SPEC® CFP2006 Result

Hewlett-Packard Company

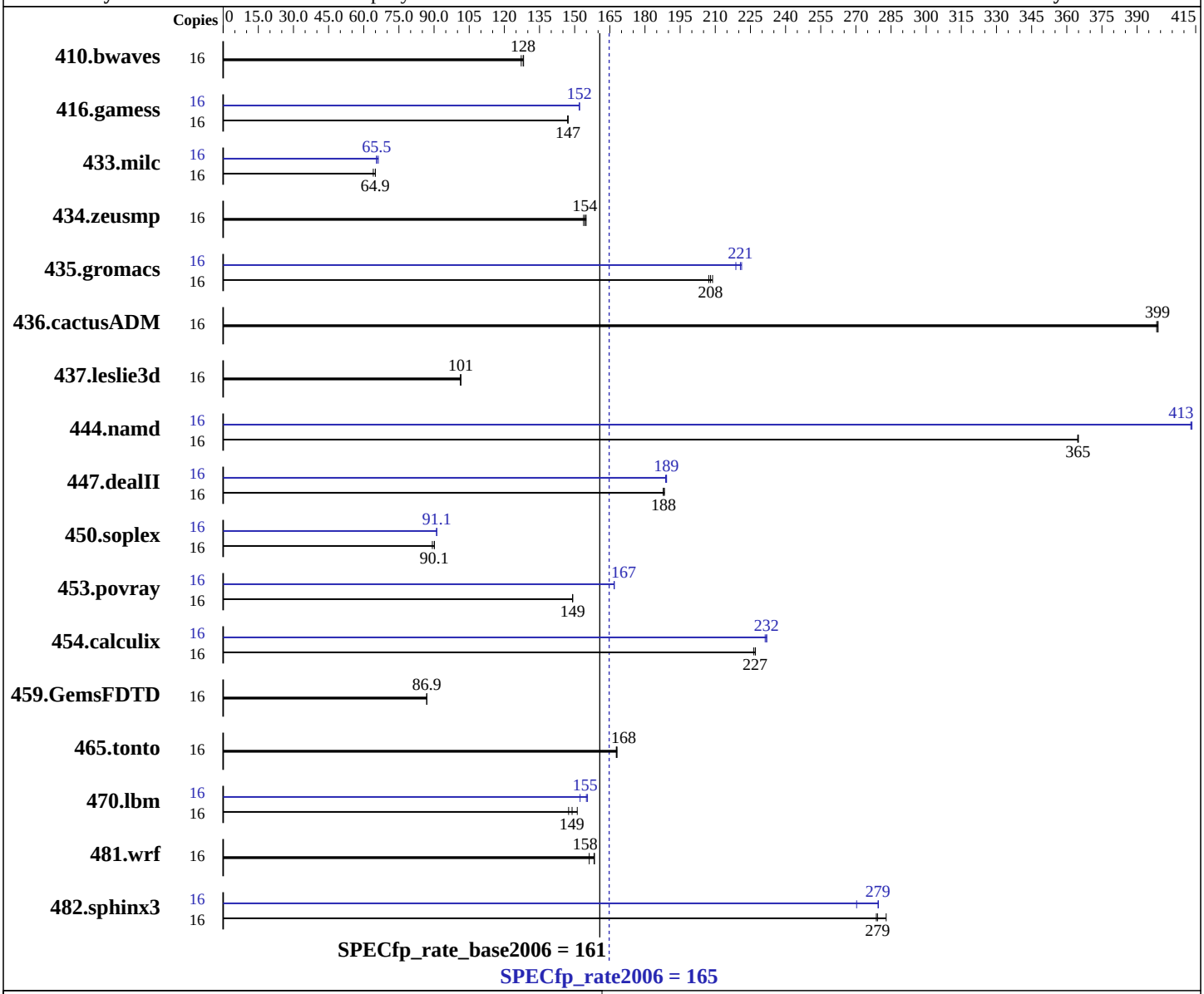
HP Integrity rx7640
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECfp®_rate2006 = 165

SPECfp_rate_base2006 = 161

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 9040
CPU Characteristics:	1.6GHz/18MB, 533MHz FSB
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip
CPU(s) orderable:	1-8 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: 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	1710	127	**1699**	**128**	1696	128	16	1710	127	**1699**	**128**	1696	128
416.gamess	16	2129	147	**2129**	**147**	2131	147	16	2062	152	2060	152	**2061**	**152**
433.milc	16	2293	64.1	**2262**	**64.9**	2261	65.0	16	2242	65.5	**2242**	**65.5**	2218	66.2
434.zeusmp	16	947	154	940	155	**943**	**154**	16	947	154	940	155	**943**	**154**
435.gromacs	16	**549**	**208**	547	209	551	207	16	**518**	**221**	522	219	516	221
436.cactusADM	16	479	399	**479**	**399**	480	398	16	479	399	**479**	**399**	480	398
437.leslie3d	16	**1484**	**101**	1483	101	1485	101	16	**1484**	**101**	1483	101	1485	101
444.namd	16	**352**	**365**	352	365	352	365	16	310	413	311	413	**311**	**413**
447.dealII	16	**974**	**188**	975	188	972	188	16	969	189	967	189	**968**	**189**
450.soplex	16	1495	89.3	**1481**	**90.1**	1480	90.2	16	1465	91.1	**1464**	**91.1**	1464	91.2
453.povray	16	571	149	571	149	**571**	**149**	16	510	167	**510**	**167**	510	167
454.calculix	16	583	226	581	227	**581**	**227**	16	**569**	**232**	569	232	571	231
459.GemsFDTD	16	**1954**	**86.9**	1952	87.0	1954	86.9	16	**1954**	**86.9**	1952	87.0	1954	86.9
465.tonto	16	937	168	**938**	**168**	938	168	16	937	168	**938**	**168**	938	168
470.lbm	16	1455	151	**1477**	**149**	1491	147	16	1443	152	1414	155	**1418**	**155**
481.wrf	16	1144	156	1128	158	**1129**	**158**	16	1144	156	1128	158	**1129**	**158**
482.sphinx3	16	1119	279	1102	283	**1117**	**279**	16	1115	280	**1116**	**279**	1154	270

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`

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
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