



SPEC ACCEL™ ACC Result

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Supermicro
(Test Sponsor: NVIDIA Corporation)

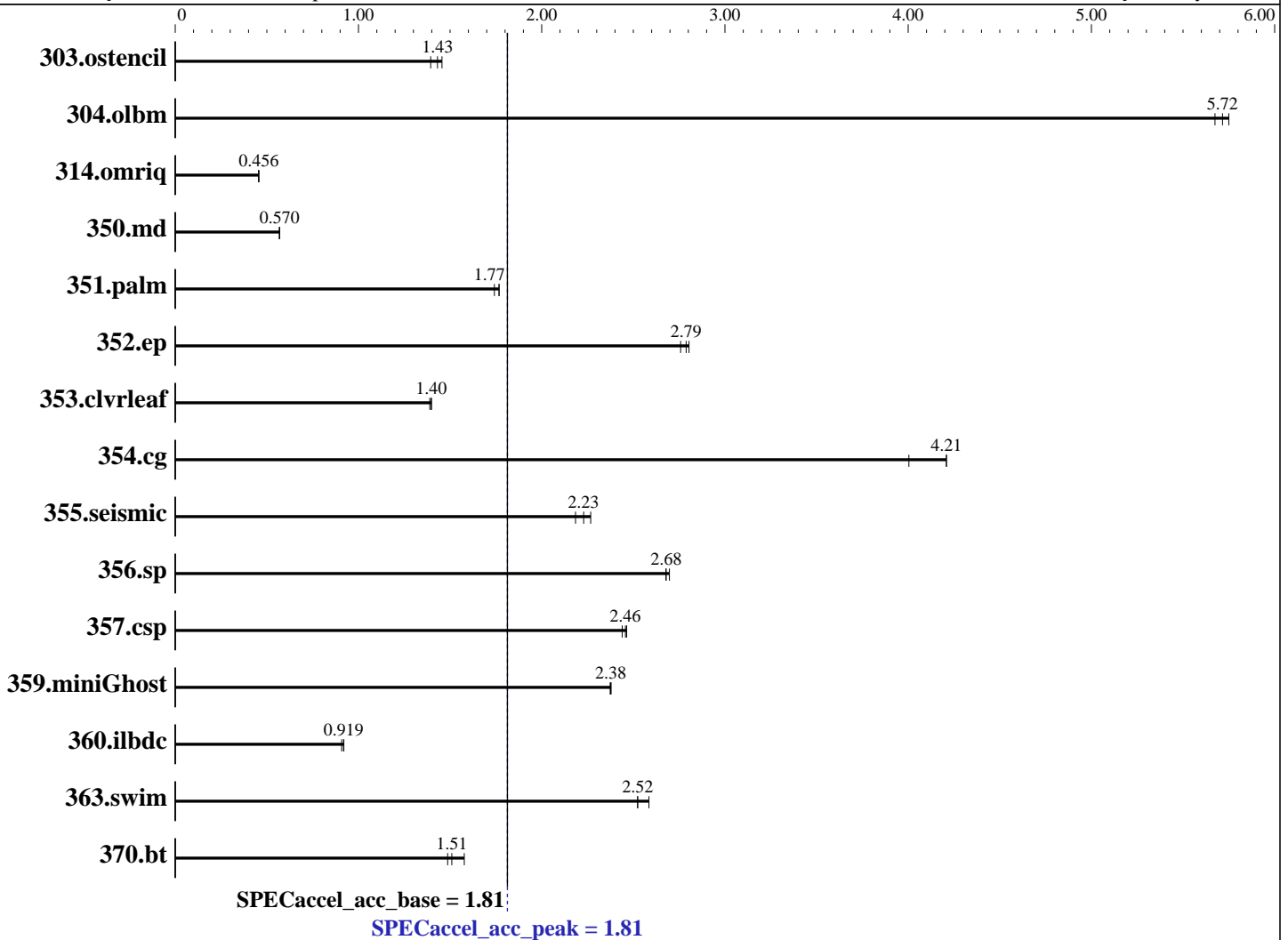
Intel Xeon E5-2698 v3 SuperServer 1028GR-TR

SPECaccel_acc_peak = 1.81

SPECaccel_acc_base = 1.81

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

Test date: May-2017
Hardware Availability: Oct-2015
Software Availability: May-2017



Hardware

CPU Name: Intel Xeon E5-2698 v3
 CPU Characteristics:
 CPU MHz: 2300
 CPU MHz Maximum: 3600
 FPU: Integrated
 CPU(s) enabled: 32 cores, 2 chips, 16 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: 40 MB I+D on chip per chip
 Other Cache: None

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Accelerator

Accel Model Name: Intel Xeon E5-2698 v3
 Accel Vendor: Intel Corporation
 Accel Name: Intel Xeon E5-2698 v3
 Type of Accel: CPU
 Accel Connection: N/A
 Does Accel Use ECC: Yes
 Accel Description: See Notes
 Accel Driver: None



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Hardware (Continued)

Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 500 GB Seagate ST9500620NS 7200 RPM SATA
Other Hardware: None

