# SPEC® CFP2006 Result



## Hewlett-Packard Company

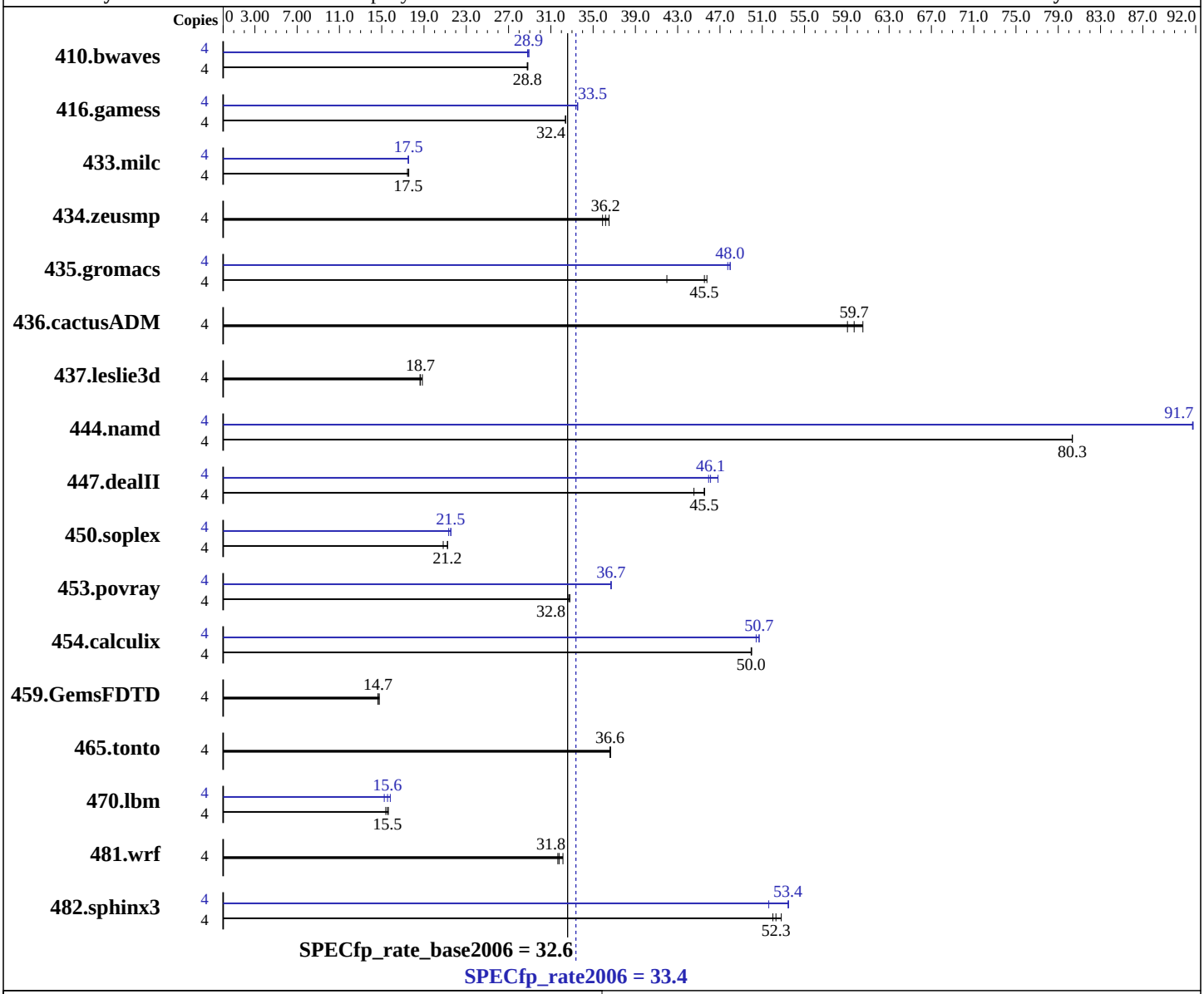
HP Integrity rx2620
(1.4GHz/12MB Dual-Core Intel Itanium 2)

