



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®2006 = 11.3

ProLiant DL580 G4
(3.0 GHz, Intel Xeon processor 7120M)

SPECfp_base2006 = 11.0

CPU2006 license: 3

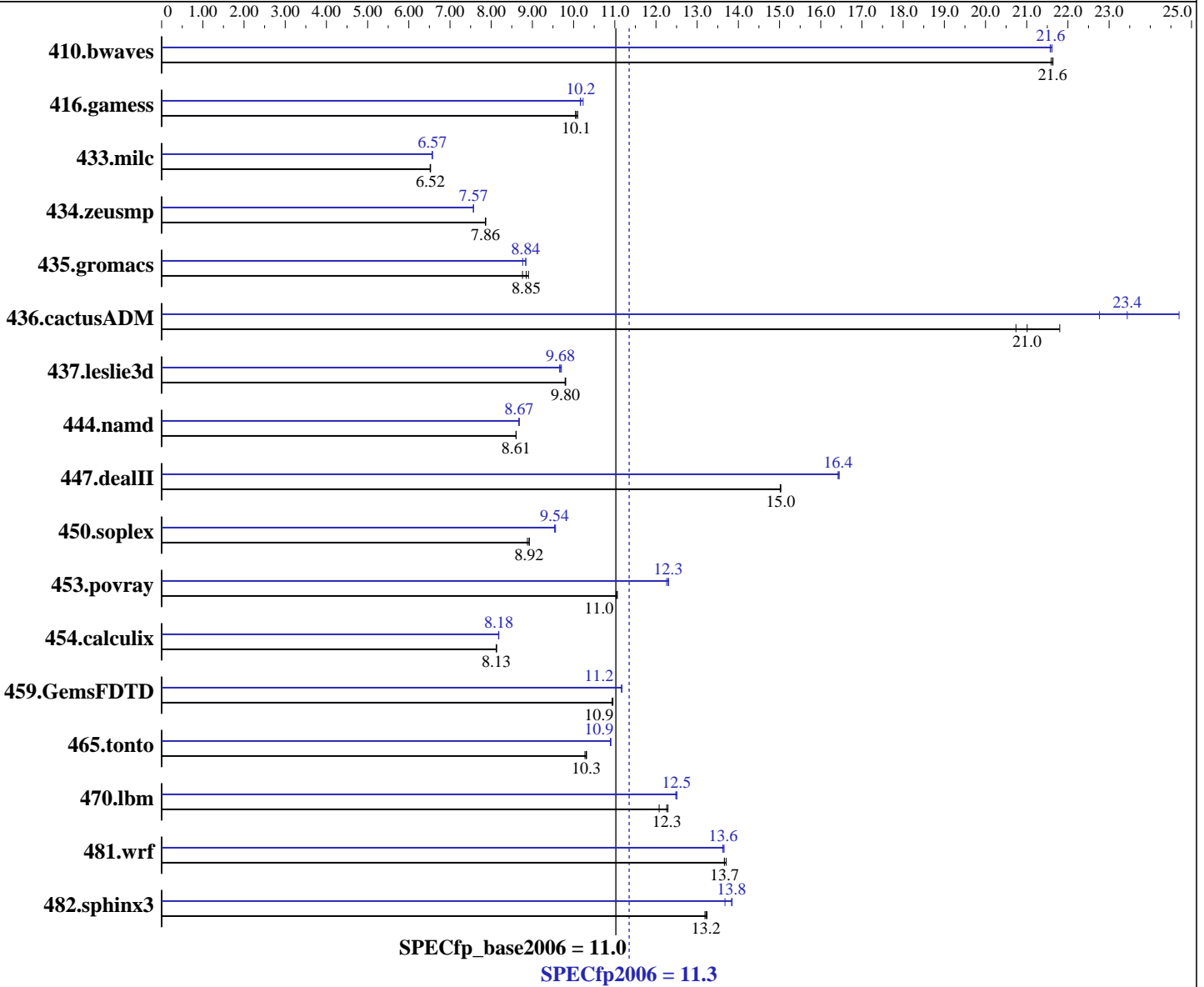
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2006

Tested by: Hewlett-Packard Company

Software Availability: May-2007



Hardware

CPU Name: Intel Xeon 7120M
 CPU Characteristics: 3.0 GHz, 800 MHz system bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1,2,4 chips
 Primary Cache: 12 K micro-ops I + 16 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core

