



SPEC[®] CFP2006 Result

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Hewlett-Packard Company

SPECfp[®]_rate2006 = 44.1

ProLiant DL580 G4
(2.6 GHz, Intel Xeon processor 7110M)

SPECfp_rate_base2006 = 42.9

CPU2006 license: 3

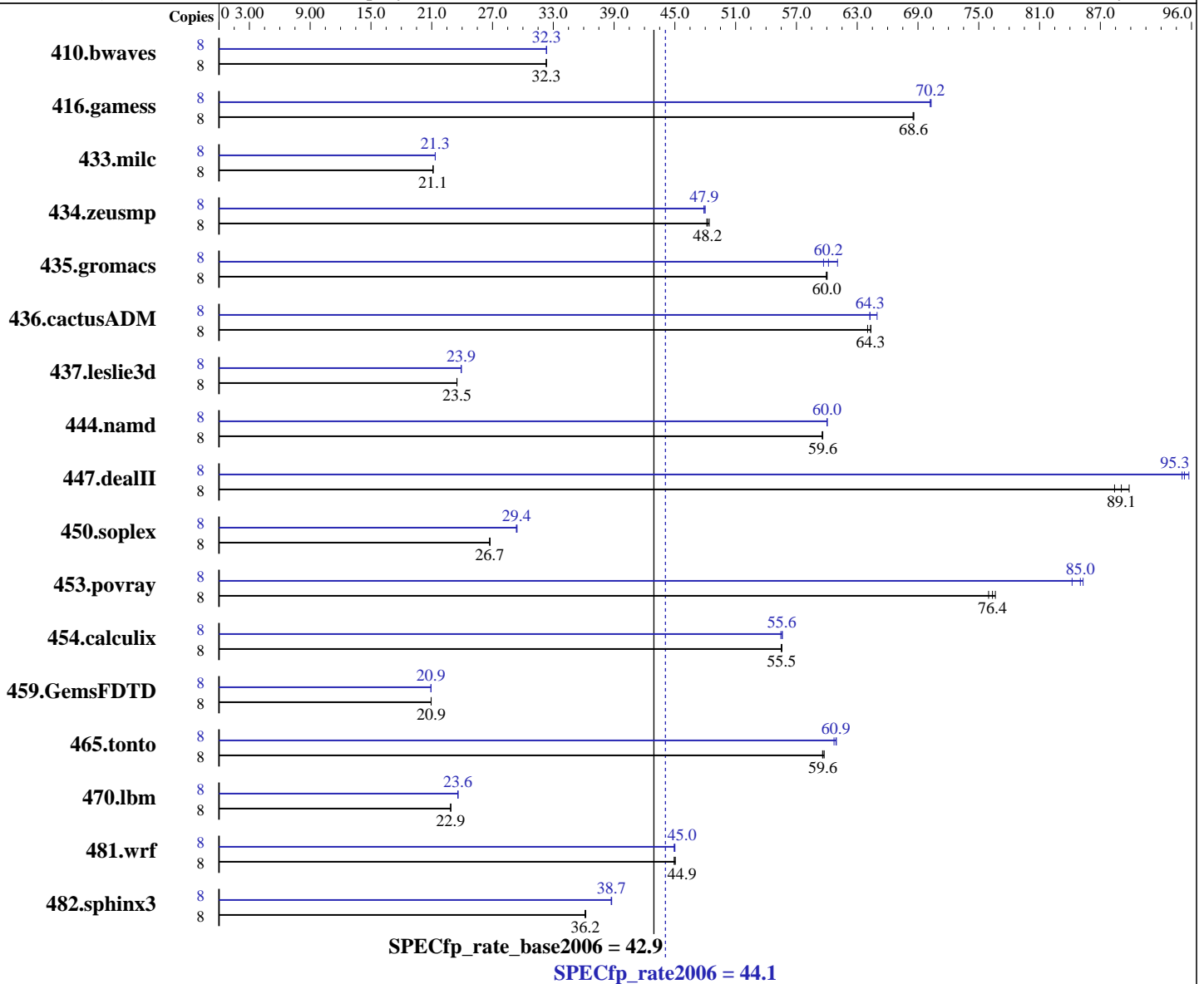
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2006

Tested by: Hewlett-Packard Company

Software Availability: May-2007



Hardware

CPU Name: Intel Xeon 7110M
 CPU Characteristics: 2.6 GHz, 800 MHz system bus
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 8 cores, 4 chips, 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: No

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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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3365	32.3	3364	32.3	3364	32.3	8	3363	32.3	3364	32.3	3362	32.3
416.gamess	8	2285	68.6	2286	68.5	2284	68.6	8	2228	70.3	2230	70.2	2231	70.2
433.milc	8	3474	21.1	3477	21.1	3476	21.1	8	3440	21.3	3441	21.3	3440	21.4
434.zeusmp	8	1504	48.4	1509	48.2	1512	48.2	8	1521	47.9	1520	47.9	1517	48.0
435.gromacs	8	953	59.9	952	60.0	951	60.0	8	957	59.7	949	60.2	936	61.1
436.cactusADM	8	1486	64.3	1486	64.3	1493	64.0	8	1488	64.3	1488	64.3	1472	65.0
437.leslie3d	8	3202	23.5	3201	23.5	3202	23.5	8	3146	23.9	3145	23.9	3145	23.9
444.namd	8	1077	59.6	1078	59.5	1076	59.6	8	1069	60.0	1069	60.0	1069	60.0
447.dealII	8	1027	89.1	1019	89.8	1035	88.4	8	956	95.7	960	95.3	963	95.1
450.soplex	8	2493	26.8	2497	26.7	2497	26.7	8	2271	29.4	2273	29.4	2267	29.4
453.povray	8	557	76.4	555	76.6	560	76.0	8	505	84.2	501	85.0	499	85.3
454.calculix	8	1188	55.6	1188	55.5	1189	55.5	8	1187	55.6	1188	55.6	1190	55.5
459.GemsFDTD	8	4054	20.9	4054	20.9	4053	20.9	8	4055	20.9	4056	20.9	4057	20.9
465.tonto	8	1321	59.6	1320	59.6	1318	59.7	8	1292	60.9	1297	60.7	1293	60.9
470.lbm	8	4806	22.9	4806	22.9	4805	22.9	8	4659	23.6	4660	23.6	4661	23.6
481.wrf	8	1984	45.0	1988	44.9	1988	44.9	8	1985	45.0	1989	44.9	1986	45.0
482.sphinx3	8	4315	36.1	4306	36.2	4312	36.2	8	4026	38.7	4022	38.8	4026	38.7

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

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

Benchmarks using both Fortran and C:

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



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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

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: Same as 434.zeusmp

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

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

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

481.wrf: Same as 454.calculix

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

<http://www.spec.org/cpu2006/flags/hp-ic10-flags.html>

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

<http://www.spec.org/cpu2006/flags/hp-ic10-flags.xml>



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