

SPEC ACCEL™ ACC Result

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Supermicro
(Test Sponsor: NVIDIA Corporation)

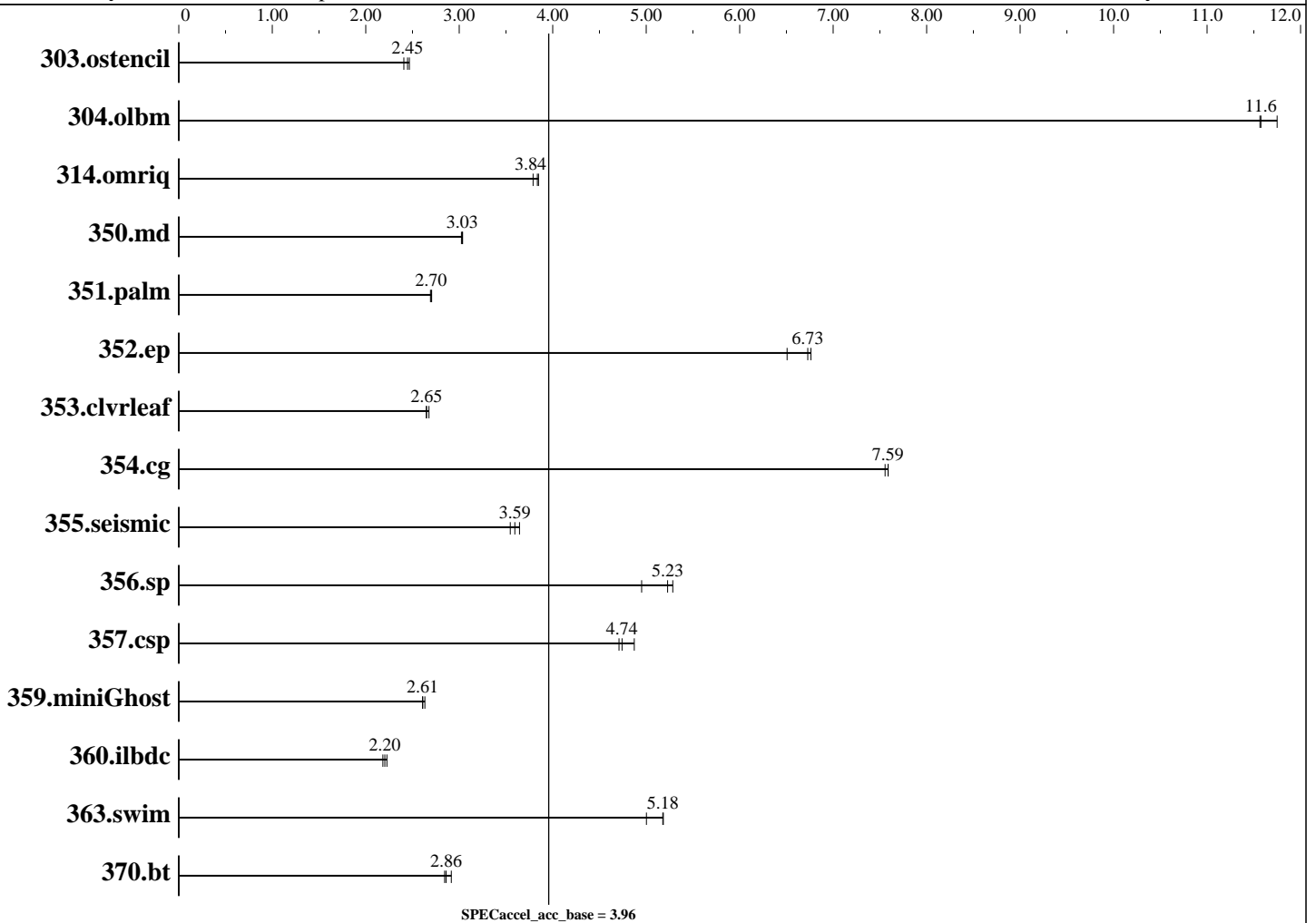
Intel Xeon Gold 6148
SuperServer 1029Q-TRT

SPECaccel_acc_peak = Not Run

SPECaccel_acc_base = 3.96

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

Test date: Nov-2019
Hardware Availability: Jul-2017
Software Availability: Nov-2019



Hardware

CPU Name: Intel Xeon Gold 6148
CPU Characteristics:
CPU MHz: 2400
CPU MHz Maximum: 3700
FPU: --
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: 1 MB I+D on chip per core
L3 Cache: 28160 KB I+D on chip per chip
Other Cache: None

