SPEC ACCEL™ OMP Result

Cray
(Test Sponsor: Indiana University)

Intel Xeon E5-2697 v2
Cray XC30

SPECaccel_omp_peak = Not Run

SPECaccel_omp_base = 1.75

ACCEL license:	3440A		**Test date:**	Aug-2017
Test sponsor:	Indiana University		**Hardware Availability:**	Apr-2013
Tested by:	Indiana University		**Software Availability:**	Mar-2017

Benchmark	Score
503.postencil	0.449
504.polbm	0.720
514.pomriq	0.942
550.pmd	1.43
551.ppalm	1.93
552.pep	1.44
553.pclvrleaf	1.70
554.pcg	3.29
555.pseismic	0.983
556.psp	5.71
557.pcsp	6.28
559.pmniGhost	1.30
560.pilbdc	1.12
563.pswim	1.30
570.pbt	10.1

SPECaccel_omp_base = 1.75

Hardware

CPU Name:	Intel Xeon E5-2697 v2
CPU Characteristics:	Intel Turbo Boost Technology off, Hyper-threading on.
CPU MHz:	2700
CPU MHz Maximum:	2700
FPU:	Integrated
CPU(s) enabled:	24 cores, 2 chips, 12 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:	30 MB I+D on chip per chip

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Accelerator

Accel Model Name:	Intel Xeon E5-2697 v2
Accel Vendor:	Intel
Accel Name:	Intel Xeon E5-2697 v2
Type of Accel:	CPU
Accel Connection:	N/A
Does Accel Use ECC:	Yes
Accel Description:	Intel Xeon E5-2697 v2 @ 2.7 GHz
Accel Driver:	None

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Cray
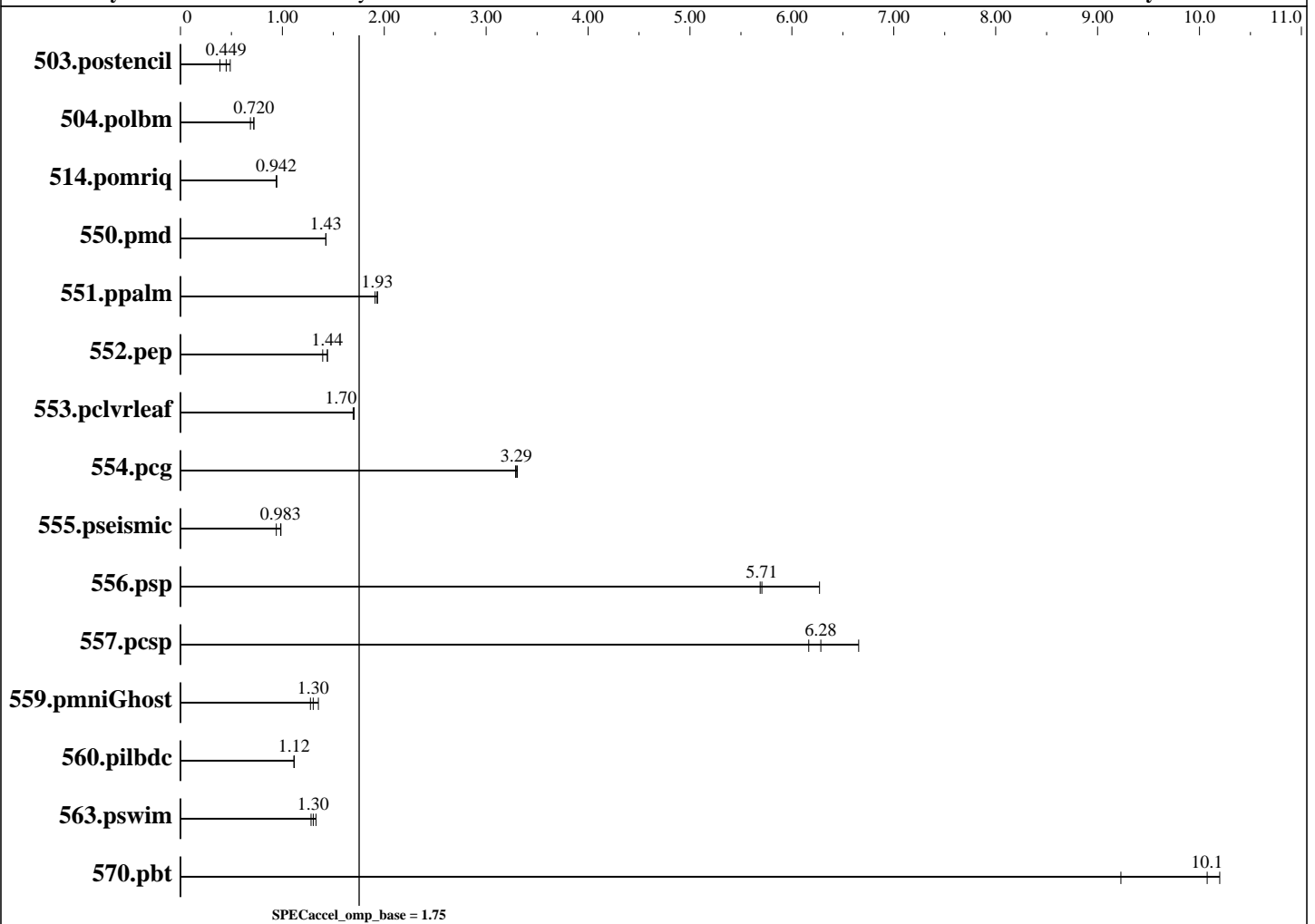(Test Sponsor: Indiana University)

