# SPEC® CFP2006 Result

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## Bull SAS

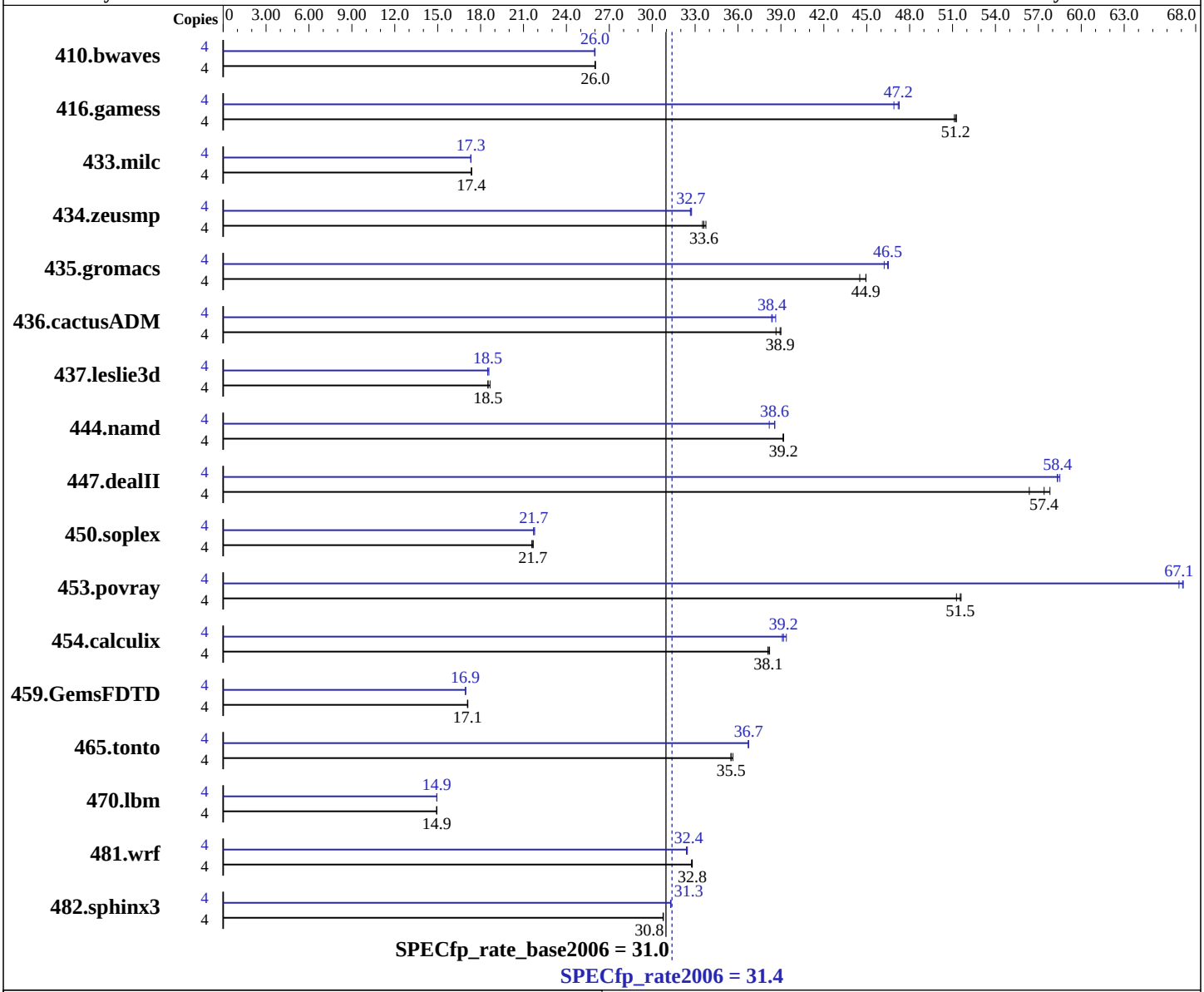
NovaScale R460
(Intel Xeon processor 5120,1.86GHz)

