## SPEC® CFP2006 Result

**Test Sponsor:** HPE  
**Hardware:** ProLiant DL380 Gen10  
**CPU:** 2.40 GHz, Intel Xeon Gold 5115  

### SPECfp®2006 = Not Run

**SPECfp_base2006 = 122**

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

### Hardware

<table>
<thead>
<tr>
<th>Application</th>
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</tr>
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<tbody>
<tr>
<td>410.bwaves</td>
<td>422</td>
</tr>
<tr>
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<td>444.namd</td>
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<tr>
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</tr>
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<td></td>
</tr>
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</table>

**SPECfp_base2006 = 122**

### Software

**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

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**Hewlett Packard Enterprise**  
ProLiant DL380 Gen10  
(2.40 GHz, Intel Xeon Gold 5115)

**CPU Name:** Intel Xeon Gold 5115  
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.20 GHz  
**CPU MHz:** 2400  
**FPU:** Integrated  
**CPU(s) enabled:** 20 cores, 2 chips, 10 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
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(2.40 GHz, Intel Xeon Gold 5115)

SPECfp2006 = Not Run
SPECfp_base2006 = 122

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

L3 Cache: 13.75 MB I+D on chip per chip
Other Cache: None
Memory: 192 GB (24 x 8 GB 2Rx8 PC4-2666V-R, running at 2400)
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

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
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<td><strong>308</strong></td>
<td><strong>63.2</strong></td>
</tr>
</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
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
**SPEC CFP2006 Result**

Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL380 Gen10  
(2.40 GHz, Intel Xeon Gold 5115)

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

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### Platform Notes (Continued)

- LLC Dead Line Allocation set to Disabled  
- 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  
- Sysinfo program /home/cpu2006/config/sysinfo.rev6993  
- Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  

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 5115 CPU @ 2.40GHz  
- 2 "physical id"s (chips)  
- 20 "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: 10  
  - siblings: 10  
  - physical 0: cores 0 1 2 3 4 8 9 10 11 12  
  - physical 1: cores 0 1 2 3 4 8 9 10 11 12  
- cache size: 14080 KB

From /proc/meminfo  
- MemTotal: 197574300 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:  
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 15 14:23

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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, configured at 2400 MHz

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 = "20"

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
SPEC CFP2006 Result

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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-revG.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-revG.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Dec 12 17:06:37 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 December 2017.

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