SPEC® CFP2006 Result

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Hewlett-Packard Company

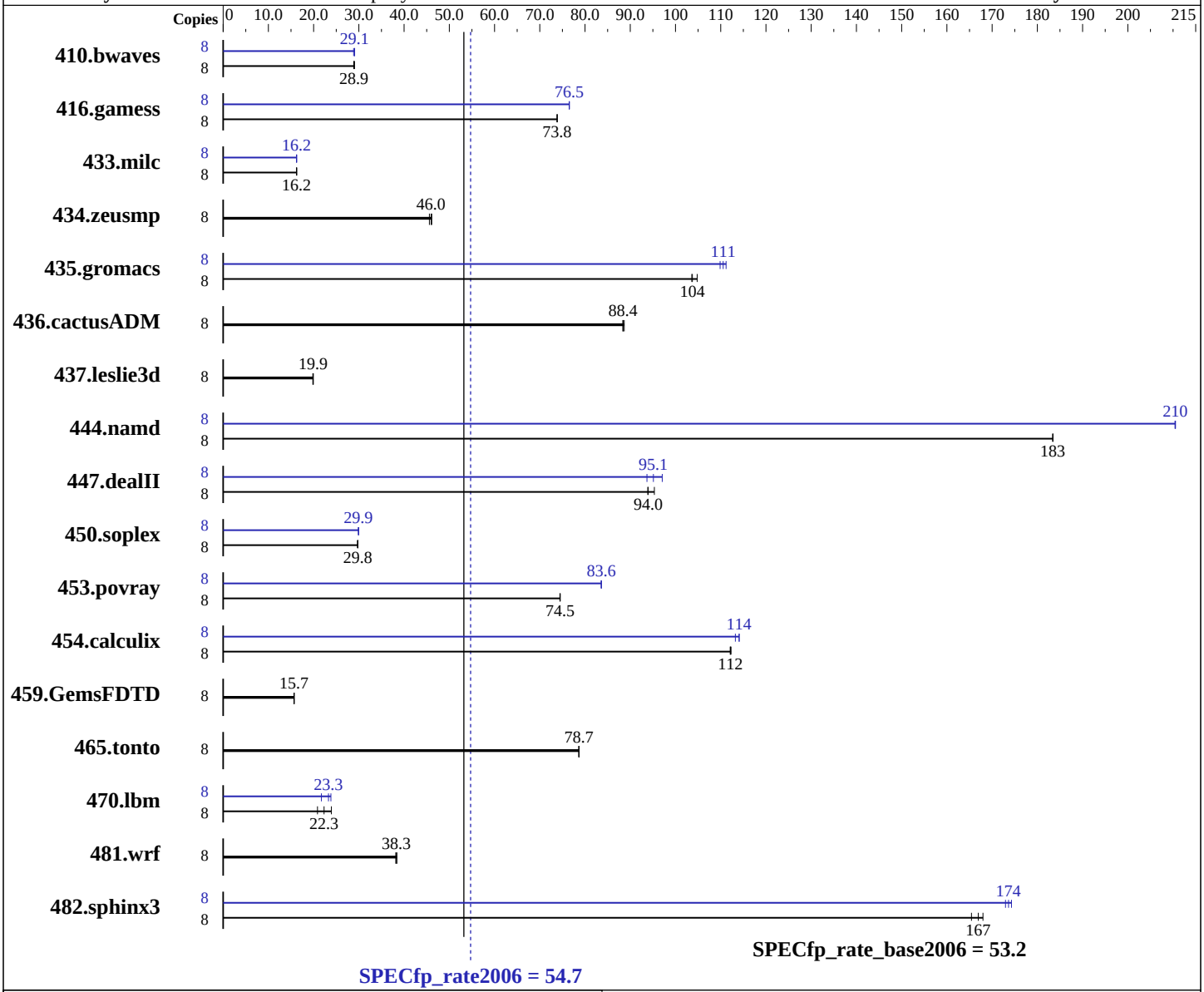
HP Integrity rx4640
(1.6GHz/24MB Dual-Core Intel Itanium 2)

SPECfp®_rate2006 = 54.7

SPECfp_rate_base2006 = 53.2

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

Test date: Oct-2006
Hardware Availability: Sep-2006
Software Availability: Nov-2006



Hardware

CPU Name:	Dual-Core Intel Itanium 2 9050
CPU Characteristics:	1.6GHz/24MB, 400MHz FSB
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	1-4 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 for Itanium version 9.1 (Build 20060818) Intel Fortran90 Compiler for Itanium version 9.1 (Build 20060818)
Auto Parallel:	No
File System:	ext3
System State:	Multi-user
Base Pointers:	64-bit

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L3 Cache: 12 MB I+D on chip per core
Other Cache: None
Memory: 32 GB (16x2GB DIMMs)
Disk Subsystem: 36GB 15K RPM SCSI
Other Hardware: None

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	8	**3758**	**28.9**	3766	28.9	3744	29.0	8	3740	29.1	3769	28.8	**3742**	**29.1**
416.gamess	8	2121	73.8	**2121**	**73.8**	2122	73.8	8	2047	76.5	2047	76.5	**2047**	**76.5**
433.milc	8	4520	16.2	4528	16.2	**4522**	**16.2**	8	**4525**	**16.2**	4521	16.2	4528	16.2
434.zeusmp	8	1597	45.6	**1584**	**46.0**	1579	46.1	8	1597	45.6	**1584**	**46.0**	1579	46.1
435.gromacs	8	**551**	**104**	551	104	545	105	8	514	111	**517**	**111**	520	110
436.cactusADM	8	1082	88.4	1078	88.7	**1081**	**88.4**	8	1082	88.4	1078	88.7	**1081**	**88.4**
437.leslie3d	8	3793	19.8	3774	19.9	**3779**	**19.9**	8	3793	19.8	3774	19.9	**3779**	**19.9**
444.namd	8	350	183	350	183	**350**	**183**	8	305	210	**305**	**210**	305	211
447.dealII	8	975	93.9	960	95.3	**974**	**94.0**	8	977	93.7	943	97.1	**962**	**95.1**
450.soplex	8	2239	29.8	2248	29.7	**2239**	**29.8**	8	2231	29.9	**2231**	**29.9**	2226	30.0
453.povray	8	571	74.5	572	74.4	**571**	**74.5**	8	509	83.6	509	83.6	**509**	**83.6**
454.calculix	8	589	112	588	112	**588**	**112**	8	**579**	**114**	579	114	583	113
459.GemsFDTD	8	5413	15.7	5410	15.7	**5412**	**15.7**	8	5413	15.7	5410	15.7	**5412**	**15.7**
465.tonto	8	1002	78.6	**1000**	**78.7**	1000	78.7	8	1002	78.6	**1000**	**78.7**	1000	78.7
470.lbm	8	5271	20.9	**4927**	**22.3**	4593	23.9	8	5061	21.7	**4721**	**23.3**	4614	23.8
481.wrf	8	2342	38.2	2327	38.4	**2332**	**38.3**	8	2342	38.2	2327	38.4	**2332**	**38.3**
482.sphinx3	8	**934**	**167**	942	165	928	168	8	895	174	**898**	**174**	902	173

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: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed

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

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

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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.html`

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

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

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