



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®2006 = 23.3

ProLiant DL120 G5
(2.83 GHz, Intel Xeon X3360)

SPECfp_base2006 = 21.4

CPU2006 license: 3

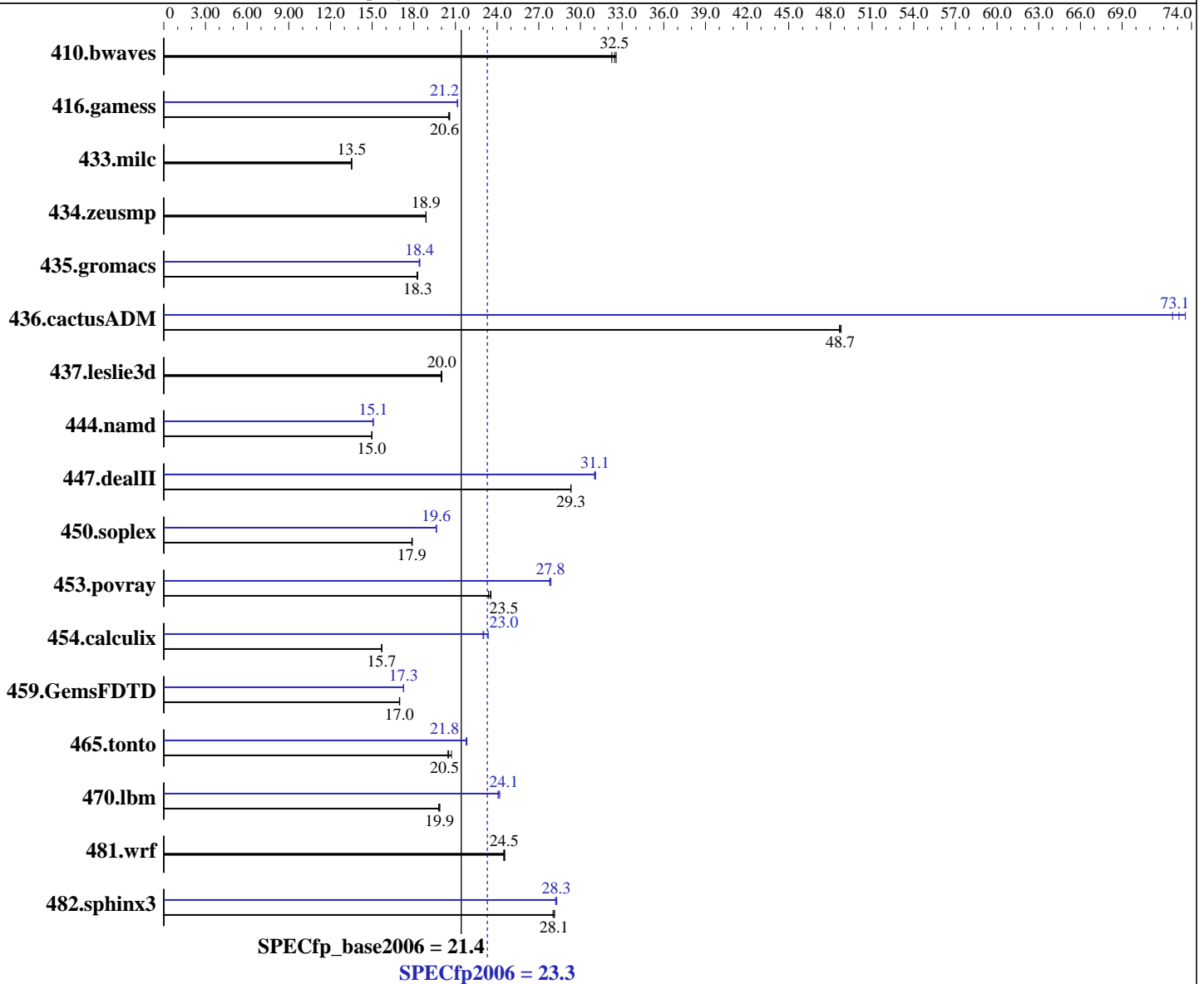
Test date: Jun-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X3360
 CPU Characteristics: 2.83 GHz, 2x6 MB L2 shared, 1333 MHz system bus
 CPU MHz: 2833
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 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

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Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smpp
 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)

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB PC2-6400E CL6)
Disk Subsystem: 1x160 GB 7.2 K SATA
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	417	32.6	419	32.5	421	32.3	417	32.6	419	32.5
416.gamess	951	20.6	955	20.5	951	20.6	927	21.1	925	21.2	925	21.2
433.milc	678	13.5	680	13.5	679	13.5	678	13.5	680	13.5	679	13.5
434.zeusmp	482	18.9	482	18.9	482	18.9	482	18.9	482	18.9	482	18.9
435.gromacs	391	18.3	391	18.3	392	18.2	388	18.4	388	18.4	387	18.4
436.cactusADM	246	48.6	245	48.7	245	48.8	162	73.6	163	73.1	165	72.6
437.leslie3d	469	20.0	471	20.0	470	20.0	469	20.0	471	20.0	470	20.0
444.namd	535	15.0	535	15.0	536	15.0	533	15.1	532	15.1	532	15.1
447.dealII	390	29.3	390	29.3	390	29.3	368	31.1	368	31.1	369	31.0
450.soplex	466	17.9	467	17.9	467	17.9	425	19.6	425	19.6	425	19.6
453.povray	226	23.5	228	23.4	226	23.6	191	27.9	191	27.8	191	27.8
454.calculix	526	15.7	526	15.7	526	15.7	359	23.0	358	23.0	353	23.4
459.GemsFDTD	624	17.0	625	17.0	625	17.0	614	17.3	615	17.3	615	17.3
465.tonto	475	20.7	481	20.5	480	20.5	452	21.8	451	21.8	452	21.8
470.lbm	691	19.9	694	19.8	692	19.9	568	24.2	570	24.1	571	24.1
481.wrf	455	24.6	456	24.5	456	24.5	455	24.6	456	24.5	456	24.5
482.sphinx3	693	28.1	695	28.0	694	28.1	689	28.3	691	28.2	690	28.3

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

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

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Base Compiler Invocation (Continued)

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

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

```

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Peak Compiler Invocation (Continued)

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: basepeak = yes

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

482.sphinx3: -fast -unroll2

C++ benchmarks:

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Peak Optimization Flags (Continued)

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

447.dealII: -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: basepeak = yes

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

434.zeusmp: basepeak = yes

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: basepeak = yes

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>



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