Continued on next page

Accelerator

Accel Model Name: Xeon Gold 6148
Accel Vendor: Intel
Accel Name: Intel Xeon Gold 6148
Type of Accel: CPU
Accel Connection: Not applicable
Does Accel Use ECC: Yes
Accel Description: --
Accel Driver: --

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Hardware (Continued)

Memory: 384 GB
376.577 GB fixme: If using DDR3, format is:
'N GB (M x N GB nRxn PCn-nnnnnR-n, ECC)'
Disk Subsystem: 443 GB add more disk info here
Other Hardware: None

Software

Operating System: CentOS Linux release 7.6.1810 (Core)
CentOS Linux release 7.6.1810 (Core)
3.10.0-957.1.3.el7.x86_64
Compiler: C/C++/Fortran : Version 19.10 of PGI Professional Edition
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
303.ostencil	<u>59.3</u>	<u>2.45</u>	58.8	2.47	60.2	2.41						
304.olbm	<u>39.3</u>	<u>11.6</u>	38.7	11.7	39.3	11.6						
314.omriq	248	3.85	<u>249</u>	<u>3.84</u>	252	3.79						
350.md	83.3	3.02	<u>83.1</u>	<u>3.03</u>	83.0	3.04						
351.palm	137	2.69	137	2.70	<u>137</u>	<u>2.70</u>						
352.ep	<u>78.8</u>	<u>6.73</u>	78.4	6.76	81.4	6.51						
353.civrleaf	168	2.65	166	2.68	<u>168</u>	<u>2.65</u>						
354.cg	53.8	7.59	54.0	7.56	<u>53.8</u>	<u>7.59</u>						
355.seismic	102	3.64	104	3.55	<u>103</u>	<u>3.59</u>						
356.sp	55.7	4.95	<u>52.8</u>	<u>5.23</u>	52.2	5.28						
357.csp	55.4	4.87	57.3	4.71	<u>56.9</u>	<u>4.74</u>						
359.miniGhost	<u>141</u>	<u>2.61</u>	141	2.61	140	2.63						
360.ilbdc	165	2.23	168	2.18	<u>167</u>	<u>2.20</u>						
363.swim	46.0	5.00	<u>44.4</u>	<u>5.18</u>	44.4	5.18						
370.bt	76.5	2.92	78.4	2.84	<u>78.0</u>	<u>2.86</u>						

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.

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Platform Notes

```
Sysinfo program /local/home/cparrott/SPEC/ACCEL-1.3/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3feldf68447e8a35
running on perf-sky6 Wed Nov 13 15:57:36 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 : Intel(R) Xeon(R) Gold 6148 CPU @ 2.40GHz
 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 : 28160 KB
```

```
From /proc/meminfo
MemTotal:      394870008 kB
HugePages_Total:       20
Hugepagesize:    2048 kB
```

```
/usr/bin/lsc_release -d
CentOS Linux release 7.6.1810 (Core)
```

```
From /etc/*release* /etc/*version*
centos-release: CentOS Linux release 7.6.1810 (Core)
centos-release-upstream: Derived from Red Hat Enterprise Linux 7.6 (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 7.6.1810 (Core)
system-release: CentOS Linux release 7.6.1810 (Core)
system-release-cpe: cpe:/o:centos:centos:7
```

```
uname -a:
Linux perf-sky6 3.10.0-957.1.3.el7.x86_64 #1 SMP Thu Nov 29 14:49:43 UTC 2018
x86_64 x86_64 x86_64 GNU/Linux
```

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Platform Notes (Continued)

run-level 3 Oct 6 17:57

SPEC is set to: /local/home/cparrott/SPEC/ACCEL-1.3

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/centos_perf--sky6-root	xfs	443G	67G	376G	16%	/

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:

```
ACC_NUM_CORES = "80"  
HUGETLB_PATH = "/mnt/hugetlb"  
KMP_THREAD_LIMIT = "80"  
OMP_PROC_BIND = "true"  
OMP_THREAD_LIMIT = "80"
```

Base Compiler Invocation

C benchmarks:
pgcc

Fortran benchmarks:
pgfortran

Benchmarks using both Fortran and C:
pgcc pgfortran

Base Optimization Flags

C benchmarks:
-fast -Mfprelaxed -Mhugetlb -Mnouniform -acc -ta=multicore:nvomp

Fortran benchmarks:
-fast -Mfprelaxed -Mhugetlb -Mnouniform -acc -ta=multicore:nvomp

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

353.clvrlf: -fast -Mfprelaxed -Mhugetlb -Mnouniform -acc
-ta=multicore:nvomp

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

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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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