SPEC® CFP2006 Result

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Hewlett-Packard Company

HP Integrity rx2620
(1.6GHz/18MB Dual-Core Intel Itanium 2)

$SPECfp®\_rate2006 =$ 37.5

$SPECfp\_rate\_base2006 =$ 36.6

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

Copies	Benchmark	Base	Peak
410.bwaves	4 / 4	29.2	29.2
416.gamess	4 / 4	36.9	38.2
433.milc	4 / 4	17.4	17.5
434.zeusmp	4	38.4	
435.gromacs	4 / 4	52.0	55.4
436.cactusADM	4	75.1	
437.leslie3d	4	19.1	
444.namd	4 / 4	91.6	105
447.dealII	4 / 4	51.0	51.3
450.soplex	4 / 4	24.3	24.5
453.povray	4 / 4	37.2	41.8
454.calculix	4 / 4	56.8	57.6
459.GemsFDTD	4	14.8	
465.tonto	4	42.5	
470.lbm	4 / 4	17.9	18.0
481.wrf	4	34.2	
482.sphinx3	4 / 4	75.6	78.0

SPECfp_rate_base2006 = 36.6

SPECfp_rate2006 = 37.5

Hardware

CPU Name: Dual-Core Intel Itanium 2 9040

CPU Characteristics: 1.6GHz/18MB, 400MHz 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

Continued on next page

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

Continued on next page

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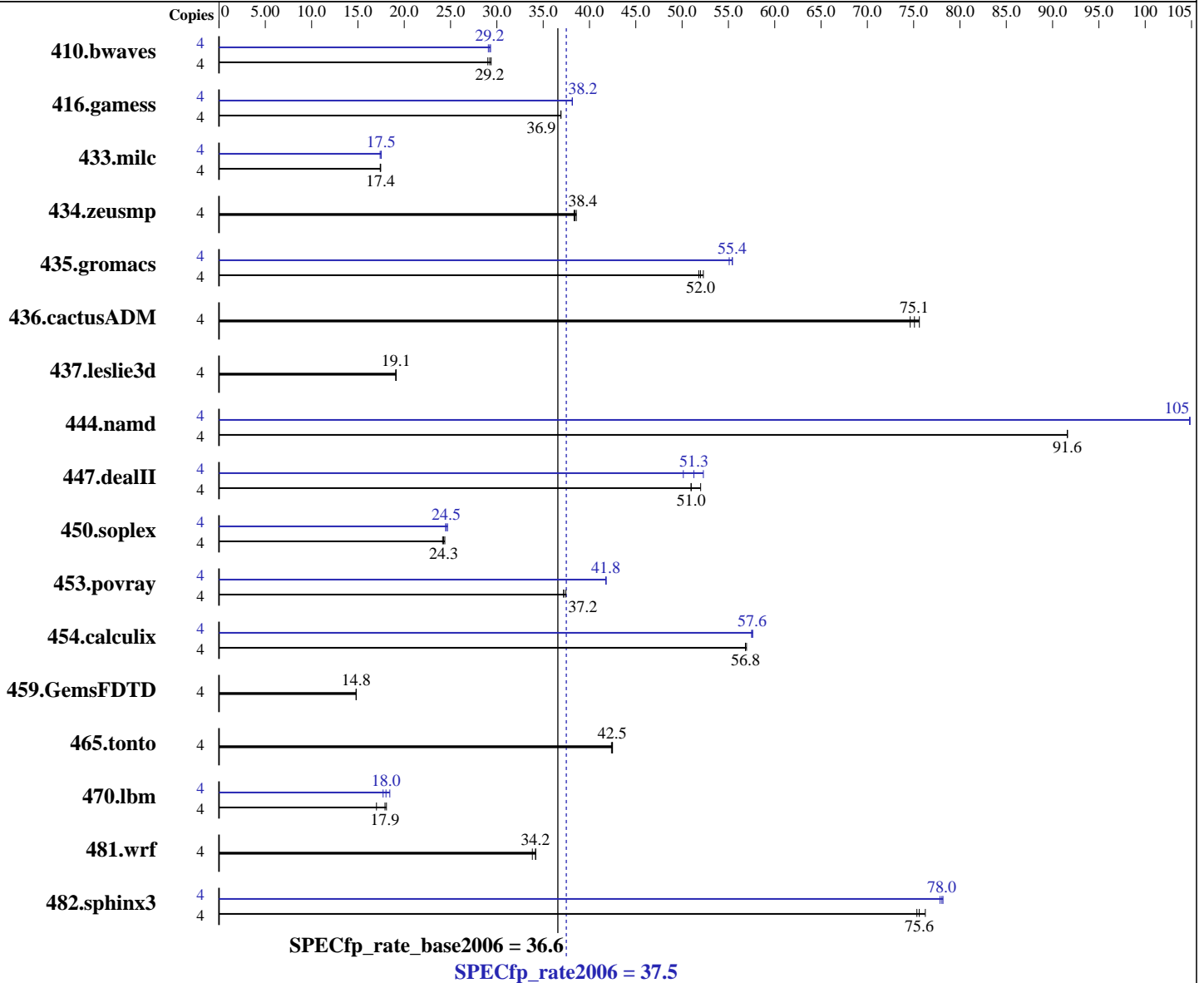|	
CPU2006 license: 03	**Test date:** Oct-2006
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L3 Cache:	9 MB I+D on chip per core	Peak Pointers: 64-bit
Other Cache:	None	Other Software: None
Memory:	24 GB (12x2GB DIMMs)	
Disk Subsystem:	36GB 15K RPM SCSI	
Other Hardware:	None	