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Software

Operating System: SuSE LinuxEnterprise Server 10 (x86_64)
 kernel 2.6.16.21-0.8-smp
 Compiler: Intel C++ Compiler for IA32/EM64T applications, Version 10.0
 Build 20070426 Package ID: l_cc_p_10.0.023
 Intel Fortran Compiler for applications running on Intel 64, Version 10.0
 Build 20070426 Package ID: l_fc_p_10.0.023
 Auto Parallel: Yes

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (16x2 GB PC2-3200R)
Disk Subsystem: 1x72 GB 15 K SAS
Other Hardware: None

File System: ext2
System State: Multi-user run level 3
Base Pointers: 64-bit
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	628	21.6	628	21.6	629	21.6	629	21.6	630	21.6	630	21.6
416.gamess	1939	10.1	1945	10.1	1949	10.0	1925	10.2	1927	10.2	1914	10.2
433.milc	1407	6.52	1406	6.53	1409	6.52	1398	6.57	1397	6.57	1397	6.57
434.zeusmp	1158	7.86	1157	7.86	1157	7.86	1202	7.57	1202	7.57	1202	7.57
435.gromacs	802	8.91	815	8.76	807	8.85	815	8.76	808	8.84	808	8.84
436.cactusADM	548	21.8	576	20.7	569	21.0	525	22.8	510	23.4	484	24.7
437.leslie3d	959	9.80	960	9.79	958	9.81	969	9.71	971	9.68	973	9.66
444.namd	932	8.61	932	8.60	932	8.61	924	8.68	925	8.67	925	8.67
447.dealII	761	15.0	761	15.0	762	15.0	695	16.4	697	16.4	696	16.4
450.soplex	935	8.92	935	8.92	939	8.88	872	9.56	874	9.54	874	9.54
453.povray	482	11.0	482	11.0	481	11.1	433	12.3	434	12.3	432	12.3
454.calculix	1015	8.13	1015	8.13	1015	8.13	1008	8.18	1008	8.18	1009	8.18
459.GemsFDTD	970	10.9	968	11.0	970	10.9	950	11.2	950	11.2	950	11.2
465.tonto	955	10.3	958	10.3	954	10.3	902	10.9	903	10.9	903	10.9
470.lbm	1138	12.1	1121	12.3	1118	12.3	1101	12.5	1099	12.5	1098	12.5
481.wrf	818	13.7	815	13.7	818	13.7	820	13.6	820	13.6	818	13.7
482.sphinx3	1472	13.2	1475	13.2	1478	13.2	1409	13.8	1407	13.8	1425	13.7

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

Platform Notes

BIOS configuration:
Power Regulator Disabled
Adjacent Sector Prefetch Enabled
Hardware Prefetcher Enabled
Hyper-Threading Technology Disabled



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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:

-xP -ipo -O3 -static -no-prec-div

C++ benchmarks:

-xP -ipo -O3 -static -no-prec-div

Fortran benchmarks:

-xP -ipo -O3 -static -no-prec-div -parallel

Benchmarks using both Fortran and C:

-xP -ipo -O3 -static -no-prec-div -parallel



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Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.0.023/bin/icc -L/opt/intel/cc/10.0.023/lib
-I/opt/intel/cc/10.0.023/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.0.023/bin/icpc -L/opt/intel/cc/10.0.023/lib
-I/opt/intel/cc/10.0.023/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.0.023/bin/ifort -L/opt/intel/fc/10.0.023/lib
-I/opt/intel/fc/10.0.023/include
```

Benchmarks using both Fortran and C:

icc ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -fno-alias
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -unroll2 -no-scalar-rep -prefetch
```

```
482.sphinx3: -xP -ipo -O3 -static -no-prec-div -unroll2
```

C++ benchmarks:

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

```
447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -unroll2 -ansi-alias -no-scalar-rep
```

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Peak Optimization Flags (Continued)

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div

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

Fortran benchmarks:

410.bwaves: -xP -ipo -O3 -static -no-prec-div -parallel

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -unroll2 -Ob0 -ansi-alias -no-scalar-rep

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -parallel

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -unroll2 -Ob0 -parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -unroll4

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -fno-alias

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static
-no-prec-div -unroll2 -auto-ilp32 -parallel

454.calculix: -xP -ipo -O3 -static -no-prec-div -auto-ilp32

481.wrf: -xP -ipo -O3 -static -no-prec-div -auto-ilp32 -parallel

The flags file that was used to format this result can be browsed at
<http://www.spec.org/cpu2006/flags/hp-ic10-flags.20090714.00.html>

You can also download the XML flags source by saving the following link:
<http://www.spec.org/cpu2006/flags/hp-ic10-flags.20090714.00.xml>



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