# SPEC® CFP2006 Result

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## Bull SAS

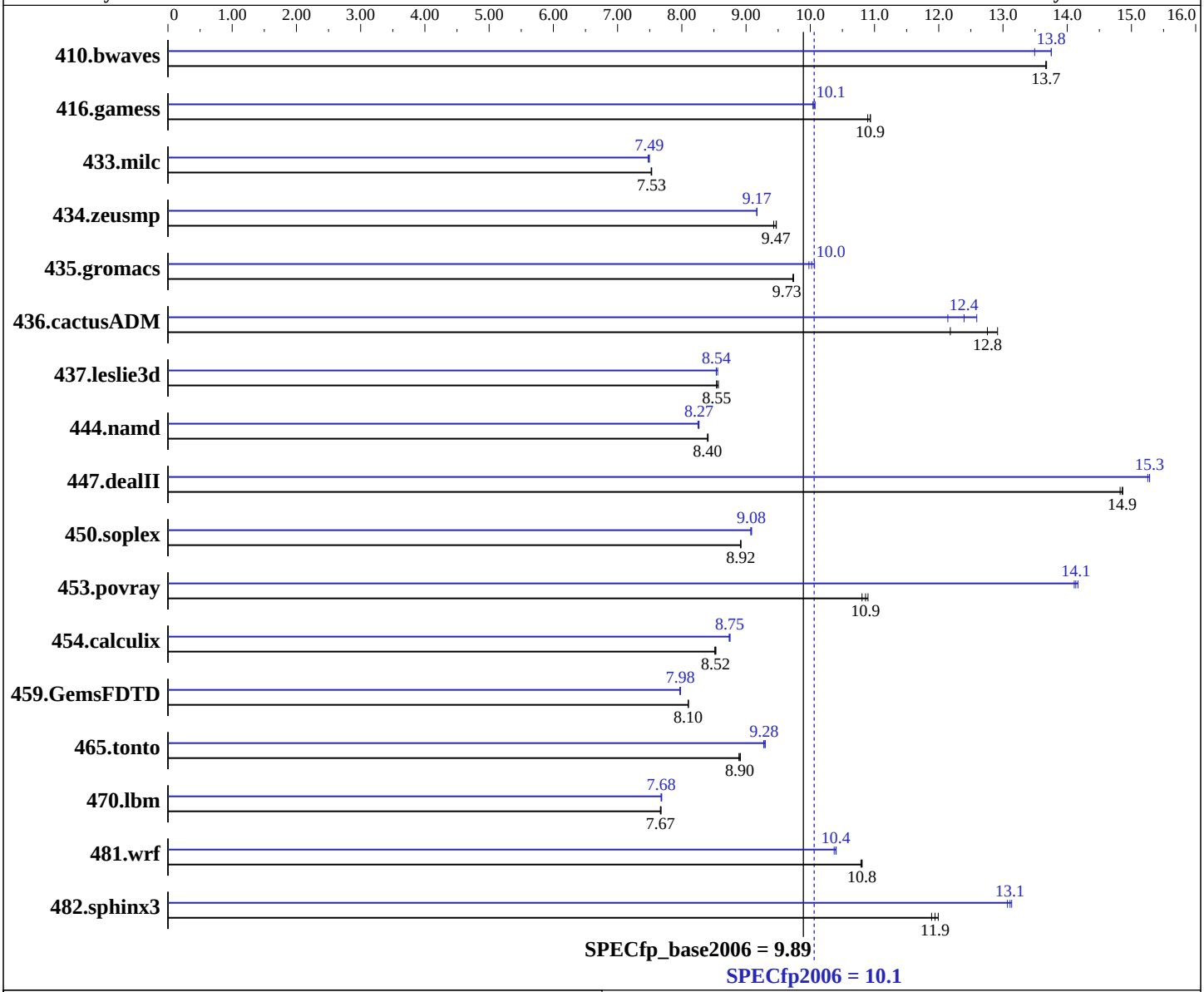
NovaScale R460
(Intel Xeon processor E5310,1.60GHz)

