# SPEC® CFP2006 Result



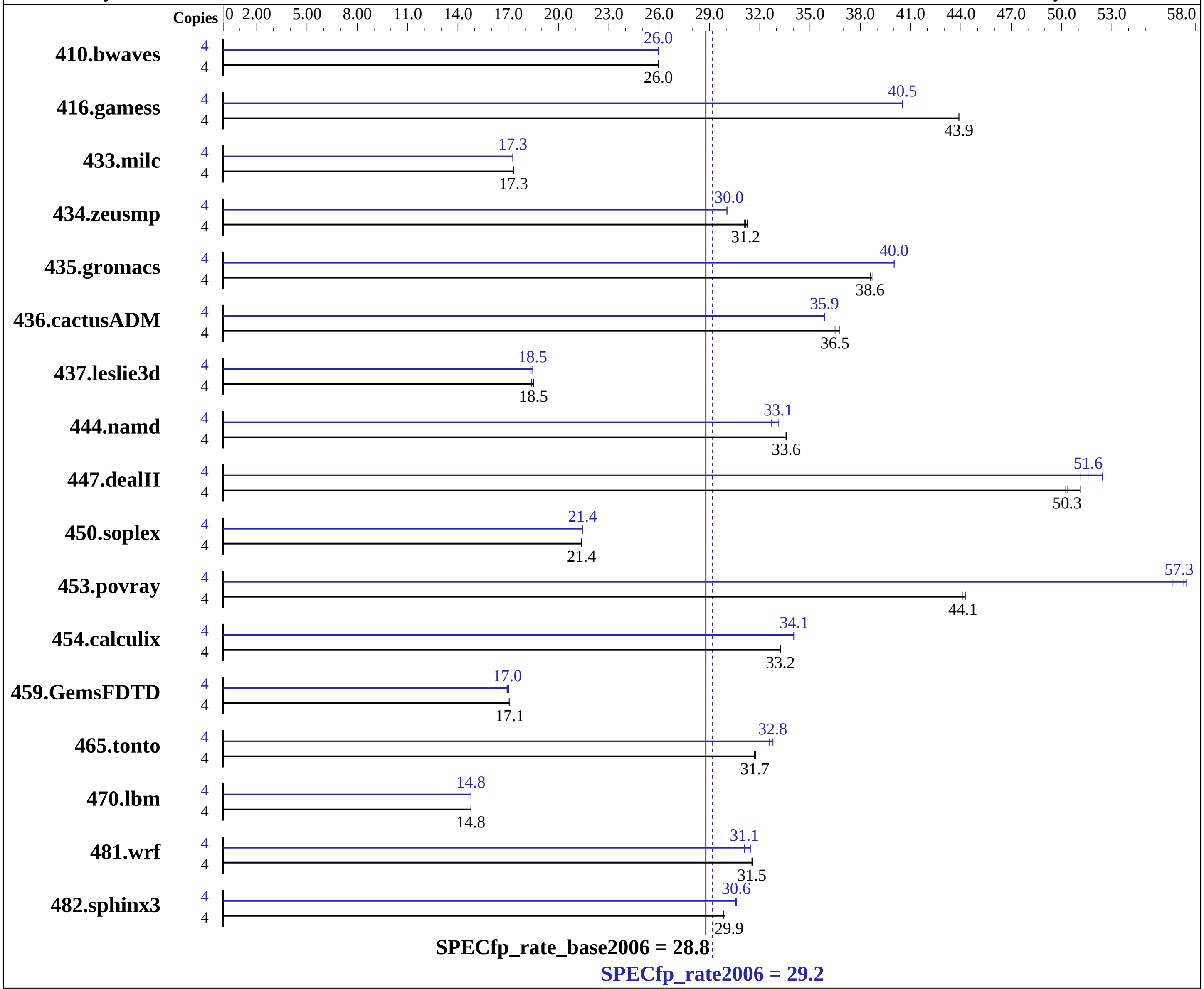
## Bull SAS

NovaScale R460
(Intel Xeon processor 5110,1.60GHz)

SPECfp®_rate2006 = 29.2

SPECfp_rate_base2006 = 28.8

| | | | |
|---|---|---|---|
| **CPU2006 license:** | 20 | **Test date:** | May-2007 |
| **Test sponsor:** | Bull SAS | **Hardware Availability:** | Mar-2007 |
| **Tested by:** | Bull SAS | **Software Availability:** | Dec-2006 |




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon 5110 |
| CPU Characteristics: | 1.60 GHz, 4 MB L2, 1066 MHz system bus |
| CPU MHz: | 1600 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 1 to 2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 4 MB I+D on chip per chip |

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## Software

| | |
|---|---|
| Operating System: | SuSE Linux Enterprise Server 10 (EM64T)<br>kernel 2.6.16.21-0.8-smp |
| Compiler: | Intel C++ Compiler for Intel EM64T-based applications, Version 9.1<br>Package ID l_cc_c_9.1.045 Build no 20061101<br>Intel Fortran Compiler for Intel EM64T-based applications, Version 9.1<br>Package ID l_fc_c_9.1.040 Build no 20061101 |
| Auto Parallel: | No |

