



SPEC ACCEL™ ACC Result

Copyright 2015-2018 Standard Performance Evaluation Corporation

Supermicro

(Test Sponsor: NVIDIA Corporation)

Xeon E5-2698 v4

SuperServer 1028GR-TR

SPECaccel_acc_peak = 2.74

SPECaccel_acc_base = 2.74

ACCEL license: 019

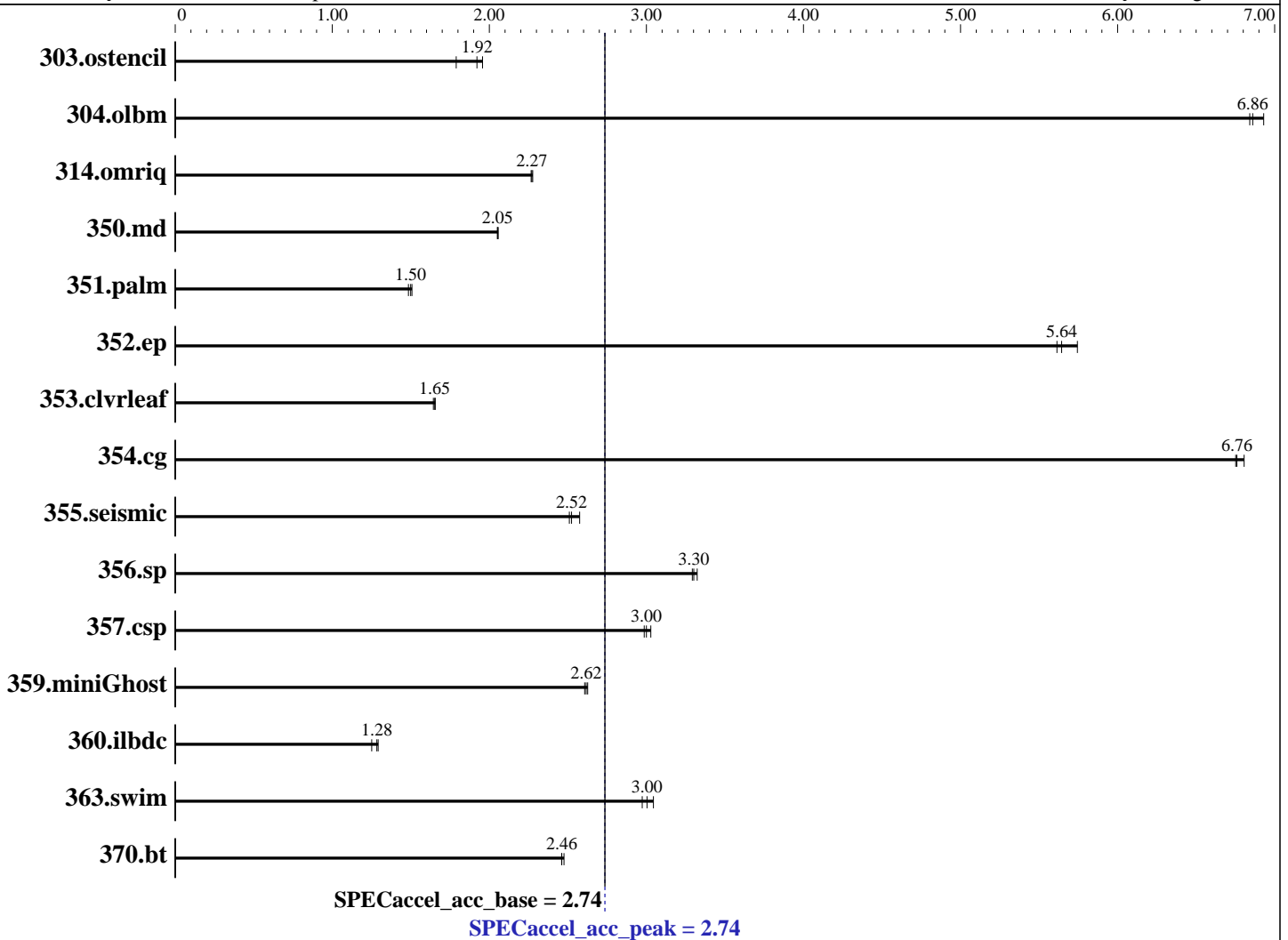
Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: Aug-2018

Hardware Availability: Jul-2017

Software Availability: Aug-2018



Hardware

CPU Name: Intel Xeon E5-2698 v4
 CPU Characteristics:
 CPU MHz: 2200
 CPU MHz Maximum: 3600
 FPU: Integrated
 CPU(s) enabled: 40 cores, 2 chips, 20 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: 256 KB I+D on chip per core
 L3 Cache: 50 MB I+D on chip per chip
 Other Cache: None

Continued on next page

Accelerator

Accel Model Name: Intel Xeon CPU E5-2698 v4
 Accel Vendor: Intel Corporation
 Accel Name: Xeon E5-2698 v4
 Type of Accel: CPU
 Accel Connection: Not applicable
 Does Accel Use ECC: Yes
 Accel Description: Intel Xeon CPU E5-2698 v4
 Accel Driver: Not applicable