SPECfp®2006 = 10.1

SPECfp_base2006 = 9.89

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

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




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5310 |
| CPU Characteristics: | 1.6 GHz, 8 MB L2, 1066 MHz system bus |
| CPU MHz: | 1600 |
| FPU: | Integrated |
| CPU(s) enabled: | 1 core, 1 chip, 4 cores/chip |
| CPU(s) orderable: | 1 to 2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 8 MB I+D on chip per chip, 4 MB shared / 2 cores |

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## 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: 12 GB (1GB DIMMx12, FB-DIMM PC2-5300F ECC CL5)
Disk Subsystem: 73 GB SAS, 10000RPM
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 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 994 | 13.7 | 994 | 13.7 | **994** | **13.7** | 1007 | 13.5 | **988** | **13.8** | 988 | 13.8 |
| 416.gamess | 1797 | 10.9 | **1791** | **10.9** | 1790 | 10.9 | 1950 | 10.0 | 1943 | 10.1 | **1947** | **10.1** |
| 433.milc | 1219 | 7.53 | 1220 | 7.52 | **1219** | **7.53** | 1228 | 7.48 | **1225** | **7.49** | 1225 | 7.49 |
| 434.zeusmp | 965 | 9.43 | **961** | **9.47** | 961 | 9.47 | 993 | 9.17 | 992 | 9.17 | **993** | **9.17** |
| 435.gromacs | 734 | 9.73 | 733 | 9.74 | **733** | **9.73** | **713** | **10.0** | 716 | 9.98 | 709 | 10.1 |
| 436.cactusADM | 981 | 12.2 | **937** | **12.8** | 925 | 12.9 | **964** | **12.4** | 949 | 12.6 | 984 | 12.1 |
| 437.leslie3d | 1101 | 8.54 | **1100** | **8.55** | 1097 | 8.57 | 1098 | 8.56 | **1101** | **8.54** | 1101 | 8.54 |
| 444.namd | **955** | **8.40** | 954 | 8.41 | 955 | 8.40 | 972 | 8.25 | **970** | **8.27** | 970 | 8.27 |
| 447.dealII | **770** | **14.9** | 770 | 14.9 | 772 | 14.8 | 750 | 15.3 | **749** | **15.3** | 749 | 15.3 |
| 450.soplex | 935 | 8.92 | **935** | **8.92** | 935 | 8.92 | 919 | 9.07 | 918 | 9.08 | **918** | **9.08** |
| 453.povray | 488 | 10.9 | 492 | 10.8 | **490** | **10.9** | **376** | **14.1** | 376 | 14.2 | 377 | 14.1 |
| 454.calculix | **968** | **8.52** | 967 | 8.53 | 969 | 8.51 | 943 | 8.75 | **943** | **8.75** | 944 | 8.74 |
| 459.GemsFDTD | 1310 | 8.10 | **1310** | **8.10** | 1309 | 8.10 | 1331 | 7.97 | **1330** | **7.98** | 1330 | 7.98 |
| 465.tonto | 1104 | 8.91 | **1105** | **8.90** | 1107 | 8.89 | **1060** | **9.28** | 1061 | 9.27 | 1058 | 9.30 |
| 470.lbm | 1790 | 7.68 | 1792 | 7.67 | **1792** | **7.67** | 1787 | 7.69 | **1789** | **7.68** | 1789 | 7.68 |
| 481.wrf | **1034** | **10.8** | 1035 | 10.8 | 1034 | 10.8 | 1077 | 10.4 | 1074 | 10.4 | **1074** | **10.4** |
| 482.sphinx3 | 1625 | 12.0 | **1632** | **11.9** | 1639 | 11.9 | 1491 | 13.1 | **1487** | **13.1** | 1484 | 13.1 |

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'

System was booted uniprocessor by setting "maxcpus=0"
kernel parameter in menu.lst
```

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

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