SPEC® CFP2006 Result

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Hewlett-Packard Company

HP Integrity rx6600
(1.6GHz/24MB Dual-Core Intel Itanium 2)

$SPECfp®\_rate2006 =$ 66.4

$SPECfp\_rate\_base2006 =$ 64.3

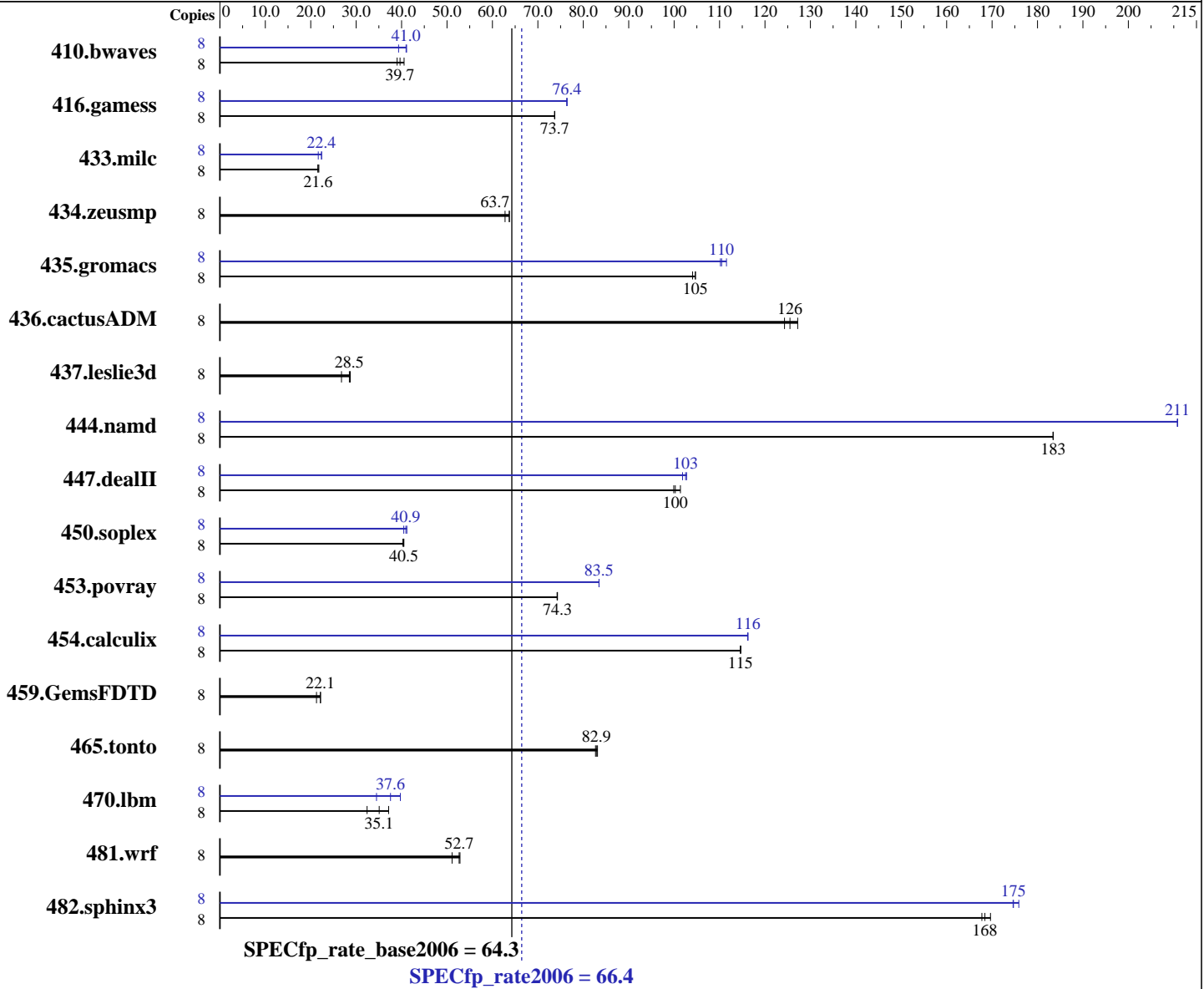|	
CPU2006 license: 03	**Test date:** Oct-2006
Test sponsor: Hewlett-Packard Company	**Hardware Availability:** Sep-2006
Tested by: Hewlett-Packard Company	**Software Availability:** Nov-2006