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1873	29.0	**1860**	**29.2**	1850	29.4	4	1854	29.3	**1860**	**29.2**	1869	29.1
416.gamess	4	**2122**	**36.9**	2122	36.9	2121	36.9	4	2053	38.2	2053	38.1	**2053**	**38.2**
433.milc	4	2104	17.5	**2106**	**17.4**	2110	17.4	4	2111	17.4	2097	17.5	**2098**	**17.5**
434.zeusmp	4	950	38.3	943	38.6	**947**	**38.4**	4	950	38.3	943	38.6	**947**	**38.4**
435.gromacs	4	546	52.3	551	51.8	**549**	**52.0**	4	518	55.1	**515**	**55.4**	515	55.4
436.cactusADM	4	632	75.6	**637**	**75.1**	641	74.6	4	632	75.6	**637**	**75.1**	641	74.6
437.leslie3d	4	1972	19.1	**1966**	**19.1**	1965	19.1	4	1972	19.1	**1966**	**19.1**	1965	19.1
444.namd	4	350	91.6	**350**	**91.6**	350	91.6	4	**306**	**105**	306	105	306	105
447.dealII	4	880	52.0	898	51.0	**898**	**51.0**	4	875	52.3	**892**	**51.3**	913	50.1
450.soplex	4	1368	24.4	**1375**	**24.3**	1382	24.1	4	1352	24.7	**1359**	**24.5**	1364	24.5
453.povray	4	568	37.4	572	37.2	**572**	**37.2**	4	509	41.8	**509**	**41.8**	509	41.8
454.calculix	4	**581**	**56.8**	581	56.8	579	57.0	4	574	57.5	**573**	**57.6**	573	57.6
459.GemsFDTD	4	**2866**	**14.8**	2863	14.8	2867	14.8	4	**2866**	**14.8**	2863	14.8	2867	14.8
465.tonto	4	**927**	**42.5**	926	42.5	929	42.4	4	**927**	**42.5**	926	42.5	929	42.4
470.lbm	4	3232	17.0	**3067**	**17.9**	3040	18.1	4	3102	17.7	**3048**	**18.0**	2980	18.4
481.wrf	4	**1307**	**34.2**	1321	33.8	1307	34.2	4	**1307**	**34.2**	1321	33.8	1307	34.2
482.sphinx3	4	1035	75.3	1022	76.3	**1031**	**75.6**	4	997	78.2	1001	77.9	**999**	**78.0**

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

Fortran benchmarks:
    ifort

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Base Compiler Invocation (Continued)

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

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Peak Compiler Invocation (Continued)

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

  459.GemsFDTD: basepeak = yes
```

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Peak Optimization Flags (Continued)

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

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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