SPECfp®_rate2006 = 31.4

SPECfp_rate_base2006 = 31.0

**CPU2006 license:** 20
**Test sponsor:** Bull SAS
**Tested by:** Bull SAS

**Test date:** May-2007
**Hardware Availability:** Mar-2007
**Software Availability:** Dec-2006




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon 5120 |
| CPU Characteristics: | 1.86 GHz, 4 MB L2, 1066 MHz system bus |
| CPU MHz: | 1866 |
| 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 |

Continued on next page

### Software

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

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L3 Cache: None
Other Cache: None
Memory: 24 GB (12x2 GB) FB-DIMM PC2-5300F ECC CL5
Disk Subsystem: 1x73 GB SAS, 15000 RPM
Other Hardware: None

File System: ext2
System State: Multi-user run level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-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 | **2089** | **26.0** | 2089 | 26.0 | 2091 | 26.0 | 4 | 2090 | 26.0 | 2094 | 26.0 | **2091** | **26.0** |
| 416.gamess | 4 | **1529** | **51.2** | 1532 | 51.1 | 1528 | 51.3 | 4 | **1659** | **47.2** | 1657 | 47.3 | 1670 | 46.9 |
| 433.milc | 4 | 2114 | 17.4 | 2115 | 17.4 | **2115** | **17.4** | 4 | **2120** | **17.3** | 2120 | 17.3 | 2121 | 17.3 |
| 434.zeusmp | 4 | 1086 | 33.5 | 1078 | 33.8 | **1083** | **33.6** | 4 | 1111 | 32.8 | **1113** | **32.7** | 1114 | 32.7 |
| 435.gromacs | 4 | **635** | **44.9** | 635 | 44.9 | 642 | 44.5 | 4 | 618 | 46.2 | 614 | 46.5 | **615** | **46.5** |
| 436.cactusADM | 4 | 1226 | 39.0 | **1227** | **38.9** | 1237 | 38.7 | 4 | 1246 | 38.4 | **1245** | **38.4** | 1237 | 38.6 |
| 437.leslie3d | 4 | 2015 | 18.7 | **2030** | **18.5** | 2031 | 18.5 | 4 | 2032 | 18.5 | 2023 | 18.6 | **2032** | **18.5** |
| 444.namd | 4 | **819** | **39.2** | 819 | 39.1 | 819 | 39.2 | 4 | 840 | 38.2 | **832** | **38.6** | 832 | 38.6 |
| 447.dealII | 4 | 812 | 56.4 | **797** | **57.4** | 792 | 57.8 | 4 | 785 | 58.3 | 782 | 58.5 | **784** | **58.4** |
| 450.soplex | 4 | 1546 | 21.6 | 1539 | 21.7 | **1540** | **21.7** | 4 | **1536** | **21.7** | 1532 | 21.8 | 1537 | 21.7 |
| 453.povray | 4 | 412 | 51.6 | 415 | 51.3 | **413** | **51.5** | 4 | 317 | 67.1 | **317** | **67.1** | 318 | 66.8 |
| 454.calculix | 4 | 864 | 38.2 | 866 | 38.1 | **866** | **38.1** | 4 | 838 | 39.4 | **842** | **39.2** | 844 | 39.1 |
| 459.GemsFDTD | 4 | 2480 | 17.1 | **2483** | **17.1** | 2484 | 17.1 | 4 | 2507 | 16.9 | 2501 | 17.0 | **2506** | **16.9** |
| 465.tonto | 4 | 1104 | 35.6 | 1108 | 35.5 | **1108** | **35.5** | 4 | **1071** | **36.7** | 1071 | 36.7 | 1072 | 36.7 |
| 470.lbm | 4 | **3680** | **14.9** | 3681 | 14.9 | 3680 | 14.9 | 4 | 3679 | 14.9 | 3678 | 14.9 | **3678** | **14.9** |
| 481.wrf | 4 | 1362 | 32.8 | 1364 | 32.7 | **1362** | **32.8** | 4 | 1379 | 32.4 | 1377 | 32.5 | **1378** | **32.4** |
| 482.sphinx3 | 4 | 2535 | 30.8 | **2533** | **30.8** | 2533 | 30.8 | 4 | 2489 | 31.3 | **2491** | **31.3** | 2492 | 31.3 |

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.
```

## 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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