SPEC ACCEL ACC Result

Copyright 2015-2018 Standard Performance Evaluation Corporation

Supermicro
(Test Sponsor: NVIDIA Corporation)

Xeon E5-2698 v4
SuperServer 1028GR-TR

SPECaccel_acc_peak = 2.74

SPECaccel_acc_base = 2.74

ACCEL license: 019
Test sponsor: NVIDIA Corporation
Tested by: NVIDIA Corporation

Test date: Aug-2018
Hardware Availability: Jul-2017
Software Availability: Aug-2018

Hardware (Continued)

Memory: 256 GB (8 x 32 GB 2Rx4 PC4-2400T-R)
Disk Subsystem: 480GB Intel SSD DC S3520
Other Hardware: None

Software

Operating System: CentOS Linux release 7.4.1708 (Core)
3.10.0-693.11.6.el7.x86_64
Compiler: PGI Professional Edition, Release 18.7 LLVM
File System: xfs
System State: Run level 3 (multi-user)
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
303.ostencil	81.1	1.79	74.1	1.96	<u>75.5</u>	<u>1.92</u>	81.1	1.79	74.1	1.96	<u>75.5</u>	<u>1.92</u>
304.olbm	66.5	6.84	65.7	6.93	<u>66.3</u>	<u>6.86</u>	66.5	6.84	65.7	6.93	<u>66.3</u>	<u>6.86</u>
314.omriq	<u>421</u>	<u>2.27</u>	422	2.27	420	2.28	<u>421</u>	<u>2.27</u>	422	2.27	420	2.28
350.md	<u>123</u>	<u>2.05</u>	123	2.05	123	2.06	<u>123</u>	<u>2.05</u>	123	2.05	123	2.06
351.palm	246	1.51	<u>247</u>	<u>1.50</u>	249	1.48	246	1.51	<u>247</u>	<u>1.50</u>	249	1.48
352.ep	<u>93.9</u>	<u>5.64</u>	92.3	5.74	94.4	5.61	<u>93.9</u>	<u>5.64</u>	92.3	5.74	94.4	5.61
353.clvleaf	<u>269</u>	<u>1.65</u>	269	1.66	271	1.64	<u>269</u>	<u>1.65</u>	269	1.66	271	1.64
354.cg	59.9	6.81	60.4	6.75	<u>60.4</u>	<u>6.76</u>	59.9	6.81	60.4	6.75	<u>60.4</u>	<u>6.76</u>
355.seismic	144	2.57	147	2.51	<u>147</u>	<u>2.52</u>	144	2.57	147	2.51	<u>147</u>	<u>2.52</u>
356.sp	83.1	3.32	<u>83.6</u>	<u>3.30</u>	83.8	3.29	83.1	3.32	<u>83.6</u>	<u>3.30</u>	83.8	3.29
357.csp	89.2	3.03	90.4	2.99	<u>90.0</u>	<u>3.00</u>	89.2	3.03	90.4	2.99	<u>90.0</u>	<u>3.00</u>
359.miniGhost	141	2.63	142	2.61	<u>141</u>	<u>2.62</u>	141	2.63	142	2.61	<u>141</u>	<u>2.62</u>
360.ilbdc	293	1.25	<u>286</u>	<u>1.28</u>	284	1.29	293	1.25	<u>286</u>	<u>1.28</u>	284	1.29
363.swim	<u>76.6</u>	<u>3.00</u>	77.4	2.97	75.5	3.04	<u>76.6</u>	<u>3.00</u>	77.4	2.97	75.5	3.04
370.bt	90.6	2.46	90.1	2.48	<u>90.6</u>	<u>2.46</u>	90.6	2.46	90.1	2.48	<u>90.6</u>	<u>2.46</u>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

Sysinfo program /local/home/aglobus/spec-accel2017/Docs/sysinfo
\$Rev: 6965 \$ \$Date:: 2015-04-21 #\$ c05a7f14b1b1765e3felfdf68447e8a35
running on perf-bdw3 Wed Aug 1 17:08:56 2018

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>

Continued on next page



SPEC ACCEL ACC Result

Copyright 2015-2018 Standard Performance Evaluation Corporation

Supermicro
(Test Sponsor: NVIDIA Corporation)

Xeon E5-2698 v4
SuperServer 1028GR-TR

SPECaccel_acc_peak = 2.74

SPECaccel_acc_base = 2.74

ACCEL license: 019
Test sponsor: NVIDIA Corporation
Tested by: NVIDIA Corporation

Test date: Aug-2018
Hardware Availability: Jul-2017
Software Availability: Aug-2018

