



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL380 Gen10  
(2.60 GHz, Intel Xeon Gold 6142)

SPECfp<sup>®</sup>2006 = **Not Run**

SPECfp\_base2006 = **145**

CPU2006 license: 3

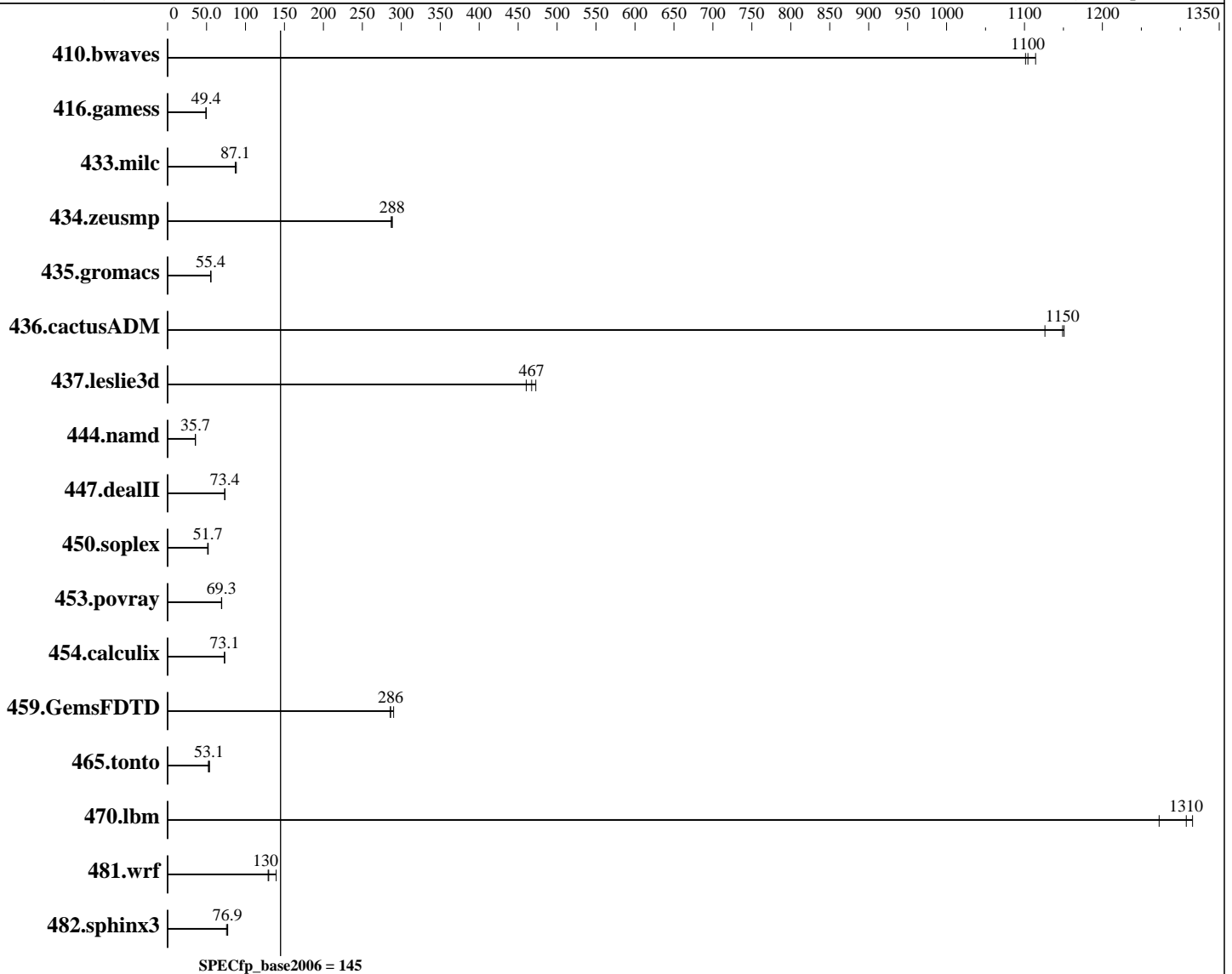
Test sponsor: HPE

Tested by: HPE

Test date: Oct-2017

Hardware Availability: Oct-2017

Software Availability: Apr-2017



## Hardware

CPU Name: Intel Xeon Gold 6142  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 32 cores, 2 chips, 16 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

