SPEC® CFP2006 Result

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Hewlett-Packard Company

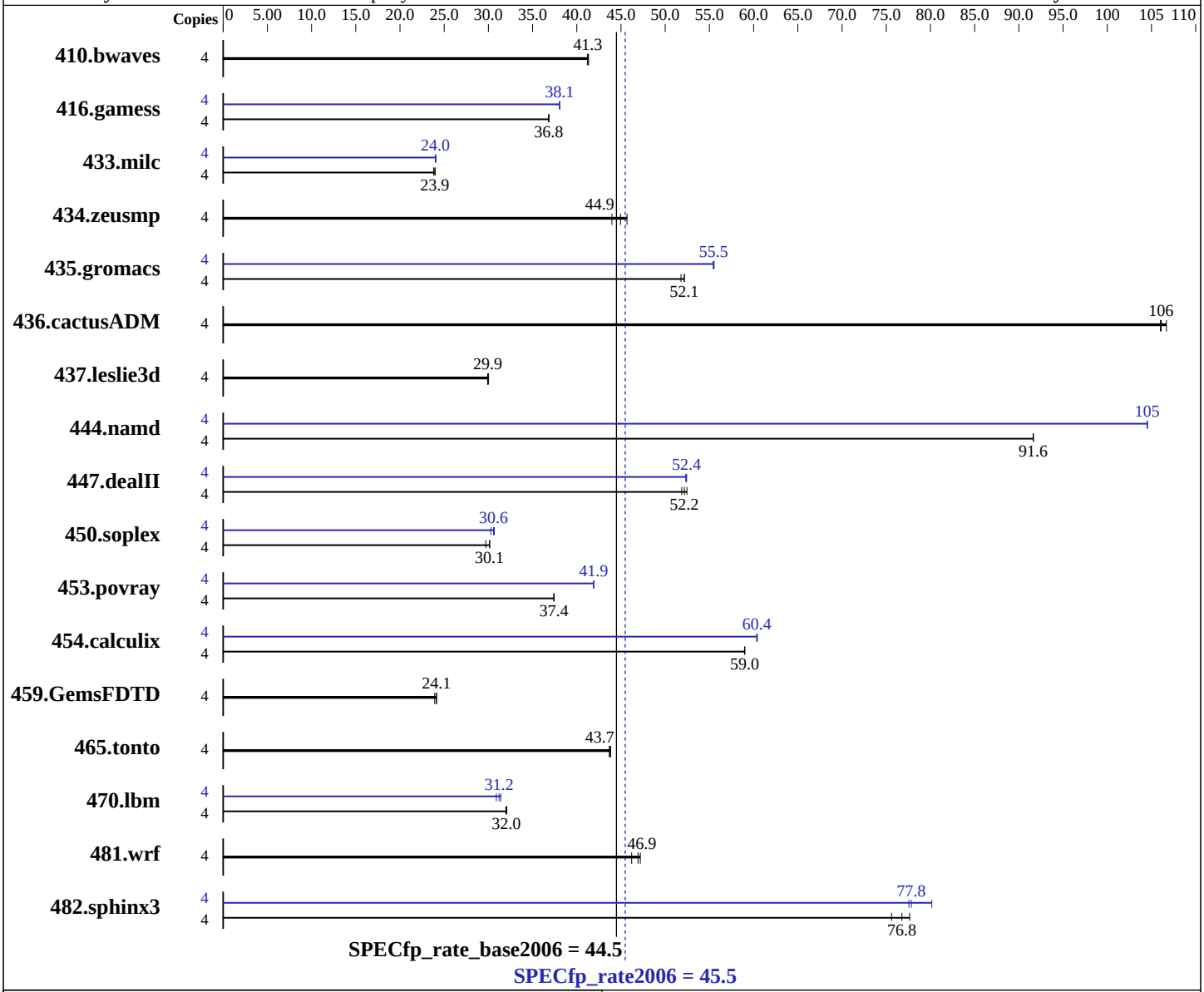
HP Integrity BL860c
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECfp®_rate2006 = 45.5

SPECfp_rate_base2006 = 44.5

CPU2006 license: 03
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jan-2007
Hardware Availability: Feb-2007
Software Availability: Nov-2006



Hardware

CPU Name:	Dual-Core Intel Itanium 2 9040
CPU Characteristics:	1.6GHz/18MB, 533MHz FSB
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1-2 chips
Primary Cache:	16 KB I + 16 KB D on chip per core
Secondary Cache:	1 MB I + 256 KB D on chip per core