Software

Operating System: CentOS Linux release 7.2.1511 (Core)
3.10.0-327.22.2.el7.x86_64
Compiler: PGI Professional Edition, Release 17.5
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 | 104 | 1.39 | 101 | 1.43 | 99.6 | 1.46 | 104 | 1.39 | 101 | 1.43 | 99.6 | 1.46 |
| 304.olbm | 79.6 | 5.72 | 79.1 | 5.75 | 80.2 | 5.67 | 79.6 | 5.72 | 79.1 | 5.75 | 80.2 | 5.67 |
| 314.omriq | 2095 | 0.456 | 2098 | 0.456 | 2102 | 0.455 | 2095 | 0.456 | 2098 | 0.456 | 2102 | 0.455 |
| 350.md | 442 | 0.570 | 444 | 0.568 | 442 | 0.570 | 442 | 0.570 | 444 | 0.568 | 442 | 0.570 |
| 351.palm | 212 | 1.74 | 209 | 1.77 | 209 | 1.77 | 212 | 1.74 | 209 | 1.77 | 209 | 1.77 |
| 352.ep | 189 | 2.80 | 190 | 2.79 | 192 | 2.76 | 189 | 2.80 | 190 | 2.79 | 192 | 2.76 |
| 353.clvleaf | 318 | 1.40 | 320 | 1.39 | 318 | 1.40 | 318 | 1.40 | 320 | 1.39 | 318 | 1.40 |
| 354.cg | 102 | 4.00 | 97.0 | 4.21 | 96.9 | 4.21 | 102 | 4.00 | 97.0 | 4.21 | 96.9 | 4.21 |
| 355.seismic | 163 | 2.27 | 169 | 2.18 | 166 | 2.23 | 163 | 2.27 | 169 | 2.18 | 166 | 2.23 |
| 356.sp | 103 | 2.68 | 103 | 2.68 | 102 | 2.70 | 103 | 2.68 | 103 | 2.68 | 102 | 2.70 |
| 357.csp | 111 | 2.44 | 110 | 2.46 | 110 | 2.46 | 111 | 2.44 | 110 | 2.46 | 110 | 2.46 |
| 359.miniGhost | 155 | 2.37 | 155 | 2.38 | 155 | 2.38 | 155 | 2.37 | 155 | 2.38 | 155 | 2.38 |
| 360.ilbdc | 400 | 0.919 | 399 | 0.920 | 404 | 0.908 | 400 | 0.919 | 399 | 0.920 | 404 | 0.908 |
| 363.swim | 91.2 | 2.52 | 91.1 | 2.52 | 89.0 | 2.59 | 91.2 | 2.52 | 91.1 | 2.52 | 89.0 | 2.59 |
| 370.bt | 148 | 1.51 | 141 | 1.58 | 150 | 1.49 | 148 | 1.51 | 141 | 1.58 | 150 | 1.49 |

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

Operating System Notes

Stacksize set to 'unlimited'



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Platform Notes

Sysinfo program /local/home/colgrove/SPECACCEL/Docs/sysinfo
\$Rev: 6965 \$ \$Date:: 2015-04-21 # \$ c05a7f14b1b1765e3feldf68447e8a35
running on hsw8 Fri May 12 14:35:24 2017

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      : Intel(R) Xeon(R) CPU E5-2698 v3 @ 2.30GHz
 2 "physical id"s (chips)
 64 "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     : 16
  siblings      : 32
  physical 0:   cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  physical 1:   cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size     : 40960 KB
```

```
From /proc/meminfo
MemTotal:      264038532 kB
HugePages_Total:      20
Hugepagesize:    2048 kB
```

```
/usr/bin/lsc_release -d
CentOS Linux release 7.2.1511 (Core)
```

```
From /etc/*release* /etc/*version*
centos-release: CentOS Linux release 7.2.1511 (Core)
centos-release-upstream: Derived from Red Hat Enterprise Linux 7.2 (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 7.2.1511 (Core)
system-release: CentOS Linux release 7.2.1511 (Core)
system-release-cpe: cpe:/o:centos:centos:7
```

```
uname -a:
Linux hsw8 3.10.0-327.22.2.el7.x86_64 #1 SMP Thu Jun 23 17:05:11 UTC 2016
x86_64 x86_64 x86_64 GNU/Linux
```

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Platform Notes (Continued)

run-level 3 May 12 08:57

```
SPEC is set to: /local/home/colgrove/SPECACCEL
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/centos-root xfs   443G   31G  413G   7% /
```

Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(End of data from sysinfo program)

```
Accelerator Description as output from pgcpuid
vendor id       : GenuineIntel
model name      : Intel(R) Xeon(R) CPU E5-2698 v3 @ 2.30GHz
cpu family      : 6
model           : 63
name            : Haswell
stepping        : 2
processors       : 64
threads         : 2
clflush size    : 8
L2 cache size   : 256KB
L3 cache size   : 40960KB
flags           : acpi aes apic avx avx2 cflush cmov cplds cx8 cx16 de dtes
flags           : ferr fma fpu fxsr ht lm mca mce mmx monitor msr mtrr nx
flags           : osxsave pae pat pdcm pge popcnt pse pseg36 selfsnoop
flags           : speedstep sep sse sse2 sse3 ssse3 sse4.1 sse4.2 syscall tm
flags           : tm2 tsc vme xsave xtpr
type            : -tp haswell-64
```

Base Compiler Invocation

C benchmarks:
pgcc

Fortran benchmarks:
pgfortran

Benchmarks using both Fortran and C:
pgcc pgfortran

Base Optimization Flags

C benchmarks:
-fast -Mfprelaxed -acc -ta=multicore

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Base Optimization Flags (Continued)

Fortran benchmarks:

-fast -Mfprelaxed -acc -ta=multicore

Benchmarks using both Fortran and C:

353.cvrleaf: -fast -Mfprelaxed -acc -ta=multicore

359.miniGhost: -fast -Mfprelaxed -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

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Peak Optimization Flags (Continued)

359.miniGhost: basepeak = yes

The flags file that was used to format this result can be browsed at

https://www.spec.org/accel/flags/pgi2017_flags.20170621.00.html

You can also download the XML flags source by saving the following link:

https://www.spec.org/accel/flags/pgi2017_flags.20170621.00.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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