SPEC® CFP2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)

Synergy 480 Gen10
(2.00 GHz, Intel Xeon Gold 6138)
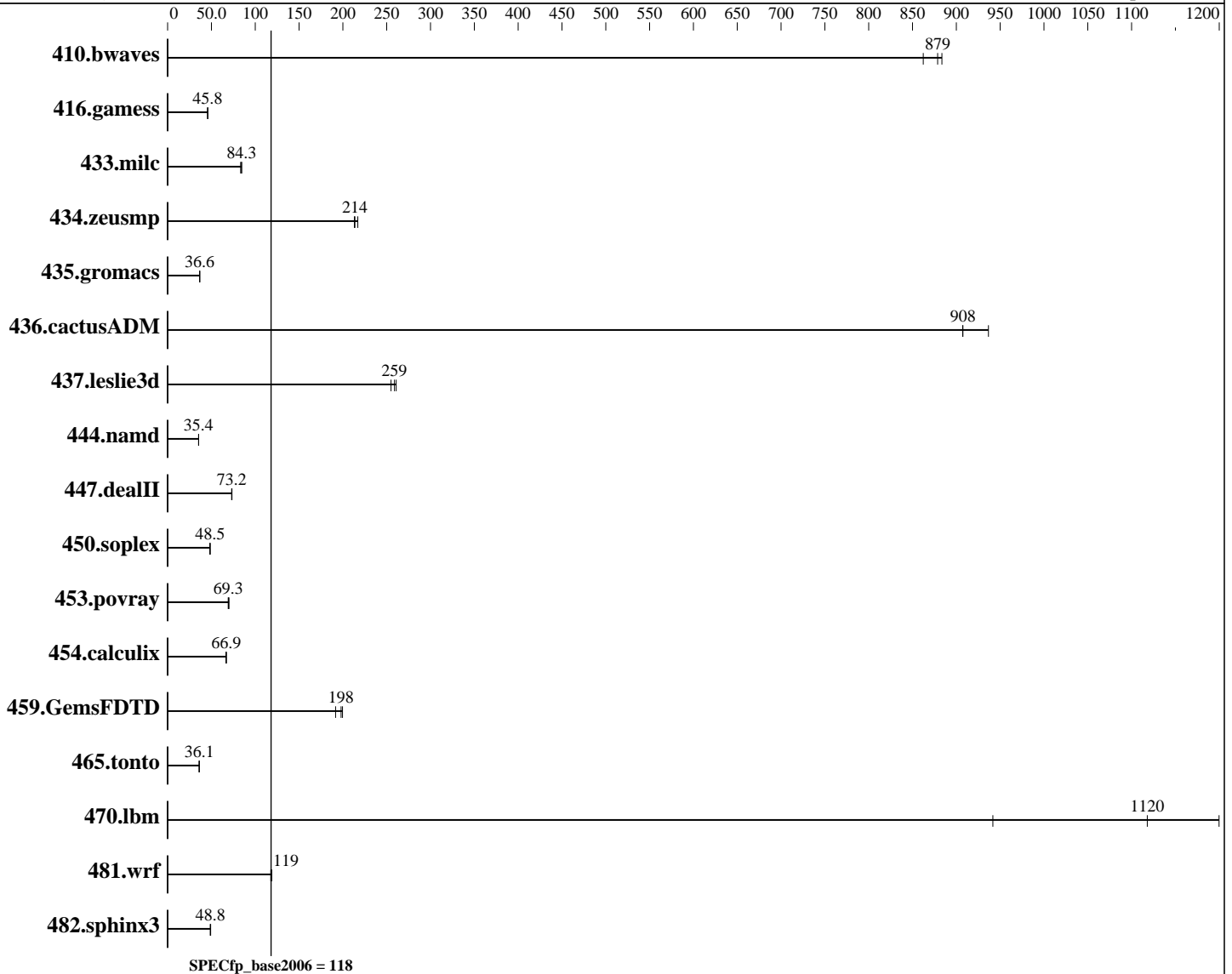
$SPECfp^{®}2006 =$ **Not Run**

$SPECfp\_base2006 =$ **118**

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

Benchmark results (SPECfp_base2006 = 118):

Benchmark	Result
410.bwaves	879
416.gamess	45.8
433.milc	84.3
434.zeusmp	214
435.gromacs	36.6
436.cactusADM	908
437.leslie3d	259
444.namd	35.4
447.dealII	73.2
450.soplex	48.5
453.povray	69.3
454.calculix	66.9
459.GemsFDTD	198
465.tonto	36.1
470.lbm	1120
481.wrf	119
482.sphinx3	48.8

