# SPEC® CFP2006 Result

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## IBM Corporation

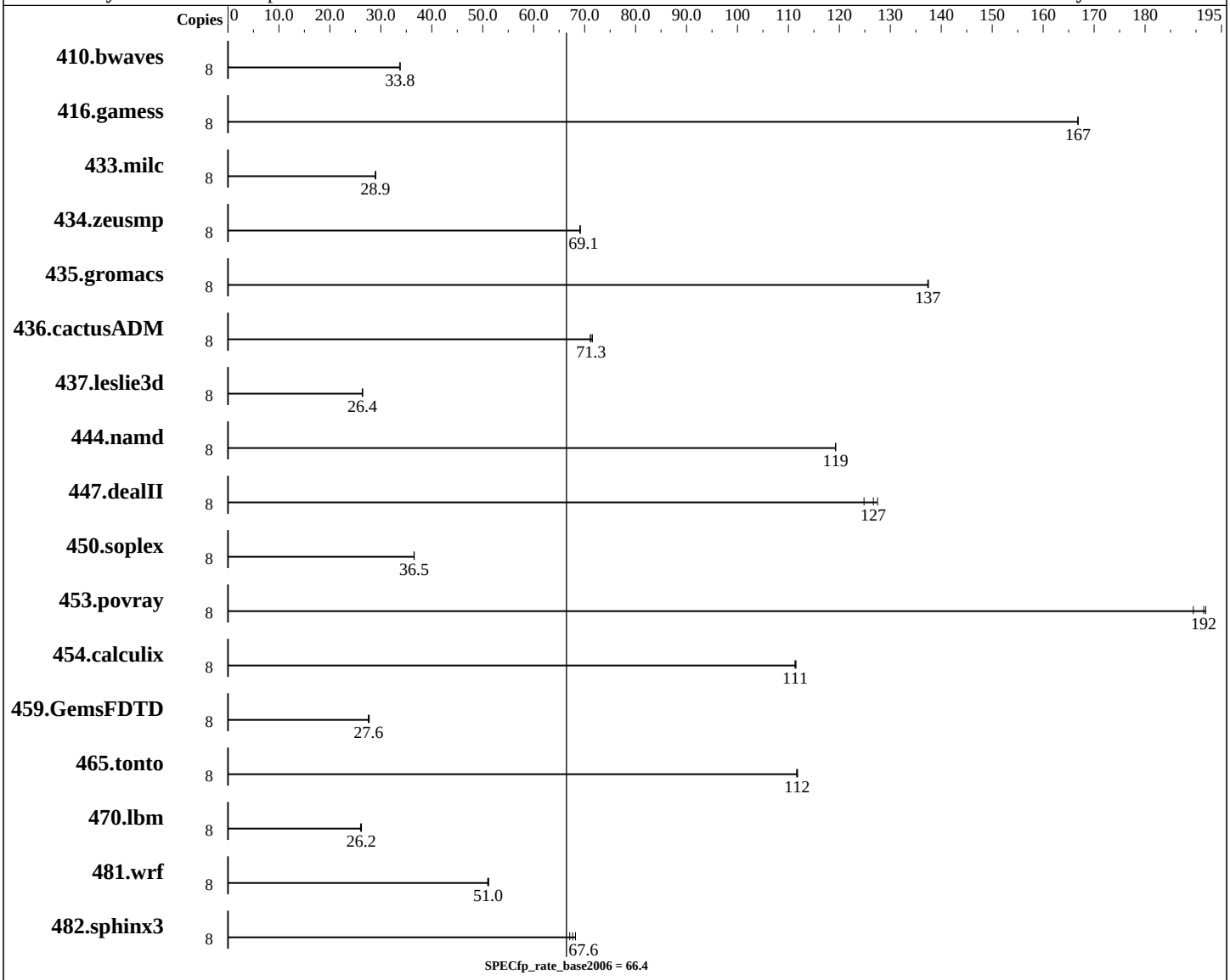
## IBM BladeCenter HS21 (Intel Xeon E5440)

SPECfp®_rate2006 = Not Run

SPECfp_rate_base2006 = 66.4

**CPU2006 license:** 11
**Test sponsor:** IBM Corporation
**Tested by:** IBM Corporation

**Test date:** Nov-2007
**Hardware Availability:** Jan-2008
**Software Availability:** Nov-2007




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5440 |
| CPU Characteristics: | 1333MHz system bus |
| CPU MHz: | 2833 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 12 MB I+D on chip per chip, 6 MB shared / 2 cores |

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### Software

| | |
|---|---|
| Operating System: | SuSE Linux Enterprise Server 10 (x86_64), kernel 2.6.16.21-0.8-smp |
| Compiler: | Intel C++ and Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008 |
| Auto Parallel: | No |
| File System: | ReiserFS |
| System State: | Multi-user, run level 3 |
| Base Pointers: | 64-bit |

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2 GB DDR2-5300F ECC)
Disk Subsystem: 1 x 36 GB SAS, 10000 RPM
Other Hardware: Memory and I/O Expansion Unit (P/N 42C1600)

Peak Pointers: Not Applicable
Other Software: Binutils 2.17.50.0.15

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 8 | 3220 | 33.8 | 3219 | 33.8 | **3220** | **33.8** | | | | | | | |
| 416.gamess | 8 | **939** | **167** | 939 | 167 | 939 | 167 | | | | | | | |
| 433.milc | 8 | **2537** | **28.9** | 2540 | 28.9 | 2531 | 29.0 | | | | | | | |
| 434.zeusmp | 8 | **1053** | **69.1** | 1054 | 69.1 | 1053 | 69.2 | | | | | | | |
| 435.gromacs | 8 | **416** | **137** | 415 | 137 | 416 | 137 | | | | | | | |
| 436.cactusADM | 8 | **1341** | **71.3** | 1345 | 71.1 | 1336 | 71.5 | | | | | | | |
| 437.leslie3d | 8 | 2854 | 26.4 | **2848** | **26.4** | 2844 | 26.4 | | | | | | | |
| 444.namd | 8 | 538 | 119 | 538 | 119 | **538** | **119** | | | | | | | |
| 447.dealII | 8 | **723** | **127** | 733 | 125 | 718 | 127 | | | | | | | |
| 450.soplex | 8 | 1827 | 36.5 | 1825 | 36.6 | **1826** | **36.5** | | | | | | | |
| 453.povray | 8 | 225 | 189 | **222** | **192** | 222 | 192 | | | | | | | |
| 454.calculix | 8 | **593** | **111** | 592 | 111 | 593 | 111 | | | | | | | |
| 459.GemsFDTD | 8 | 3061 | 27.7 | 3082 | 27.5 | **3074** | **27.6** | | | | | | | |
| 465.tonto | 8 | 705 | 112 | 704 | 112 | **705** | **112** | | | | | | | |
| 470.lbm | 8 | **4198** | **26.2** | 4224 | 26.0 | 4195 | 26.2 | | | | | | | |
| 481.wrf | 8 | **1751** | **51.0** | 1746 | 51.2 | 1753 | 51.0 | | | | | | | |
| 482.sphinx3 | 8 | 2286 | 68.2 | **2305** | **67.6** | 2325 | 67.1 | | | | | | | |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## General Notes

```
All benchmarks compiled in 64-bit mode
Hardware Sector Prefetch Disabled and Adjacent Sector Prefetch Disabled
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
taskset utility used to bind CPU(s) to processes
```

## Base Compiler Invocation

C benchmarks:

```
icc
```

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## Base Compiler Invocation (Continued)

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_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

## Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.11.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.11.xml


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

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