



# SPEC® CFP2006 Result

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## Bull SAS

NovaScale R440  
(Intel Xeon processor 5120, 1.86GHz)

**SPECfp®\_rate2006 = 31.4**

**SPECfp\_rate\_base2006 = 31.0**

CPU2006 license: 20

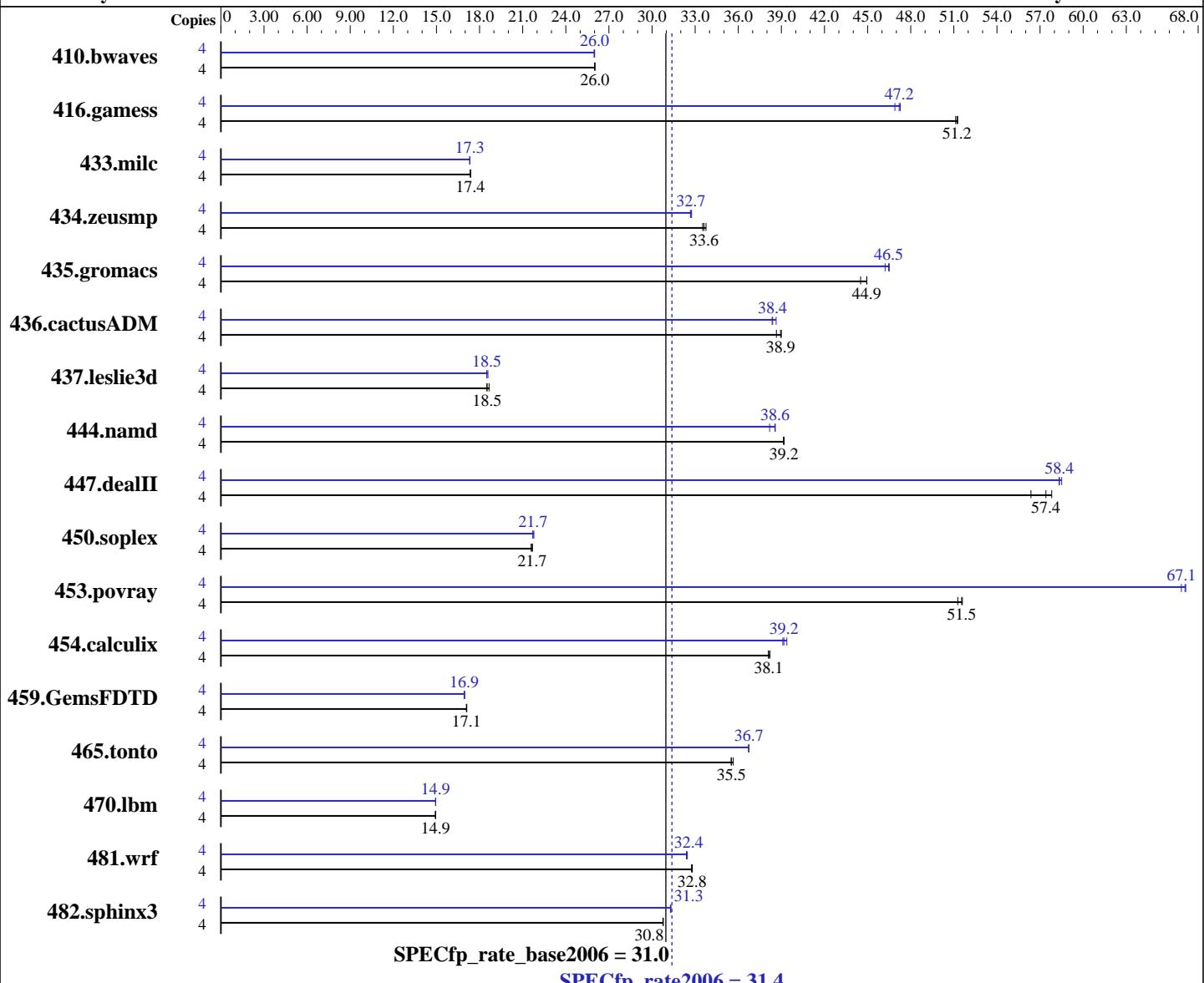
Test sponsor: Bull SAS

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

### Software

Operating System: SuSE Linux Enterprise Server 10 (EM64T)  
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	<b>2089</b>	<b>26.0</b>	2089	26.0	2091	26.0	4	2090	26.0	2094	26.0	<b>2091</b>	<b>26.0</b>
416.gamess	4	<b>1529</b>	<b>51.2</b>	1532	51.1	1528	51.3	4	<b>1659</b>	<b>47.2</b>	1657	47.3	1670	46.9
433.milc	4	2114	17.4	2115	17.4	<b>2115</b>	<b>17.4</b>	4	<b>2120</b>	<b>17.3</b>	2120	17.3	2121	17.3
434.zeusmp	4	1086	33.5	1078	33.8	<b>1083</b>	<b>33.6</b>	4	1111	32.8	<b>1113</b>	<b>32.7</b>	1114	32.7
435.gromacs	4	<b>635</b>	<b>44.9</b>	635	44.9	642	44.5	4	618	46.2	614	46.5	<b>615</b>	<b>46.5</b>
436.cactusADM	4	1226	39.0	<b>1227</b>	<b>38.9</b>	1237	38.7	4	1246	38.4	<b>1245</b>	<b>38.4</b>	1237	38.6
437.leslie3d	4	2015	18.7	<b>2030</b>	<b>18.5</b>	2031	18.5	4	2032	18.5	2023	18.6	<b>2032</b>	<b>18.5</b>
444.namd	4	<b>819</b>	<b>39.2</b>	819	39.1	819	39.2	4	840	38.2	<b>832</b>	<b>38.6</b>	832	38.6
447.dealII	4	812	56.4	<b>797</b>	<b>57.4</b>	792	57.8	4	785	58.3	782	58.5	<b>784</b>	<b>58.4</b>
450.soplex	4	1546	21.6	1539	21.7	<b>1540</b>	<b>21.7</b>	4	<b>1536</b>	<b>21.7</b>	1532	21.8	1537	21.7
453.povray	4	412	51.6	415	51.3	<b>413</b>	<b>51.5</b>	4	317	67.1	<b>317</b>	<b>67.1</b>	318	66.8
454.calculix	4	864	38.2	866	38.1	<b>866</b>	<b>38.1</b>	4	838	39.4	<b>842</b>	<b>39.2</b>	844	39.1
459.GemsFDTD	4	2480	17.1	<b>2483</b>	<b>17.1</b>	2484	17.1	4	2507	16.9	2501	17.0	<b>2506</b>	<b>16.9</b>
465.tonto	4	1104	35.6	1108	35.5	<b>1108</b>	<b>35.5</b>	4	<b>1071</b>	<b>36.7</b>	1071	36.7	1072	36.7
470.lbm	4	<b>3680</b>	<b>14.9</b>	3681	14.9	3680	14.9	4	3679	14.9	3678	14.9	<b>3678</b>	<b>14.9</b>
481.wrf	4	1362	32.8	1364	32.7	<b>1362</b>	<b>32.8</b>	4	1379	32.4	1377	32.5	<b>1378</b>	<b>32.4</b>
482.sphinx3	4	2535	30.8	<b>2533</b>	<b>30.8</b>	2533	30.8	4	2489	31.3	<b>2491</b>	<b>31.3</b>	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.



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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



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## 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](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](http://www.spec.org/cpu2006/flags/EM64T_Intel91_flags.xml)



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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.

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