



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp[®]2006 = **23.1**

ProLiant BL460c
(3.00 GHz, Intel Xeon E5450)

SPECfp_base2006 = **19.5**

CPU2006 license: 3

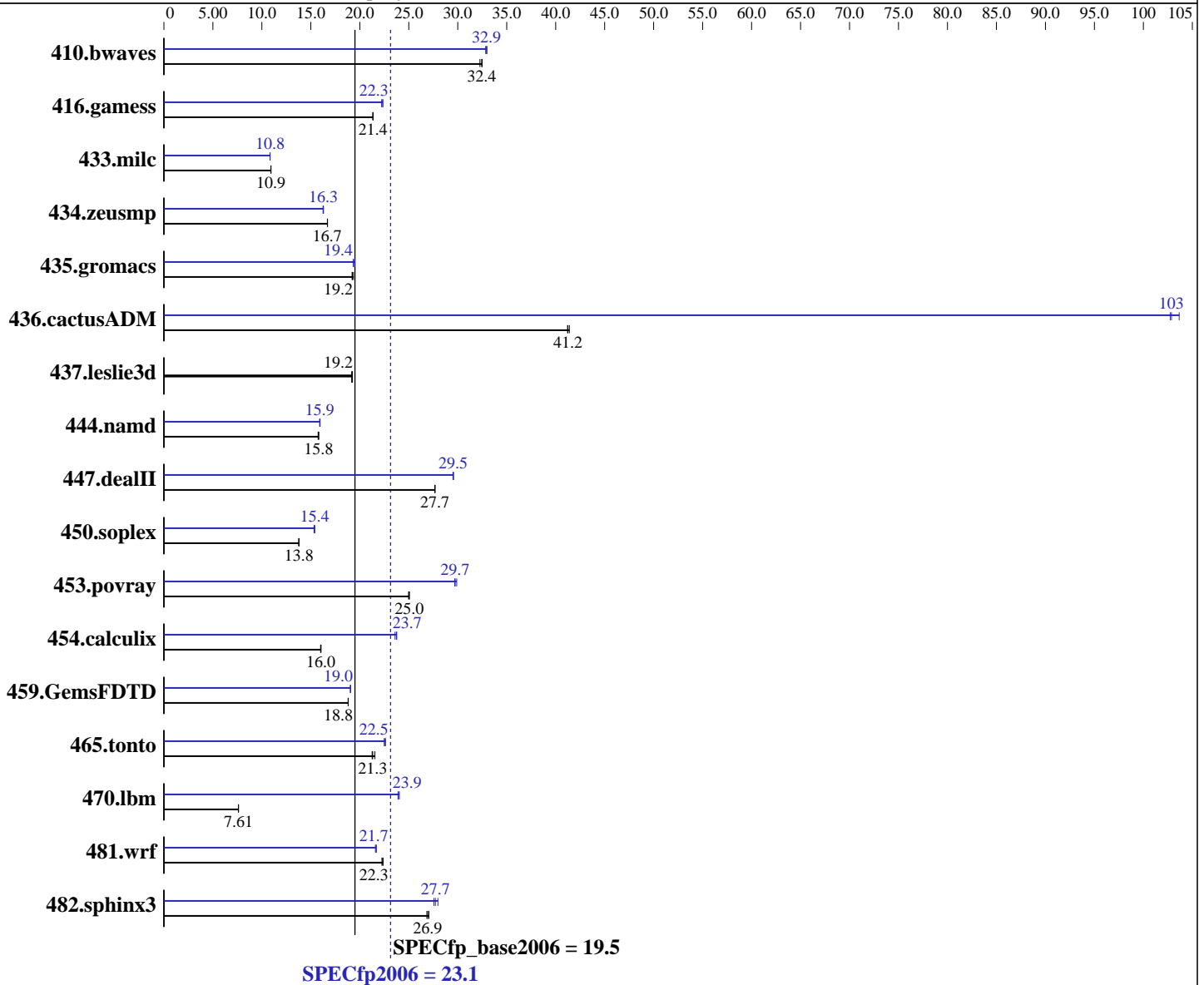
Test date: Feb-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2007

