Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL360 Gen10
(2.50 GHz, Intel Xeon Platinum 8180M)

SPEC® CFP2006 Result
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not run

SPECfp®2006 = Not Run
SPECfp_base2006 = 149

CPU2006 license: 3
Test sponsor: HPE
Tested by: HPE

Test date: Oct-2017
Hardware Availability: Oct-2017
Software Availability: Apr-2017

Hardware

<table>
<thead>
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Hardware

- CPU Name: Intel Xeon Platinum 8180M
- CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
- CPU MHz: 2500
- FPU: Integrated
- CPU(s) enabled: 56 cores, 2 chips, 28 cores/chip
- CPU(s) orderable: 1, 2 chip(s)
- Primary Cache: 32 KB I + 32 KB D on chip per core
- Secondary Cache: 1 MB I+D on chip per core

Software

- Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo)Kerne3.10.0-514.el7.x86_64
- Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux;
  Fortran: Version 17.0.3.191 of Intel Fortran Compiler for Linux
- Auto Parallel: Yes
- File System: xfs

Continued on next page
Hewlett Packard Enterprise  | SPEC CFP2006 Result  | SPECfp2006 = Not Run  | SPECfp_base2006 = 149

(Test Sponsor: HPE)  | (2.50 GHz, Intel Xeon Platinum 8180M)  |  |  

CPU2006 license: 3  | Test date:  | Oct-2017  |  
Test sponsor: HPE  | Hardware Availability:  | Oct-2017  |  
Tested by: HPE  | Software Availability:  | Apr-2017  |  

L3 Cache: 38.5 MB I+D on chip per chip  | System State:  | Run level 3 (multi-user)  |  
Other Cache: None  | Base Pointers:  | 64-bit  |  
Memory: 192 GB (2 x 8 GB 2Rx8 PC4-2666V-R)  | Peak Pointers:  | Not Applicable  |  
Disk Subsystem: 1 x 400 GB SATA SSD, RAID 0  | Other Software:  | None  |  
Other Hardware: None  |  |  |  

System State: Run level 3 (multi-user)  | Base Pointers:  | 64-bit  |  
Peak Pointers: Not Applicable  | Other Software:  | None  |  

Results Table

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</tbody>
</table>

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled by default
Filesystem page cache cleared with:
  shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
irqbalance disabled with "systemctl stop irqbalance"
tuned profile set wth "tuned-adm profile throughput-performance"

Platform Notes

BIOS Configuration:
Intel Hyperthreading set to Disabled
Thermal Configuration set to Maximum Cooling
Memory Patrol Scrubbing set to Disabled
LLC Prefetcher set to Enabled

Continued on next page
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Platform Notes (Continued)

LLC Dead Line Allocation set to Disabled
Workload Profile set to General Peak Frequency Compute
Energy/Performance Bias set to Maximum Performance
Uncore Frequency Scaling set to Auto
Workload Profile set to Custom
NUMA Group Size Optimization set to Flat

Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on DL360G10 Wed Oct 11 07:01:05 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/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
  model name : Intel(R) Xeon(R) Platinum 8180M CPU @ 2.50GHz
  2 "physical id"s (chips)
  56 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
  cpu cores : 28
  siblings : 28
  physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
              26 27 28 29 30
  physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
              26 27 28 29 30
  cache size : 39424 KB

From /proc/meminfo
  MemTotal:       197745112 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 DL360G10 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016
  x86_64 x86_64 x86_64 GNU/Linux

Continued on next page
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Platform Notes (Continued)

run-level 3 Oct 11 00:40
SPEC is set to: /home/cpu2006
    Filesystem  Type Size Used Avail Use% Mounted on
    /dev/mapper/rhel_dl360g10-home xfs 318G 40G 279G 13% /home

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.

BIOS HPE U32 09/29/2017
Memory:
   24x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=core,compact"
LD_LIBRARY_PATH = "/home/cpu2006/lib/ia32:/home/cpu2006/lib/intel64"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/cpu2006/sh10.2"
OMP_NUM_THREADS = "56"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.2

Base Compiler Invocation

C benchmarks:
   icc -m64

C++ benchmarks:
   icpc -m64

Fortran benchmarks:
   ifort -m64

Benchmarks using both Fortran and C:
   icc -m64 ifort -m64
**SPEC CFP2006 Result**

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### Base Portability Flags

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- 416.gamess: -DSPEC_CPU_LP64  
- 433.milc: -DSPEC_CPU_LP64  
- 434.zeusmp: -DSPEC_CPU_LP64  
- 435.gromacs: -DSPEC_CPU_LP64 -nofor_main  
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- 437.leslie3d: -DSPEC_CPU_LP64  
- 444.namd: -DSPEC_CPU_LP64  
- 447.dealII: -DSPEC_CPU_LP64  
- 450.soplex: -DSPEC_CPU_LP64  
- 453.povray: -DSPEC_CPU_LP64  
- 454.calculix: -DSPEC_CPU_LP64 -nofor_main  
- 459.GemsFDTD: -DSPEC_CPU_LP64  
- 465.tonto: -DSPEC_CPU_LP64  
- 470.lbm: -DSPEC_CPU_LP64  
- 481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX  
- 482.sphinx3: -DSPEC_CPU_LP64

### Base Optimization Flags

**C benchmarks:**  
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch  

**C++ benchmarks:**  
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  

**Fortran benchmarks:**  
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch  

**Benchmarks using both Fortran and C:**  
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

The flags files that were used to format this result can be browsed at  
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.html  
http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revD.html

You can also download the XML flags sources by saving the following links:  
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.xml  
http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revD.xml
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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
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