SPECfp_base2006 = 118

Hardware

CPU Name:	Intel Xeon Gold 6138
CPU Characteristics:	Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	40 cores, 2 chips, 20 cores/chip, 2 threads/core
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:	SUSE Linux Enterprise Server 12 (x86_64) SP2 Kernel 4.4.21-69-default
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
System State:	Run level 3 (multi-user)

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)

Synergy 480 Gen10
(2.00 GHz, Intel Xeon Gold 6138)

$SPECfp2006 =$ **Not Run**

$SPECfp\_base2006 =$ 118

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

L3 Cache:	27.5 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	Not Applicable
Memory:	384 GB (24 x 16 GB 2Rx8 PC4-2666V-R)	Other Software:	None
Disk Subsystem:	1 x 960 GB SATA SSD, RAID 0		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	15.4	884	**15.5**	**879**	15.8	862						
416.gamess	428	45.8	**428**	**45.8**	428	45.7						
433.milc	109	84.5	**109**	**84.3**	110	83.3						
434.zeusmp	41.9	217	**42.6**	**214**	42.7	213						
435.gromacs	195	36.6	195	36.7	**195**	**36.6**						
436.cactusADM	**13.2**	**908**	12.8	937	13.2	907						
437.leslie3d	**36.3**	**259**	36.0	261	36.9	255						
444.namd	227	35.4	227	35.4	**227**	**35.4**						
447.dealII	156	73.1	156	73.4	**156**	**73.2**						
450.soplex	173	48.2	**172**	**48.5**	172	48.5						
453.povray	76.8	69.3	75.9	70.1	**76.8**	**69.3**						
454.calculix	123	67.1	124	66.5	**123**	**66.9**						
459.GemsFDTD	**53.6**	**198**	55.3	192	53.2	200						
465.tonto	272	36.2	273	36.0	**272**	**36.1**						
470.lbm	11.5	1200	14.6	942	**12.3**	**1120**						
481.wrf	94.9	118	**94.1**	**119**	94.0	119						
482.sphinx3	400	48.7	397	49.1	**399**	**48.8**						

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 Throughtput-Performance
```

Platform Notes

```
BIOS Configuration:
Thermal Configuration set to Maximum Cooling
LLC Prefetch set to Enabled
LLC Dead Line Allocation set to Disabled
Memory Patrol Scrubbing set to Disabled
```
Continued on next page

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(2.00 GHz, Intel Xeon Gold 6138)

$SPECfp2006 =$ Not Run

$SPECfp\_base2006 =$ 118

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

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

Platform Notes (Continued)

```
   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)
   running on linux-vjuj Mon Nov 20 12:26:55 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 6138 CPU @ 2.00GHz
         2 "physical id"s (chips)
         80 "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 : 20
         siblings  : 40
         physical 0: cores 0 1 2 3 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
         physical 1: cores 0 1 2 3 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
      cache size : 28160 KB

   From /proc/meminfo
      MemTotal:       395921388 kB
      HugePages_Total:        0
      Hugepagesize:        2048 kB

   /usr/bin/lsb_release -d
      SUSE Linux Enterprise Server 12 SP2

   From /etc/*release* /etc/*version*
      SuSE-release:
         SUSE Linux Enterprise Server 12 (x86_64)
         VERSION = 12
         PATCHLEVEL = 2
         # This file is deprecated and will be removed in a future service pack or
         release.
         # Please check /etc/os-release for details about this release.
      os-release:
         NAME="SLES"
         VERSION="12-SP2"
         VERSION_ID="12.2"
         PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
         ID="sles"
         ANSI_COLOR="0;32"
         CPE_NAME="cpe:/o:suse:sles:12:sp2"

   uname -a:
      Linux linux-vjuj 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
```

SPEC CFP2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(2.00 GHz, Intel Xeon Gold 6138)

$SPECfp2006 =$ **Not Run**

$SPECfp\_base2006 =$ 118

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

Platform Notes (Continued)

```
    (9464f67) x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Nov 17 16:35

  SPEC is set to: /home/cpu2006
    Filesystem     Type  Size  Used Avail Use% Mounted on
    /dev/sda4      xfs   852G   76G  777G   9% /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 I42 09/27/2017
    Memory:
    24x UNKNOWN NOT AVAILABLE 16 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 = "80"

  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
Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(2.00 GHz, Intel Xeon Gold 6138)

$SPECfp2006 = $ **Not Run**

$SPECfp_base2006 = $ 118

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

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-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

SPEC CFP2006 Result

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(2.00 GHz, Intel Xeon Gold 6138)

$SPECfp2006 =$ **Not Run**

$SPECfp\_base2006 =$ 118

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

Test date: Nov-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.

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Dec 12 17:06:50 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 December 2017.