3.48

ACCEL license: 019

Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: May-2019

Hardware Availability: Nov-2017

Software Availability: Apr-2018

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.pfsp: -DSPEC_USE_INNER_SIMD
559.pmniGhost: -DSPEC_USE_INNER_SIMD
560.pilbdc: -DSPEC_USE_INNER_SIMD
563.pswim: -DSPEC_USE_INNER_SIMD
570.pbt: -DSPEC_USE_INNER_SIMD

Base Optimization Flags

C benchmarks:

-fast -Mnouniform -Mhugetlb -mp

Fortran benchmarks:

-fast -Mnouniform -Mhugetlb -mp

Benchmarks using both Fortran and C:

553.pclvrleaf: -fast -Mnouniform -Mhugetlb -mp

559.pmniGhost: -fast -Mnouniform -Mhugetlb -mp -Mnomain

Peak Optimization Flags

C benchmarks:

503.postencil: basepeak = yes

504.polbm: basepeak = yes

514.pomriq: basepeak = yes

552.pep: basepeak = yes

554.pcg: basepeak = yes

557.pfsp: basepeak = yes

570.pbt: basepeak = yes

Continued on next page

SPEC ACCEL OMP Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Dell

(Test Sponsor: NVIDIA Corporation)

Epyc 7451

PowerEdge R7425

SPECaccel_omp_peak = 3.48

SPECaccel_omp_base = 3.48

ACCEL license: 019

Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: May-2019

Hardware Availability: Nov-2017

Software Availability: Apr-2018

Peak Optimization Flags (Continued)

Fortran benchmarks:

550.pmd: basepeak = yes

551.ppalm: basepeak = yes

555.pseismic: basepeak = yes

556.psp: basepeak = yes

560.pilbdc: basepeak = yes

563.pswim: basepeak = yes

Benchmarks using both Fortran and C:

553.pclvrleaf: basepeak = yes

559.pmniGhost: basepeak = yes

SPEC ACCEL is a trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC ACCEL v1.2.
Report generated on Fri Jun 7 15:28:30 2019 by SPEC ACCEL PS/PDF formatter v2947.