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Hardware (Continued)

Other Cache:	None
Memory:	64 GB (8 x 8 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem:	None
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Cray Linux Environment 5.2, 3.0.101-0.46.1_1.0502.8871-cray_ari_c
Compiler:	Version 17.0.2.174 of Intel Parallel Studio XE for Linux Build 20170213
File System:	Lustre 2.5 (DDN SFA12K) over QDR InfiniBand
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
503.postencil	281	0.388	**<u>243</u>**	**<u>0.449</u>**	223	0.488						
504.polbm	169	0.720	**<u>170</u>**	**<u>0.720</u>**	178	0.686						
514.pomriq	**<u>659</u>**	**<u>0.942</u>**	658	0.944	659	0.942						
550.pmd	169	1.43	**<u>169</u>**	**<u>1.43</u>**	169	1.43						
551.ppalm	281	1.93	285	1.91	**<u>282</u>**	**<u>1.93</u>**						
552.pep	165	1.40	**<u>160</u>**	**<u>1.44</u>**	160	1.44						
553.pclvrleaf	672	1.70	**<u>673</u>**	**<u>1.70</u>**	676	1.69						
554.pcg	**<u>101</u>**	**<u>3.29</u>**	101	3.29	101	3.31						
555.pseismic	286	0.986	300	0.940	**<u>287</u>**	**<u>0.983</u>**						
556.psp	130	6.27	144	5.69	**<u>143</u>**	**<u>5.71</u>**						
557.pcsp	139	6.17	129	6.66	**<u>137</u>**	**<u>6.28</u>**						
559.pmniGhost	311	1.28	293	1.35	**<u>305</u>**	**<u>1.30</u>**						
560.pilbdc	585	1.12	587	1.11	**<u>585</u>**	**<u>1.12</u>**						
563.pswim	124	1.28	120	1.33	**<u>122</u>**	**<u>1.30</u>**						
570.pbt	**<u>77.4</u>**	**<u>10.1</u>**	76.5	10.2	84.5	9.23						

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

Platform Notes

```
Sysinfo program /N/dc2/projects/hpc/lijunj/spec/accel-1.2-run/br2p/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on nid00570 Sat Aug 12 19:54:36 2017
```

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Platform Notes (Continued)

```
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 E5-2697 v2 @ 2.70GHz
      2 "physical id"s (chips)
      48 "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 : 12
      siblings  : 24
      physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
   cache size : 30720 KB

From /proc/meminfo
   MemTotal:       66072376 kB
   HugePages_Total:        0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*
   SuSE-release:
      SUSE Linux Enterprise Server 11 (x86_64)
      VERSION = 11
      PATCHLEVEL = 3

uname -a:
   Linux nid00570 3.0.101-0.46.1_1.0502.8871-cray_ari_c #1 SMP Tue Jul 18
   17:24:02 UTC 2017 x86_64 x86_64 x86_64 GNU/Linux


SPEC is set to: /N/dc2/projects/hpc/lijunj/spec/accel-1.2-run/br2p
   Filesystem                          Type    Size  Used Avail Use% Mounted
   on
   10.10.0.171@o2ib:10.10.0.172@o2ib:/dc2 lustre  5.3P  5.0P  198T  97% /N/dc2

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

(End of data from sysinfo program)
```

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Base Compiler Invocation

C benchmarks:
    icc

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    icc ifort

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 -80
    551.ppalm: -DSPEC_USE_INNER_SIMD
      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.pcsp: -DSPEC_USE_INNER_SIMD
 559.pmniGhost: -DSPEC_USE_INNER_SIMD -nofor-main
    560.pilbdc: -DSPEC_USE_INNER_SIMD
    563.pswim: -DSPEC_USE_INNER_SIMD
      570.pbt: -DSPEC_USE_INNER_SIMD
```

Base Optimization Flags

C benchmarks:
    -O3 -qopenmp -qopenmp-offload=host -xHost

Fortran benchmarks:
    -O3 -qopenmp -qopenmp-offload=host -xHost

Benchmarks using both Fortran and C:
    -O3 -qopenmp -qopenmp-offload=host -xHost

The flags file that was used to format this result can be browsed at
https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20170830.html

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You can also download the XML flags source by saving the following link:
https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20170830.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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