



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL380 G7
(3.46 GHz, Intel Xeon X5690)

SPECfp®2006 = **63.4**

SPECfp_base2006 = **59.9**

CPU2006 license: 3

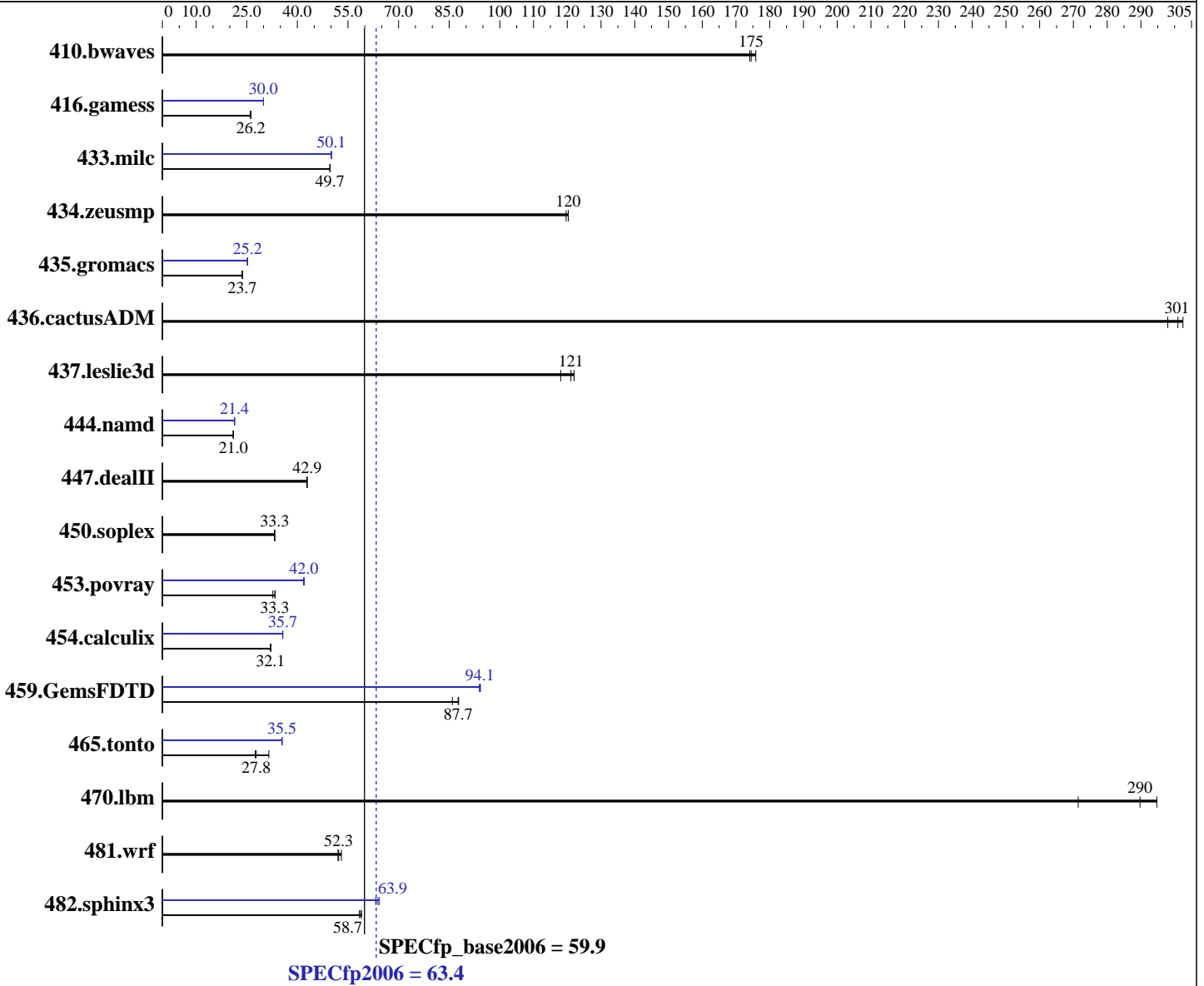
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jan-2011

Hardware Availability: Feb-2011

Software Availability: Apr-2011



Hardware

CPU Name: Intel Xeon X5690
 CPU Characteristics: Intel Turbo Boost Technology up to 3.73 GHz
 CPU MHz: 3467
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
 Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0 Update 3
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp2006 = **63.4**

ProLiant DL380 G7
(3.46 GHz, Intel Xeon X5690)

SPECfp_base2006 = **59.9**

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jan-2011
Hardware Availability: Feb-2011
Software Availability: Apr-2011