Continued on next page

## 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL380 Gen10  
(2.60 GHz, Intel Xeon Gold 6142)

SPECfp2006 = **Not Run**

SPECfp\_base2006 = **145**

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Oct-2017

Hardware Availability: Oct-2017

Software Availability: Apr-2017

L3 Cache: 22 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 SSD SATA, 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

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>12.3</u>	<u>1100</u>	12.2	1110	12.3	1100						
416.gamess	396	49.5	<u>397</u>	<u>49.4</u>	397	49.3						
433.milc	105	87.1	104	88.2	<u>105</u>	<u>87.1</u>						
434.zeusmp	31.6	288	<u>31.6</u>	<u>288</u>	31.7	287						
435.gromacs	129	55.4	128	55.6	<u>129</u>	<u>55.4</u>						
436.cactusADM	10.4	1150	10.6	1130	<u>10.4</u>	<u>1150</u>						
437.leslie3d	<u>20.1</u>	<u>467</u>	20.4	460	19.9	473						
444.namd	225	35.7	225	35.6	<u>225</u>	<u>35.7</u>						
447.dealII	156	73.3	155	73.7	<u>156</u>	<u>73.4</u>						
450.soplex	160	52.2	<u>161</u>	<u>51.7</u>	162	51.5						
453.povray	<u>76.8</u>	<u>69.3</u>	76.6	69.5	76.9	69.2						
454.calculix	<u>113</u>	<u>73.1</u>	113	73.1	113	73.0						
459.GemsFDTD	37.1	286	<u>37.1</u>	<u>286</u>	36.6	290						
465.tonto	183	53.8	188	52.3	<u>185</u>	<u>53.1</u>						
470.lbm	<u>10.5</u>	<u>1310</u>	10.4	1320	10.8	1270						
481.wrf	86.5	129	80.1	139	<u>86.1</u>	<u>130</u>						
482.sphinx3	<u>253</u>	<u>76.9</u>	258	75.7	253	77.2						

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL380 Gen10  
(2.60 GHz, Intel Xeon Gold 6142)

SPECfp2006 =

Not Run

SPECfp\_base2006 =

145

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Oct-2017

Hardware Availability: Oct-2017

Software Availability: Apr-2017

## Platform Notes (Continued)

LLC Dead Line Allocation set to Disabled  
Stale A to S set to Disabled  
Workload Pofile set to General Peak Frequency Compute  
Energy/Performance Bias set to Maximum Performance  
Uncore Frequency Scaling set to Auto  
Workload Pofile 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 DL380Gen10-2 Wed Oct 25 04:57:26 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 6142 CPU @ 2.60GHz
 2 "physical id"s (chips)
 32 "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 : 16
  siblings  : 16
  physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size : 22528 KB
```

```
From /proc/meminfo
MemTotal:      197572716 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)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server
```

```
uname -a:
Linux DL380Gen10-2 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



# SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL380 Gen10  
(2.60 GHz, Intel Xeon Gold 6142)

SPECfp2006 =

Not Run

SPECfp\_base2006 =

145

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Oct-2017

Hardware Availability: Oct-2017

Software Availability: Apr-2017

## Platform Notes (Continued)

run-level 3 Oct 25 04:54

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 = "32"

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



# SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL380 Gen10  
(2.60 GHz, Intel Xeon Gold 6142)

SPECfp2006 =

Not Run

SPECfp\_base2006 =

145

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Oct-2017

Hardware Availability: Oct-2017

Software Availability: Apr-2017

## Base Portability Flags (Continued)

```

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>



# SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

**Hewlett Packard Enterprise**

(Test Sponsor: HPE)

ProLiant DL380 Gen10  
(2.60 GHz, Intel Xeon Gold 6142)

SPECfp2006 =

Not Run

SPECfp\_base2006 =

145

**CPU2006 license:** 3

**Test sponsor:** HPE

**Tested by:** HPE

**Test date:** Oct-2017

**Hardware Availability:** Oct-2017

**Software Availability:** Apr-2017

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Nov 15 10:58:55 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 14 November 2017.