Copies

410.bwaves — 8: 41.0 / 8: 39.7
416.gamess — 8: 76.4 / 8: 73.7
433.milc — 8: 22.4 / 8: 21.6
434.zeusmp — 8: 63.7
435.gromacs — 8: 110 / 8: 105
436.cactusADM — 8: 126
437.leslie3d — 8: 28.5
444.namd — 8: 211 / 8: 183
447.dealII — 8: 103 / 8: 100
450.soplex — 8: 40.9 / 8: 40.5
453.povray — 8: 83.5 / 8: 74.3
454.calculix — 8: 116 / 8: 115
459.GemsFDTD — 8: 22.1
465.tonto — 8: 82.9
470.lbm — 8: 37.6 / 8: 35.1
481.wrf — 8: 52.7
482.sphinx3 — 8: 175 / 8: 168

SPECfp_rate_base2006 = 64.3

SPECfp_rate2006 = 66.4

Hardware

CPU Name:	Dual-Core Intel Itanium 2 9050
CPU Characteristics:	1.6GHz/24MB, 533MHz 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

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

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L3 Cache:	12 MB I+D on chip per core	Peak Pointers:	64-bit
Other Cache:	None	Other Software:	None
Memory:	24 GB (24x1GB DIMMs)		
Disk Subsystem:	2x73GB 10K RPM SAS (mirrored)		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	**2742**	**39.7**	2681	40.5	2787	39.0	8	2764	39.3	2645	41.1	**2653**	**41.0**
416.gamess	8	2125	73.7	2126	73.7	**2125**	**73.7**	8	2050	76.4	**2050**	**76.4**	2050	76.4
433.milc	8	**3400**	**21.6**	3402	21.6	3371	21.8	8	3391	21.7	3282	22.4	**3283**	**22.4**
434.zeusmp	8	1160	62.8	1142	63.7	**1143**	**63.7**	8	1160	62.8	1142	63.7	**1143**	**63.7**
435.gromacs	8	**546**	**105**	549	104	546	105	8	**517**	**110**	518	110	512	112
436.cactusADM	8	752	127	769	124	**762**	**126**	8	752	127	769	124	**762**	**126**
437.leslie3d	8	2809	26.8	**2639**	**28.5**	2621	28.7	8	2809	26.8	**2639**	**28.5**	2621	28.7
444.namd	8	350	183	**350**	**183**	350	183	8	**304**	**211**	304	211	304	211
447.dealII	8	**913**	**100**	903	101	916	99.9	8	891	103	899	102	**893**	**103**
450.soplex	8	1657	40.3	1647	40.5	**1649**	**40.5**	8	1648	40.5	**1630**	**40.9**	1621	41.2
453.povray	8	**573**	**74.3**	573	74.3	573	74.2	8	**510**	**83.5**	510	83.5	510	83.5
454.calculix	8	576	115	**576**	**115**	576	115	8	568	116	568	116	**568**	**116**
459.GemsFDTD	8	3992	21.3	**3837**	**22.1**	3830	22.2	8	3992	21.3	**3837**	**22.1**	3830	22.2
465.tonto	8	947	83.1	**950**	**82.9**	952	82.7	8	947	83.1	**950**	**82.9**	952	82.7
470.lbm	8	3393	32.4	**3134**	**35.1**	2959	37.2	8	3188	34.5	**2927**	**37.6**	2767	39.7
481.wrf	8	1748	51.1	**1697**	**52.7**	1691	52.9	8	1748	51.1	**1697**	**52.7**	1691	52.9
482.sphinx3	8	929	168	**926**	**168**	919	170	8	**892**	**175**	893	175	886	176

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
```

Continued on next page

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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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