### SPEC® CFP2006 Result

**Hewlett Packard Enterprise**  
*(Test Sponsor: HPE)*  
**ProLiant DL380 Gen10**  
*(3.20 GHz, Intel Xeon Gold 6134)*  

<table>
<thead>
<tr>
<th>SPECfp®2006</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECfp_base2006</td>
<td>145</td>
</tr>
</tbody>
</table>

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

**CPU Name:** Intel Xeon Gold 6134  
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz  
**CPU MHz:** 3200  
**FPU:** Integrated  
**CPU(s) enabled:** 16 cores, 2 chips, 8 cores/chip  
**CPU(s) orderable:** 1, 2 chip(s)  
**Primary Cache:** 32 KB L1 + 32 KB D on chip per core  
**Secondary Cache:** 1 MB I+D on chip per core  

**Operating System:** Red Hat Enterprise Linux Server release 7.3 (Maipo)  
**Kernel:** 3.10.0-514.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

### Hardware

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Score</th>
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<tbody>
<tr>
<td>410.bwaves</td>
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</tr>
<tr>
<td>416.gamess</td>
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<tr>
<td>433.milc</td>
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<tr>
<td>434.zeusmp</td>
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<td>436.cactusADM</td>
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<tr>
<td>437.leslie3d</td>
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<tr>
<td>444.namd</td>
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<tr>
<td>447.dealII</td>
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<td>450.soplex</td>
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<tr>
<td>453.povray</td>
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<tr>
<td>454.calculix</td>
<td>75.0</td>
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<td>459.GemsFDTD</td>
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<tr>
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<tr>
<td>470.lbm</td>
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<td>481.wrf</td>
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<tr>
<td>482.sphinx3</td>
<td>1100</td>
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**SPECfp_base2006 = 145**
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(3.20 GHz, Intel Xeon Gold 6134)

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

L3 Cache: 24.75 MB I+D on chip per chip
Other Cache: None
Memory: 192 GB (24 x 8 GB 2Rx8 PC4-2666V-R)
Disk Subsystem: 1 x 960 GB SATA SSD, RAID 0
Other Hardware: None

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

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

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
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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
IRQ balance service was stop using "service irqbalance stop"
Tuned-adm profile was set to Throughput-Performance

Platform Notes

BIOS Configuration:
Intel Hyperthreading set to Disabled
Thermal Configuration set to Maximum Cooling
LLC Prefetch set to Enabled
LLC Dead Line Allocation set to Disabled

Continued on next page
Platform Notes (Continued)

Memory Patrol Scrubbing set to Disabled
Workload Profile set to General Peak Frequency Compute
Energy/Performance Bias set to Maximum Performance
Workload Profile set to Custom
NUMA Group Size Optimization set to Flat
Uncore Frequency scaling set to Auto
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
runtime on DL380Gen10-2 Tue Nov 7 03:25:49 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) Gold 6134 CPU @ 3.20GHz
  2 "physical id"s (chips)
  16 "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 : 8
siblings : 8
physical 0: cores 0 4 5 7 18 19 21 22
physical 1: cores 0 4 5 6 16 19 20 22

cache size : 25344 KB

From /proc/meminfo
MemTotal: 197574316 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 DL380Gen10-2 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016
ox86_64 x86_64 x86_64 GNU/Linux

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CPU2006 license: 3
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Platform Notes (Continued)

SPEC is set to: /home/cpu2006
Filesystem          Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   504G   30G  474G   6% /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 U30 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:/home/cpu2006/sh10.2"
OMP_NUM_THREADS = "16"

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

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64

Continued on next page
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Base Portability Flags (Continued)

435.gromacs:  -DSPEC_CPU_LP64 -nofor_main
436.cactusADM:  -DSPEC_CPU_LP64 -nofor_main
437.leslie3d:  -DSPEC_CPU_LP64
444.namd:  -DSPEC_CPU_LP64 -nofor_main
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-revF.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-revF.xml

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For other inquiries, please contact webmaster@spec.org.

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