Lenovo
(Test Sponsor: Indiana University)

Intel Xeon E5-2680 v3
Lenovo NeXtScale nx360 M5

SPECaccel_omp_peak = Not Run
SPECaccel_omp_base = 2.32

ACCEL license: 3440A
Test sponsor: Indiana University
Test date: Aug-2017
Tested by: Indiana University
Hardware Availability: Sep-2014
Software Availability: Mar-2017

Hardware

CPU Name: Intel Xeon E5-2680 v3
CPU Characteristics: Intel Turbo Boost Technology on, Hyper-threading off.
CPU MHz: 2500
CPU MHz Maximum: 3300
FPU: Integrated
CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip
CPU(s) orderable: 1-2 chip
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

Accelerator

Accel Model Name: Intel Xeon E5-2680 v3
Accel Vendor: Intel
Accel Name: Intel Xeon E5-2680 v3
Type of Accel: CPU
Accel Connection: N/A
Does Accel Use ECC: yes
Accel Description: Intel Xeon E5-2680 v3 @ 2.5~3.3GHz
Accel Driver: None

Continued on next page
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SPECCaccel_omp_base = 2.32

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Hardware (Continued)
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: None
Other Hardware: None

Software
Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo) 3.10.0-514.26.1.el7.x86_64
Compiler: Intel Parallel Studio XE 2017 for Linux Version 17.0.3.191 Build 20170404
File System: Lustre 2.5 (DDN SFA12K) over 10Gb ethernet
System State: Run level 3 (multi-user)
Other Software: None

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Seconds</th>
<th>Ratio</th>
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</tbody>
</table>

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/carbonate/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35 running on c13 Thu Aug 10 22:19:47 2017

Continued on next page

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
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 E5-2680 v3 @ 2.50GHz
  2 "physical id"s (chips)
  24 "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 : 12
  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:       263439912 kB
  HugePages_Total:       0
  Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
os-release:
  NAME="Red Hat Enterprise Linux Server"
  VERSION="7.3 (Maipo)"
  ID="rhel"
  ID_LIKE="fedora"
  VERSION_ID="7.3"
  PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
  ANSI_COLOR="0;31"
  CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)

uname -a:
  Linux c13 3.10.0-514.26.1.el7.x86_64 #1 SMP Tue Jun 20 01:16:02 EDT 2017
  x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Aug 1 19:29

SPEC is set to: /N/dc2/projects/hpc/lijunj/SPEC/accel-1.2-run/carbonate
Filesystem Type Size Used Avail Use% Mounted on
  10.10.0.1710o2ib:10.10.0.172@o2ib:/dc2 lustre 5.3P 5.0P 239T 96% /N/dc2

Additional information from dmidecode:

Continued on next page
Lenovo
(Test Sponsor: Indiana University)
Intel Xeon E5-2680 v3
Lenovo NeXtScale nx360 M5

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ACCEL license: 3440A
Test sponsor: Indiana University
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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)

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.pclvleaf: -DSPEC_USE_INNER_SIMD
554.pcg: -DSPEC_USE_INNER_SIMD
555.pseismic: -DSPEC_USE_INNER_SIMD
556.psp: -DSPEC_USE_INNER_SIMD
557.psp: -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
**SPEC ACCEL OMP Result**

**Lenovo**  
(Test Sponsor: Indiana University)

**Intel Xeon E5-2680 v3**  
**Lenovo NeXtScale nx360 M5**

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**ACCEL license:** 3440A  
**Test sponsor:** Indiana University  
**Tested by:** Indiana University

**Test date:** Aug-2017  
**Hardware Availability:** Sep-2014  
**Software Availability:** Mar-2017

### Base Optimization Flags (Continued)

For Fortran benchmarks:

```bash
-O3 -qopenmp -qopenmp-offload=host -xHost
```

For benchmarks using both Fortran and C:

```bash
-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

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.

Tested with SPEC ACCEL v1.2.  
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