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5450
 CPU Characteristics: 3.00 GHz, 2x6 MB L2 shared, 1333 MHz system bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
 Intel Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
 Auto Parallel: Yes
 File System: ext2
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp2006 = **23.1**

ProLiant BL460c
(3.00 GHz, Intel Xeon E5450)

SPECfp_base2006 = **19.5**

CPU2006 license: 3

Test date: Feb-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2007

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB PC2-5300F CL5)
Disk Subsystem: 1x72 GB 15 K SAS
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: binutils-2.17.50

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	421	32.3	419	32.4	418	32.5	413	32.9	414	32.8	412	33.0
416.gamess	917	21.4	917	21.4	918	21.3	876	22.3	881	22.2	876	22.3
433.milc	840	10.9	840	10.9	840	10.9	848	10.8	847	10.8	847	10.8
434.zeusmp	545	16.7	545	16.7	545	16.7	560	16.2	559	16.3	559	16.3
435.gromacs	369	19.4	371	19.2	371	19.2	367	19.5	369	19.4	369	19.3
436.cactusADM	290	41.2	289	41.4	290	41.2	116	103	116	103	115	104
437.leslie3d	488	19.3	489	19.2	490	19.2	488	19.3	489	19.2	490	19.2
444.namd	508	15.8	508	15.8	509	15.7	504	15.9	503	15.9	504	15.9
447.dealII	413	27.7	413	27.7	414	27.7	387	29.6	387	29.5	388	29.5
450.soplex	604	13.8	605	13.8	606	13.8	544	15.3	542	15.4	542	15.4
453.povray	213	25.0	212	25.1	212	25.0	179	29.7	179	29.7	178	29.9
454.calculix	515	16.0	515	16.0	516	16.0	348	23.7	347	23.8	350	23.6
459.GemsFDTD	564	18.8	564	18.8	564	18.8	557	19.1	557	19.0	557	19.0
465.tonto	457	21.5	462	21.3	463	21.3	435	22.6	437	22.5	437	22.5
470.lbm	1803	7.62	1806	7.61	1808	7.60	572	24.0	574	23.9	575	23.9
481.wrf	500	22.3	499	22.4	502	22.3	515	21.7	515	21.7	517	21.6
482.sphinx3	720	27.1	726	26.8	724	26.9	697	28.0	703	27.7	707	27.6

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 200M

Platform Notes

BIOS configuration:
Power Regulator set to Static High Performance Mode



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp2006 = 23.1

ProLiant BL460c
(3.00 GHz, Intel Xeon E5450)

SPECfp_base2006 = 19.5

CPU2006 license: 3

Test date: Feb-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2007

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icc ifort

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:

-fast -parallel

C++ benchmarks:

-fast -parallel

Fortran benchmarks:

-fast -parallel

Benchmarks using both Fortran and C:

-fast -parallel



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp2006 = 23.1

ProLiant BL460c
(3.00 GHz, Intel Xeon E5450)

SPECfp_base2006 = 19.5

CPU2006 license: 3

Test date: Feb-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2007

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

```
433.milc: icc
```

C++ benchmarks (except as noted below):

```
icpc
```

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
icc ifort
```

Peak 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
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-req- -prefetch -opt-malloc-options=3
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp2006 = 23.1

ProLiant BL460c
(3.00 GHz, Intel Xeon E5450)

SPECfp_base2006 = 19.5

CPU2006 license: 3

Test date: Feb-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2007

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch -parallel

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch -parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -parallel -prefetch -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-fp-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-fp-flags.xml>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant BL460c
(3.00 GHz, Intel Xeon E5450)

SPECfp2006 = 23.1

SPECfp_base2006 = 19.5

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Feb-2008

Hardware Availability: Nov-2007

Software Availability: Nov-2007

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 v1.0.
Report generated on Tue Jul 22 15:23:02 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 25 March 2008.