SPEC® CFP2006 Result

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Hewlett-Packard Company

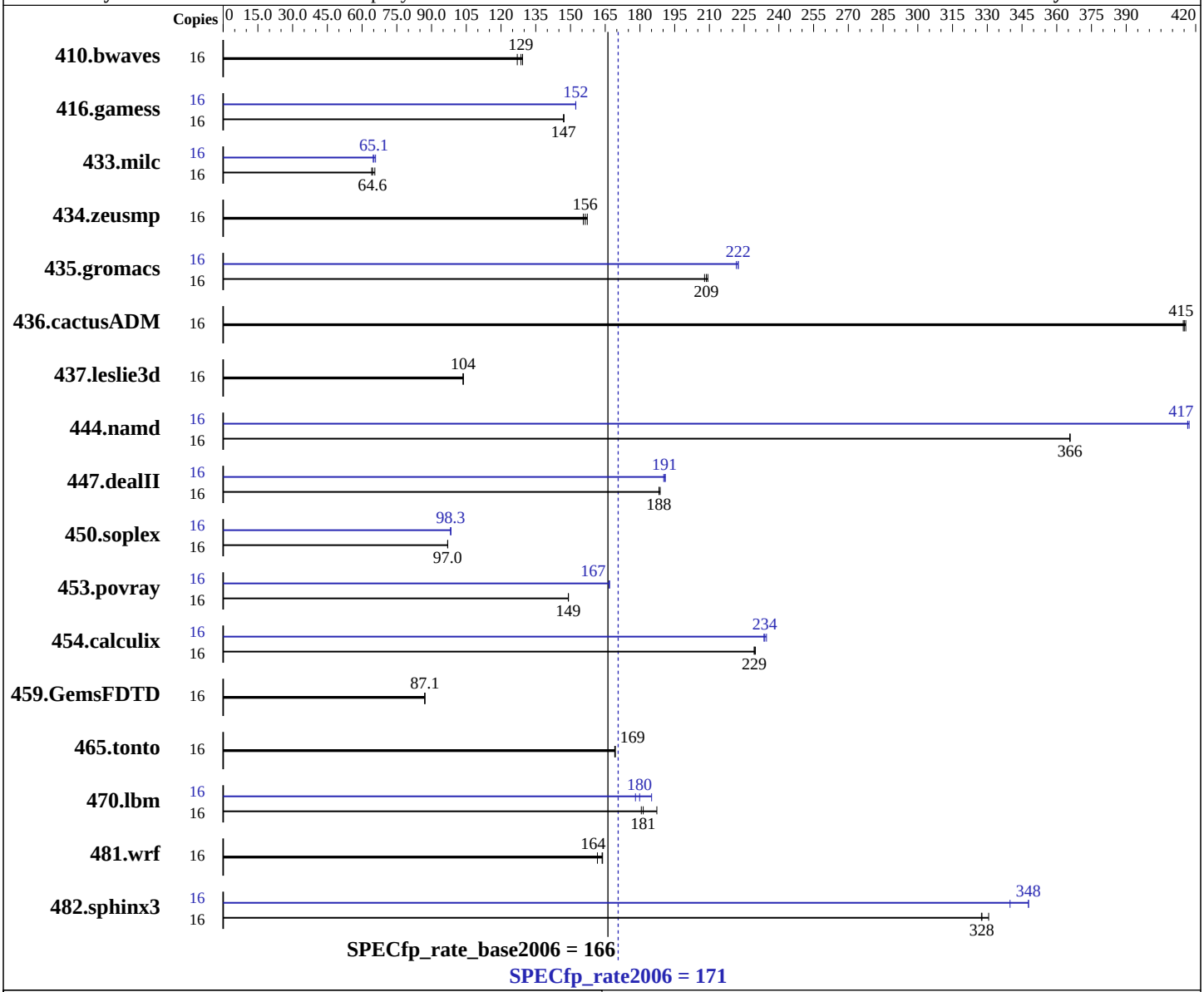
HP Integrity rx8640
(1.6GHz/24MB Dual-Core Intel Itanium 2)

SPECfp®_rate2006 = 171

SPECfp_rate_base2006 = 166

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

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



Hardware

CPU Name:	Dual-Core Intel Itanium 2 9050
CPU Characteristics:	1.6GHz/24MB, 533MHz FSB
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip
CPU(s) orderable:	1-16 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: 12 MB I+D on chip per core
Other Cache: None
Memory: 64 GB (32x2GB DIMMs)
Disk Subsystem: 73GB 15K RPM SCSI
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	16	1712	127	**1690**	**129**	1681	129	16	1712	127	**1690**	**129**	1681	129
416.gamess	16	2129	147	2131	147	**2130**	**147**	16	2057	152	**2057**	**152**	2058	152
433.milc	16	2290	64.1	2242	65.5	**2275**	**64.6**	16	2267	64.8	**2255**	**65.1**	2232	65.8
434.zeusmp	16	**931**	**156**	926	157	936	156	16	**931**	**156**	926	157	936	156
435.gromacs	16	546	209	**547**	**209**	549	208	16	**514**	**222**	516	222	514	222
436.cactusADM	16	461	415	460	416	**461**	**415**	16	461	415	460	416	**461**	**415**
437.leslie3d	16	1451	104	**1451**	**104**	1450	104	16	1451	104	**1451**	**104**	1450	104
444.namd	16	351	366	**351**	**366**	351	366	16	308	417	**308**	**417**	308	417
447.dealII	16	970	189	972	188	**972**	**188**	16	**960**	**191**	958	191	962	190
450.soplex	16	1376	97.0	1376	97.0	**1376**	**97.0**	16	1357	98.3	1359	98.2	**1358**	**98.3**
453.povray	16	**571**	**149**	571	149	571	149	16	510	167	**510**	**167**	510	167
454.calculix	16	574	230	576	229	**575**	**229**	16	**564**	**234**	563	235	565	234
459.GemsFDTD	16	1950	87.1	**1950**	**87.1**	1948	87.1	16	1950	87.1	**1950**	**87.1**	1948	87.1
465.tonto	16	930	169	931	169	**930**	**169**	16	930	169	931	169	**930**	**169**
470.lbm	16	**1212**	**181**	1217	181	1174	187	16	1235	178	1188	185	**1222**	**180**
481.wrf	16	1106	162	1091	164	**1092**	**164**	16	1106	162	1091	164	**1092**	**164**
482.sphinx3	16	952	327	**952**	**328**	943	331	16	**897**	**348**	918	340	897	348

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
```

Platform Notes

```
System was configured as a single partition with
2 cells and 4 processors (8 cores) per cell.
Memory was configured as 100% cell local.

The following config file entry was used to bind
processes to cores using the Linux "numactl" utility:
submit = let "MYNUM=$SPECCOPYNUM" ; let "NODE=\$MYNUM/8" ; numactl --cpubind \$NODE --membind \$NODE $command
```

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_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

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

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Peak Optimization Flags (Continued)

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

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.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.xml`

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

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