L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 96 GB (12 x 8 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 300 GB 10 K SAS
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>77.9</u>	<u>175</u>	77.3	176	78.1	174	<u>77.9</u>	<u>175</u>	77.3	176	78.1	174
416.gamess	746	26.2	<u>747</u>	<u>26.2</u>	751	26.1	<u>653</u>	<u>30.0</u>	653	30.0	653	30.0
433.milc	<u>185</u>	<u>49.7</u>	185	49.6	185	49.7	<u>183</u>	<u>50.1</u>	183	50.1	183	50.0
434.zeusmp	<u>75.6</u>	<u>120</u>	75.6	120	76.0	120	<u>75.6</u>	<u>120</u>	75.6	120	76.0	120
435.gromacs	300	23.8	302	23.6	<u>301</u>	<u>23.7</u>	283	25.2	<u>283</u>	<u>25.2</u>	284	25.2
436.cactusADM	39.5	302	40.1	298	<u>39.7</u>	<u>301</u>	39.5	302	40.1	298	<u>39.7</u>	<u>301</u>
437.leslie3d	79.6	118	77.0	122	<u>77.6</u>	<u>121</u>	79.6	118	77.0	122	<u>77.6</u>	<u>121</u>
444.namd	381	21.0	<u>382</u>	<u>21.0</u>	382	21.0	375	21.4	375	21.4	<u>375</u>	<u>21.4</u>
447.dealII	<u>267</u>	<u>42.9</u>	267	42.8	267	42.9	<u>267</u>	<u>42.9</u>	267	42.8	267	42.9
450.soplex	250	33.3	251	33.3	<u>250</u>	<u>33.3</u>	250	33.3	251	33.3	<u>250</u>	<u>33.3</u>
453.povray	159	33.4	<u>160</u>	<u>33.3</u>	162	32.7	<u>127</u>	<u>42.0</u>	127	41.8	126	42.1
454.calculix	257	32.1	<u>257</u>	<u>32.1</u>	257	32.0	231	35.7	<u>231</u>	<u>35.7</u>	231	35.7
459.GemsFDTD	123	86.0	121	87.8	<u>121</u>	<u>87.7</u>	<u>113</u>	<u>94.1</u>	113	93.9	113	94.3
465.tonto	<u>354</u>	<u>27.8</u>	358	27.5	312	31.6	277	35.5	<u>277</u>	<u>35.5</u>	277	35.5
470.lbm	<u>47.4</u>	<u>290</u>	46.6	295	50.6	271	<u>47.4</u>	<u>290</u>	46.6	295	50.6	271
481.wrf	210	53.1	215	52.0	<u>214</u>	<u>52.3</u>	210	53.1	215	52.0	<u>214</u>	<u>52.3</u>
482.sphinx3	<u>332</u>	<u>58.7</u>	330	59.0	334	58.4	<u>305</u>	<u>63.9</u>	303	64.3	308	63.2

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

```
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

BIOS configuration:
HP Power Profile set to Maximum Performance
Thermal Configuration set to Increased Cooling
Data Reuse set to Disabled
Intel Hyperthreading Options set to Disabled



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp2006 = 63.4

ProLiant DL380 G7
(3.46 GHz, Intel Xeon X5690)

SPECfp_base2006 = 59.9

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jan-2011
Hardware Availability: Feb-2011
Software Availability: Apr-2011

General Notes

OMP_NUM_THREADS set to number of cores
Binaries were compiled on RHEL5.5 with Binutils binutils-2.17.50.0.6-14.el5

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
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:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp2006 = 63.4

ProLiant DL380 G7
(3.46 GHz, Intel Xeon X5690)

SPECfp_base2006 = 59.9

CPU2006 license: 3

Test date: Jan-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Feb-2011

Tested by: Hewlett-Packard Company

Software Availability: Apr-2011

Base Optimization Flags (Continued)

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias`

Peak Compiler Invocation

C benchmarks:

`icc -m64`

C++ benchmarks (except as noted below):

`icpc -m64`

453.povray: `icpc -m64`

`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

Fortran benchmarks (except as noted below):

`ifort -m64`

459.GemsFDTD: `ifort -m64`

`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

465.tonto: `ifort -m64`

`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
-ansi-alias`

470.lbm: `basepeak = yes`

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp2006 = 63.4

ProLiant DL380 G7
(3.46 GHz, Intel Xeon X5690)

SPECfp_base2006 = 59.9

CPU2006 license: 3

Test date: Jan-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Feb-2011

Tested by: Hewlett-Packard Company

Software Availability: Apr-2011

Peak Optimization Flags (Continued)

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -opt-prefetch -parallel

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
-ansi-alias

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL380 G7
(3.46 GHz, Intel Xeon X5690)

SPECfp2006 = 63.4

SPECfp_base2006 = 59.9

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jan-2011
Hardware Availability: Feb-2011
Software Availability: Apr-2011

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110303.02.html>
<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110216.00.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110303.02.xml>
<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110216.00.xml>

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 v1.1.
Report generated on Wed Jul 23 16:50:34 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 8 March 2011.