Platform Notes (Continued)

```

From /proc/cpuinfo
  model name : Intel(R) Xeon(R) CPU E5-2698 v4 @ 2.20GHz
    2 "physical id"s (chips)
    80 "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 : 20
    siblings  : 40
    physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
    physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
  cache size : 51200 KB

From /proc/meminfo
  MemTotal:      264034224 kB
  HugePages_Total:      20
  Hugepagesize:    2048 kB

/usr/bin/lsb_release -d
  CentOS Linux release 7.4.1708 (Core)

From /etc/*release* /etc/*version*
  centos-release: CentOS Linux release 7.4.1708 (Core)
  centos-release-upstream: Derived from Red Hat Enterprise Linux 7.4 (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 7.4.1708 (Core)
  system-release: CentOS Linux release 7.4.1708 (Core)
  system-release-cpe: cpe:/o:centos:centos:7

uname -a:
  Linux perf-bdw3 3.10.0-693.11.6.el7.x86_64 #1 SMP Thu Jan 4 01:06:37 UTC 2018
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 21 06:36

SPEC is set to: /local/home/aglobus/spec-accel2017
  Filesystem      Type      Size  Used Avail Use% Mounted on
  /dev/mapper/centos_bdw3-root xfs      443G   58G  385G  13% /
Additional information from dmidecode:

```

Continued on next page



SPEC ACCEL ACC Result

Copyright 2015-2018 Standard Performance Evaluation Corporation

Supermicro

(Test Sponsor: NVIDIA Corporation)

Xeon E5-2698 v4

SuperServer 1028GR-TR

SPECaccel_acc_peak = 2.74

SPECaccel_acc_base = 2.74

ACCEL license: 019

Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: Aug-2018

Hardware Availability: Jul-2017

Software Availability: Aug-2018

Platform Notes (Continued)

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:

ACC_NUM_CORES = "80"

HUGETLB_PATH = "/mnt/hugetlb"

KMP_AFFINITY = "granularity=fine,compact,1,0"

OMP_PLACES = "{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},{64},{65},{66},{67},{68},{69},{70},{71},{72},{73},{74},{75},{76},{77},{78},{79}"

OMP_PROC_BIND = "true"

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:

pgcc

Fortran benchmarks:

pgfortran

Benchmarks using both Fortran and C:

pgcc pgfortran

Base Optimization Flags

C benchmarks:

-fast -Mnouniform -Mhugetlb -acc -ta=multicore

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC ACCEL ACC Result

Copyright 2015-2018 Standard Performance Evaluation Corporation

Supermicro
(Test Sponsor: NVIDIA Corporation)

Xeon E5-2698 v4
SuperServer 1028GR-TR

SPECaccel_acc_peak = 2.74

SPECaccel_acc_base = 2.74

ACCEL license: 019
Test sponsor: NVIDIA Corporation
Tested by: NVIDIA Corporation

Test date: Aug-2018
Hardware Availability: Jul-2017
Software Availability: Aug-2018

Base Optimization Flags (Continued)

Fortran benchmarks:

-fast -Mnouniform -Mhugetlb -acc -ta=multicore

Benchmarks using both Fortran and C:

353.cvrleaf: -fast -Mnouniform -Mhugetlb -acc -ta=multicore

359.miniGhost: -fast -Mnouniform -Mhugetlb -acc -ta=multicore -Mnomain

Peak Optimization Flags

C benchmarks:

303.ostencil: basepeak = yes

304.olbm: basepeak = yes

314.omriq: basepeak = yes

352.ep: basepeak = yes

354.cg: basepeak = yes

357.csp: basepeak = yes

370.bt: basepeak = yes

Fortran benchmarks:

350.md: basepeak = yes

351.palm: basepeak = yes

355.seismic: basepeak = yes

356.sp: basepeak = yes

360.ilbdc: basepeak = yes

363.swim: basepeak = yes

Benchmarks using both Fortran and C:

353.cvrleaf: basepeak = yes

Continued on next page



SPEC ACCEL ACC Result

Copyright 2015-2018 Standard Performance Evaluation Corporation

Supermicro

(Test Sponsor: NVIDIA Corporation)

Xeon E5-2698 v4

SuperServer 1028GR-TR

SPECaccel_acc_peak = 2.74

SPECaccel_acc_base = 2.74

ACCEL license: 019

Test sponsor: NVIDIA Corporation

Tested by: NVIDIA Corporation

Test date: Aug-2018

Hardware Availability: Jul-2017

Software Availability: Aug-2018

Peak Optimization Flags (Continued)

359.miniGhost: basepeak = yes

The flags files that were used to format this result can be browsed at

<https://www.spec.org/accel/flags/PGI-Platform-Multicore-OMP.html>

https://www.spec.org/accel/flags/pgi2018_flags.html

You can also download the XML flags sources by saving the following links:

<https://www.spec.org/accel/flags/PGI-Platform-Multicore-OMP.xml>

https://www.spec.org/accel/flags/pgi2018_flags.xml

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 Thu Aug 30 18:55:30 2018 by SPEC ACCEL PS/PDF formatter v1290.

Originally published on 30 August 2018.

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>

Page 6