SPECfp®_rate2006 = 33.4

SPECfp_rate_base2006 = 32.6

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

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




### Hardware

| | |
|---|---|
| CPU Name: | Dual-Core Intel Itanium 2 9015 |
| CPU Characteristics: | 1.4GHz/12MB, 400MHz FSB |
| CPU MHz: | 1400 |
| 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 |

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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)<br>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: 6 MB I+D on chip per core
Other Cache: None
Memory: 24 GB (12x2GB DIMMs)
Disk Subsystem: 146GB 10K 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 | 4 | 1886 | 28.8 | 1889 | 28.8 | **1889** | **28.8** | 4 | 1888 | 28.8 | 1879 | 28.9 | **1881** | **28.9** |
| 416.gamess | 4 | **2418** | **32.4** | 2418 | 32.4 | 2418 | 32.4 | 4 | **2336** | **33.5** | 2336 | 33.5 | 2335 | 33.5 |
| 433.milc | 4 | 2091 | 17.6 | 2106 | 17.4 | **2096** | **17.5** | 4 | 2094 | 17.5 | **2094** | **17.5** | 2098 | 17.5 |
| 434.zeusmp | 4 | 1014 | 35.9 | **1006** | **36.2** | 997 | 36.5 | 4 | 1014 | 35.9 | **1006** | **36.2** | 997 | 36.5 |
| 435.gromacs | 4 | **627** | **45.5** | 624 | 45.8 | 680 | 42.0 | 4 | **596** | **48.0** | 595 | 48.0 | 598 | 47.7 |
| 436.cactusADM | 4 | 809 | 59.1 | 790 | 60.5 | **801** | **59.7** | 4 | 809 | 59.1 | 790 | 60.5 | **801** | **59.7** |
| 437.leslie3d | 4 | 1995 | 18.8 | **2016** | **18.7** | 2019 | 18.6 | 4 | 1995 | 18.8 | **2016** | **18.7** | 2019 | 18.6 |
| 444.namd | 4 | **399** | **80.3** | 399 | 80.3 | 399 | 80.3 | 4 | 350 | 91.7 | 350 | 91.7 | **350** | **91.7** |
| 447.dealII | 4 | 1005 | 45.6 | 1027 | 44.5 | **1006** | **45.5** | 4 | 978 | 46.8 | **992** | **46.1** | 996 | 45.9 |
| 450.soplex | 4 | 1571 | 21.2 | **1573** | **21.2** | 1603 | 20.8 | 4 | **1549** | **21.5** | 1564 | 21.3 | 1549 | 21.5 |
| 453.povray | 4 | **649** | **32.8** | 649 | 32.8 | 651 | 32.7 | 4 | 580 | 36.7 | 580 | 36.7 | **580** | **36.7** |
| 454.calculix | 4 | 660 | 50.0 | 661 | 49.9 | **661** | **50.0** | 4 | 651 | 50.7 | **651** | **50.7** | 654 | 50.4 |
| 459.GemsFDTD | 4 | 2896 | 14.7 | 2873 | 14.8 | **2895** | **14.7** | 4 | 2896 | 14.7 | 2873 | 14.8 | **2895** | **14.7** |
| 465.tonto | 4 | **1075** | **36.6** | 1074 | 36.6 | 1075 | 36.6 | 4 | **1075** | **36.6** | 1074 | 36.6 | 1075 | 36.6 |
| 470.lbm | 4 | 3573 | 15.4 | **3537** | **15.5** | 3516 | 15.6 | 4 | 3606 | 15.2 | **3534** | **15.6** | 3476 | 15.8 |
| 481.wrf | 4 | 1411 | 31.7 | 1390 | 32.1 | **1406** | **31.8** | 4 | 1411 | 31.7 | 1390 | 32.1 | **1406** | **31.8** |
| 482.sphinx3 | 4 | **1491** | **52.3** | 1499 | 52.0 | 1477 | 52.8 | 4 | 1510 | 51.6 | 1457 | 53.5 | **1459** | **53.4** |

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

Continued on next page

## 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`



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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 10:03:49 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 28 November 2006.