SPEC ACCEL™ ACC Result

Copyright 2015-2017 Standard Performance Evaluation Corporation

Supermicro
(Test Sponsor: NVIDIA Corporation)

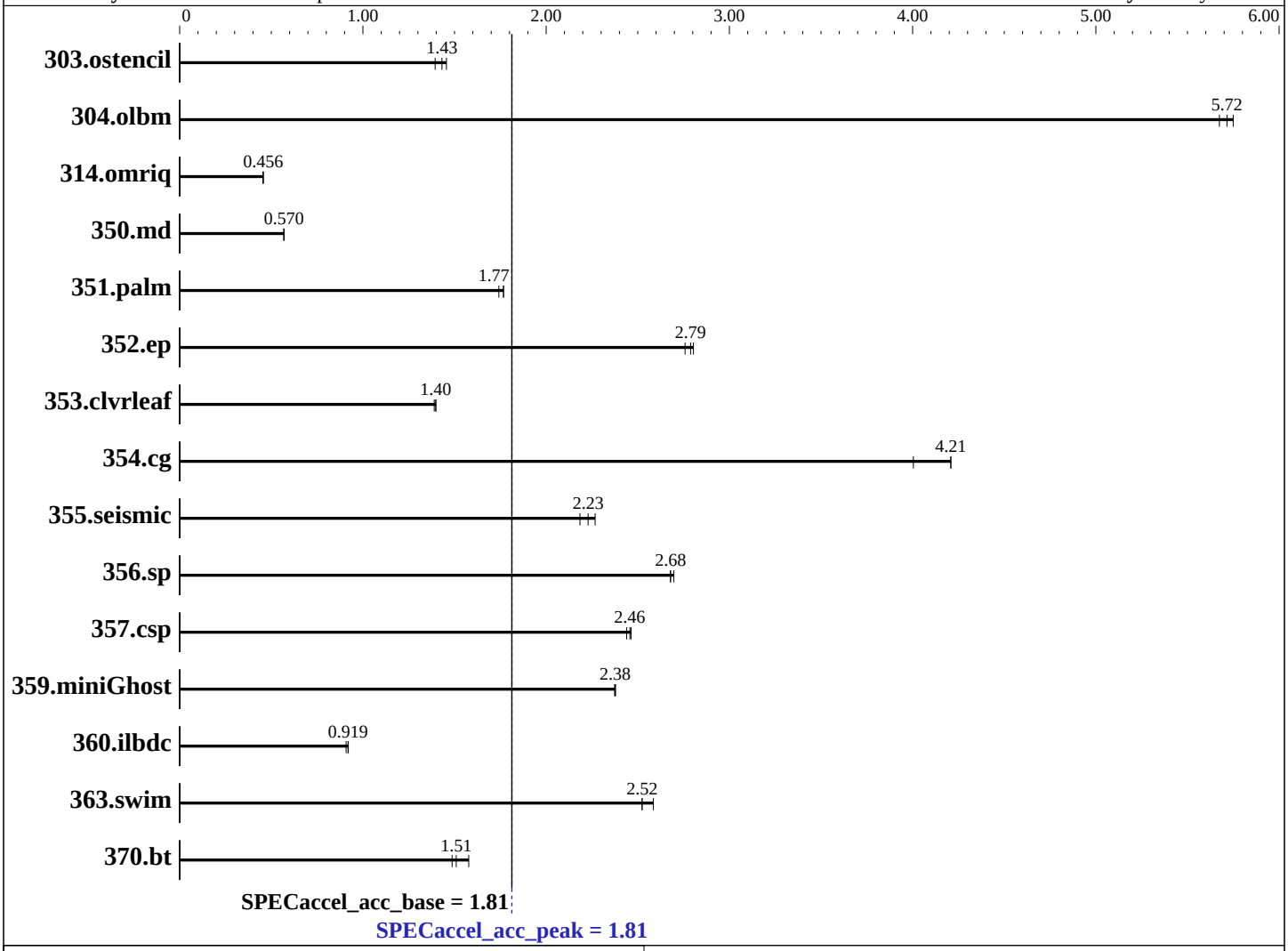
Intel Xeon E5-2698 v3
SuperServer 1028GR-TR

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

Continued on next page

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

SPEC ACCEL ACC Result

Copyright 2015-2017 Standard Performance Evaluation Corporation

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 (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.clvrleaf	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'
```

Platform Notes

```
Sysinfo program /local/home/colgrove/SPECACCEL/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
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/lsb_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
```

Continued on next page

Copyright 2015-2017 Standard Performance Evaluation Corporation

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

Continued on next page

Base Optimization Flags (Continued)

Fortran benchmarks:
`-fast -Mfprelaxed -acc -ta=multicore`

Benchmarks using both Fortran and C:

353.clvrleaf: `-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.clvrleaf: `basepeak = yes`

Continued on next page

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`

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 v75.
Report generated on Wed Jun 21 17:15:22 2017 by SPEC ACCEL PS/PDF formatter v1290.
Originally published on 21 June 2017.