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Software

Operating System:	Red Hat Enterprise Linux AS release 4 (Update 4)
Compiler:	Intel C++ Compiler 9.1 for Linux (Build 20061105) Intel Fortran Compiler 9.1 for Linux (Build 20061105)
Auto Parallel:	No
File System:	ext3
System State:	Multi-user

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L3 Cache: 9 MB I+D on chip per core
Other Cache: None
Memory: 12 GB (12x1GB DIMMs)
Disk Subsystem: 36GB 10K RPM SAS
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 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	4	1320	41.2	1315	41.3	**1318**	**41.3**	4	1320	41.2	1315	41.3	**1318**	**41.3**
416.gamess	4	**2127**	**36.8**	2126	36.8	2127	36.8	4	**2058**	**38.1**	2058	38.1	2059	38.0
433.milc	4	1543	23.8	1531	24.0	**1534**	**23.9**	4	1530	24.0	**1529**	**24.0**	1525	24.1
434.zeusmp	4	**810**	**44.9**	797	45.7	828	44.0	4	**810**	**44.9**	797	45.7	828	44.0
435.gromacs	4	**548**	**52.1**	551	51.8	547	52.2	4	514	55.5	**515**	**55.5**	515	55.4
436.cactusADM	4	451	106	**451**	**106**	448	107	4	451	106	**451**	**106**	448	107
437.leslie3d	4	**1257**	**29.9**	1257	29.9	1252	30.0	4	**1257**	**29.9**	1257	29.9	1252	30.0
444.namd	4	350	91.6	350	91.6	**350**	**91.6**	4	307	105	**307**	**105**	307	105
447.dealII	4	**877**	**52.2**	882	51.9	872	52.5	4	875	52.3	873	52.4	**873**	**52.4**
450.soplex	4	1106	30.2	1123	29.7	**1108**	**30.1**	4	1088	30.7	**1091**	**30.6**	1101	30.3
453.povray	4	569	37.4	**569**	**37.4**	569	37.4	4	508	41.9	**508**	**41.9**	508	41.9
454.calculix	4	559	59.0	560	59.0	**559**	**59.0**	4	547	60.3	**546**	**60.4**	546	60.4
459.GemsFDTD	4	1759	24.1	**1759**	**24.1**	1774	23.9	4	1759	24.1	**1759**	**24.1**	1774	23.9
465.tonto	4	**901**	**43.7**	898	43.8	901	43.7	4	**901**	**43.7**	898	43.8	901	43.7
470.lbm	4	**1715**	**32.0**	1714	32.1	1719	32.0	4	**1761**	**31.2**	1779	30.9	1750	31.4
481.wrf	4	947	47.2	967	46.2	**952**	**46.9**	4	947	47.2	967	46.2	**952**	**46.9**
482.sphinx3	4	1031	75.6	1004	77.7	**1016**	**76.8**	4	**1002**	**77.8**	1005	77.6	973	80.2

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

Operating System Notes

```
stacksize set to unlimited prior to run
```

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_LINUX -DSPEC_CPU_CASE_FLAG
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-fast -IPF_fp_relaxed -ansi-alias

C++ benchmarks:
-fast -IPF_fp_relaxed -ansi-alias

Fortran benchmarks:
-fast -IPF_fp_relaxed

Benchmarks using both Fortran and C:
-fast -IPF_fp_relaxed -ansi-alias

Peak Compiler Invocation

C benchmarks:
icc

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Peak Compiler Invocation (Continued)

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -fast -IPF_fp_relaxed -ansi-alias -fno-alias

470.lbm: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed -ansi-alias

482.sphinx3: Same as 470.lbm

C++ benchmarks:

444.namd: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed -no-prefetch -fno-alias

447.dealII: -fast -IPF_fp_relaxed -ansi-alias -no-alias-args

450.soplex: -fast -IPF_fp_relaxed -ansi-alias -inline-factor=150

453.povray: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -fast -IPF_fp_relaxed -inline-factor=150

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

Continued on next page

Peak Optimization Flags (Continued)

459.GemsFDTD: `basepeak = yes`

465.tonto: `basepeak = yes`

Benchmarks using both Fortran and C:

435.gromacs: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -IPF_fp_relaxed -fno-alias -inline-factor=150`

436.cactusADM: `basepeak = yes`

454.calculix: `-fast -IPF_fp_relaxed -fno-alias`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.00.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.00.xml`

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For other inquiries, please contact webmaster@spec.org.

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