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| | | | |
|---|---|---|---|
| L3 Cache: | None | File System: | ext2 |
| Other Cache: | None | System State: | Multi-user run level 3 |
| Memory: | 24 GB (12x2 GB) FB-DIMM PC2-5300F ECC CL5 | Base Pointers: | 64-bit |
| Disk Subsystem: | 1x73 GB SAS, 15000 RPM | Peak Pointers: | 32/64-bit |
| Other Hardware: | None | Other Software: | None |

## Results Table

| | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Benchmark** | **Copies** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Copies** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** |
| 410.bwaves | 4 | **2095** | **26.0** | 2095 | 26.0 | 2095 | 25.9 | 4 | 2093 | 26.0 | **2094** | **26.0** | 2094 | 26.0 |
| 416.gamess | 4 | 1785 | 43.9 | 1787 | 43.8 | **1785** | **43.9** | 4 | 1933 | 40.5 | 1934 | 40.5 | **1933** | **40.5** |
| 433.milc | 4 | 2121 | 17.3 | 2120 | 17.3 | **2120** | **17.3** | 4 | **2125** | **17.3** | 2125 | 17.3 | 2127 | 17.3 |
| 434.zeusmp | 4 | 1164 | 31.3 | **1168** | **31.2** | 1171 | 31.1 | 4 | **1212** | **30.0** | 1211 | 30.1 | 1216 | 29.9 |
| 435.gromacs | 4 | 740 | 38.6 | **740** | **38.6** | 738 | 38.7 | 4 | 713 | 40.0 | **714** | **40.0** | 715 | 40.0 |
| 436.cactusADM | 4 | 1312 | 36.4 | **1310** | **36.5** | 1300 | 36.8 | 4 | **1333** | **35.9** | 1339 | 35.7 | 1332 | 35.9 |
| 437.leslie3d | 4 | **2032** | **18.5** | 2030 | 18.5 | 2044 | 18.4 | 4 | 2047 | 18.4 | 2036 | 18.5 | **2037** | **18.5** |
| 444.namd | 4 | **955** | **33.6** | 955 | 33.6 | 956 | 33.6 | 4 | 968 | 33.1 | 981 | 32.7 | **969** | **33.1** |
| 447.dealII | 4 | **909** | **50.3** | 911 | 50.2 | 895 | 51.1 | 4 | 895 | 51.1 | **887** | **51.6** | 873 | 52.4 |
| 450.soplex | 4 | 1562 | 21.4 | **1561** | **21.4** | 1561 | 21.4 | 4 | 1558 | 21.4 | **1556** | **21.4** | 1556 | 21.4 |
| 453.povray | 4 | 483 | 44.1 | 481 | 44.3 | **482** | **44.1** | 4 | **371** | **57.3** | 376 | 56.6 | 370 | 57.5 |
| 454.calculix | 4 | **993** | **33.2** | 993 | 33.2 | 994 | 33.2 | 4 | 970 | 34.0 | **969** | **34.1** | 969 | 34.1 |
| 459.GemsFDTD | 4 | 2482 | 17.1 | 2489 | 17.0 | **2483** | **17.1** | 4 | **2503** | **17.0** | 2492 | 17.0 | 2508 | 16.9 |
| 465.tonto | 4 | 1239 | 31.8 | **1241** | **31.7** | 1242 | 31.7 | 4 | 1200 | 32.8 | **1201** | **32.8** | 1209 | 32.6 |
| 470.lbm | 4 | 3719 | 14.8 | 3721 | 14.8 | **3720** | **14.8** | 4 | **3719** | **14.8** | 3721 | 14.8 | 3718 | 14.8 |
| 481.wrf | 4 | 1415 | 31.6 | **1417** | **31.5** | 1417 | 31.5 | 4 | 1420 | 31.5 | **1437** | **31.1** | 1438 | 31.1 |
| 482.sphinx3 | 4 | 2611 | 29.9 | 2604 | 29.9 | **2610** | **29.9** | 4 | 2550 | 30.6 | 2547 | 30.6 | **2548** | **30.6** |

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

## Operating System Notes

```
Environment stack size set to 'unlimited'
'/usr/bin/taskset' used to bind processes to CPUs
```

## General Notes

```
The NovaScale R440 and the NovaScale R460 models are
electronically equivalent.
The results have been measured on a NovaScale R460 model.
```

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## 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_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`

## 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:
-prof_gen(pass 1) -prof_use(pass 2) -fast -auto_ilp32

C++ benchmarks:
-prof_gen(pass 1) -prof_use(pass 2) -fast -auto_ilp32

Fortran benchmarks:
-prof_gen(pass 1) -prof_use(pass 2) -fast

Benchmarks using both Fortran and C:
-prof_gen(pass 1) -prof_use(pass 2) -fast -auto_ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/EM64T_Intel91_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/EM64T_Intel91_flags.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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