



SPEC® CFP2006 Result

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Hewlett-Packard Company

ProLiant DL380 G5
(1.86 GHz, Intel Xeon processor 5120)

SPECfp®2006 = 14.5

SPECfp_base2006 = 12.8

CPU2006 license: 3

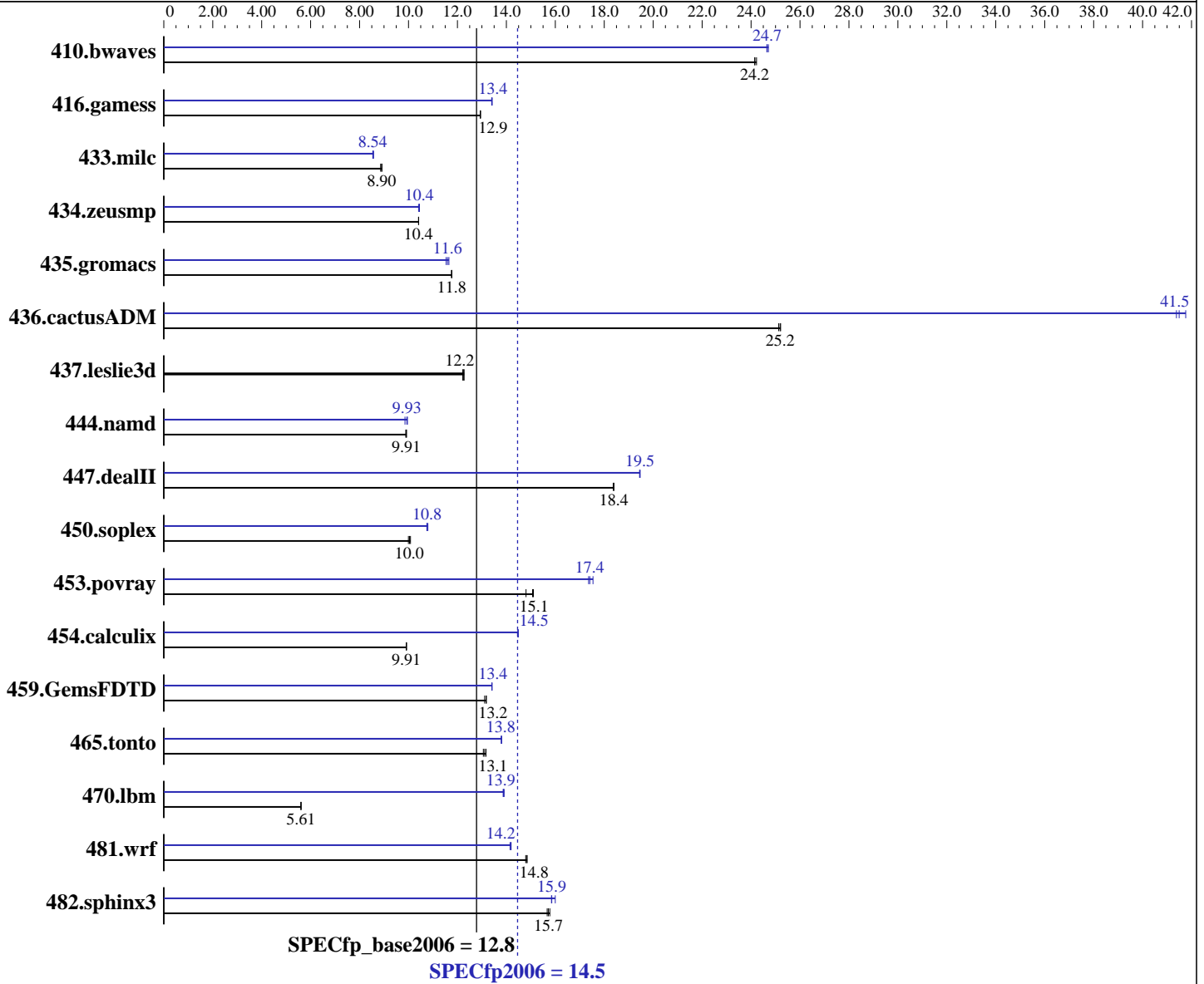
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Sep-2007

Hardware Availability: Jun-2006

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon 5120
 CPU Characteristics: 1.86 GHz, 4 MB L2 shared, 1066 MHz system bus
 CPU MHz: 1866
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1 or 2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip

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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++ and Fortran Compiler for Linux32 and Linux64 version 10.1, Build 20070824
 Auto Parallel: Yes
 File System: ext2
 System State: Multi-user run level 3
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1 GB PC2-5300F CL5)
Disk Subsystem: 1x72 GB 10 K SAS
Other Hardware: None

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	563	24.2	561	24.2	563	24.2	<u>551</u>	<u>24.7</u>	550	24.7	551	24.6
416.gamess	1512	12.9	1514	12.9	1514	12.9	<u>1460</u>	<u>13.4</u>	1461	13.4	1459	13.4
433.milc	1032	8.90	1036	8.86	1030	8.92	1071	8.57	1074	8.54	1074	8.54
434.zeusmp	874	10.4	874	10.4	874	10.4	871	10.4	874	10.4	871	10.4
435.gromacs	607	11.8	607	11.8	607	11.8	619	11.5	616	11.6	613	11.7
436.cactusADM	474	25.2	474	25.2	476	25.1	289	41.4	286	41.8	288	41.5
437.leslie3d	766	12.3	768	12.2	769	12.2	766	12.3	768	12.2	769	12.2
444.namd	809	9.92	809	9.91	811	9.89	808	9.93	805	9.96	814	9.86
447.dealII	623	18.4	622	18.4	622	18.4	588	19.5	588	19.5	588	19.4
450.soplex	827	10.1	831	10.0	834	10.0	773	10.8	775	10.8	776	10.8
453.povray	359	14.8	353	15.1	352	15.1	306	17.4	303	17.5	306	17.4
454.calculix	832	9.92	832	9.91	832	9.91	570	14.5	570	14.5	570	14.5
459.GemsFDTD	805	13.2	805	13.2	809	13.1	791	13.4	791	13.4	791	13.4
465.tonto	750	13.1	754	13.1	747	13.2	713	13.8	713	13.8	714	13.8
470.lbm	2450	5.61	2452	5.60	2449	5.61	988	13.9	991	13.9	990	13.9
481.wrf	752	14.9	754	14.8	755	14.8	788	14.2	789	14.1	787	14.2
482.sphinx3	1240	15.7	1244	15.7	1235	15.8	1218	16.0	1230	15.8	1229	15.9

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



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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



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Peak Compiler Invocation

C benchmarks (except as noted below):

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/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.deallI: -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-rep- -prefetch -opt-malloc-options=3
```

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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-flags.20090714.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-flags.20090714.xml>



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