### SPEC® CFP2006 Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant DL360 Gen10  
(2.60 GHz, Intel Xeon Gold 6126)  

<table>
<thead>
<tr>
<th>SPECfp®2006</th>
<th>Not Run</th>
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<tbody>
<tr>
<td>SPECfp_base2006</td>
<td>142</td>
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**CPU2006 license:** 3  
**Test sponsor:** HPE  
**Tested by:** HPE  

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

<table>
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<tr>
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<td>SPECfp_base2006</td>
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</table>

**Hardware**  
| CPU Name: | Intel Xeon Gold 6126 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.70 GHz |
| CPU MHz: | 2600 |
| FPU: | Integrated |
| CPU(s) enabled: | 24 cores, 2 chips, 12 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) |
| 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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SPEC CFP2006 Result  

SPECfp2006 = Not Run  
SPECfp_base2006 = 142  

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

L3 Cache: 19.25 MB 1+D on chip per chip  
Other Cache: None  
Memory: 192 GB (24 x 8 GB 2Rx8 PC4-2666V-R)  
Disk Subsystem: 1 x 480 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  

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<tr>
<th>Benchmark</th>
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<th>Seconds</th>
<th>Ratio</th>
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</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 with "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
## 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/specuser/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on dl360gen10rhel73 Fri Oct 13 16:15:50 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 6126 CPU @ 2.60GHz
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 6 8 9 11 12 13
physical 1: cores 0 1 3 5 6 8 9 10 11 12 13 14
cache size : 19712 KB
```

From /proc/meminfo
```
MemTotal:        197573776 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 dl360gen10rhel173 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
```

run-level 3 Oct 13 13:25

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| SPECfp2006 = | Not Run |
| SPECfp_base2006 = | 142 |

**Platform Notes (Continued)**

SPEC is set to: /home/specuser/cpu2006

Filesystem            Type  Size  Used Avail Use% Mounted on  
/dev/mapper/rhel-home xfs   392G   37G  356G  10% /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)

Regarding the sysinfo display about the memory installed, the correct amount of memory is 192 GB and the dmidecode description should have one line reading as:  
24x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz

**General Notes**

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=core,compact"  
LD_LIBRARY_PATH = "/home/specuser/cpu2006/lib/ia32:/home/specuser/cpu2006/lib/intel64"  
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/specuser/cpu2006/sh10.2"  
OMP_NUM_THREADS = "24"

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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| SPECfp2006 =  | Not Run |
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CPU2006 license: 3  
Test sponsor: HPE  
Tested by: HPE

**Base Portability Flags**

- 410.bwaves: -DSPEC_CPU_LP64
- 416.gamess: -DSPEC_CPU_LP64
- 433.milc: -DSPEC_CPU_LP64
- 434.zeusmp: -DSPEC_CPU_LP64
- 435.gromacs: -DSPEC_CPU_LP64 -nofor_main
- 436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
- 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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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