



# SPEC<sup>®</sup> CFP2006 Result

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## Bull SAS

NovaScale R440  
(Intel Xeon processor E5345,2.33GHz)

SPECfp<sup>®</sup>2006 = 13.3

SPECfp\_base2006 = 13.1

CPU2006 license: 20

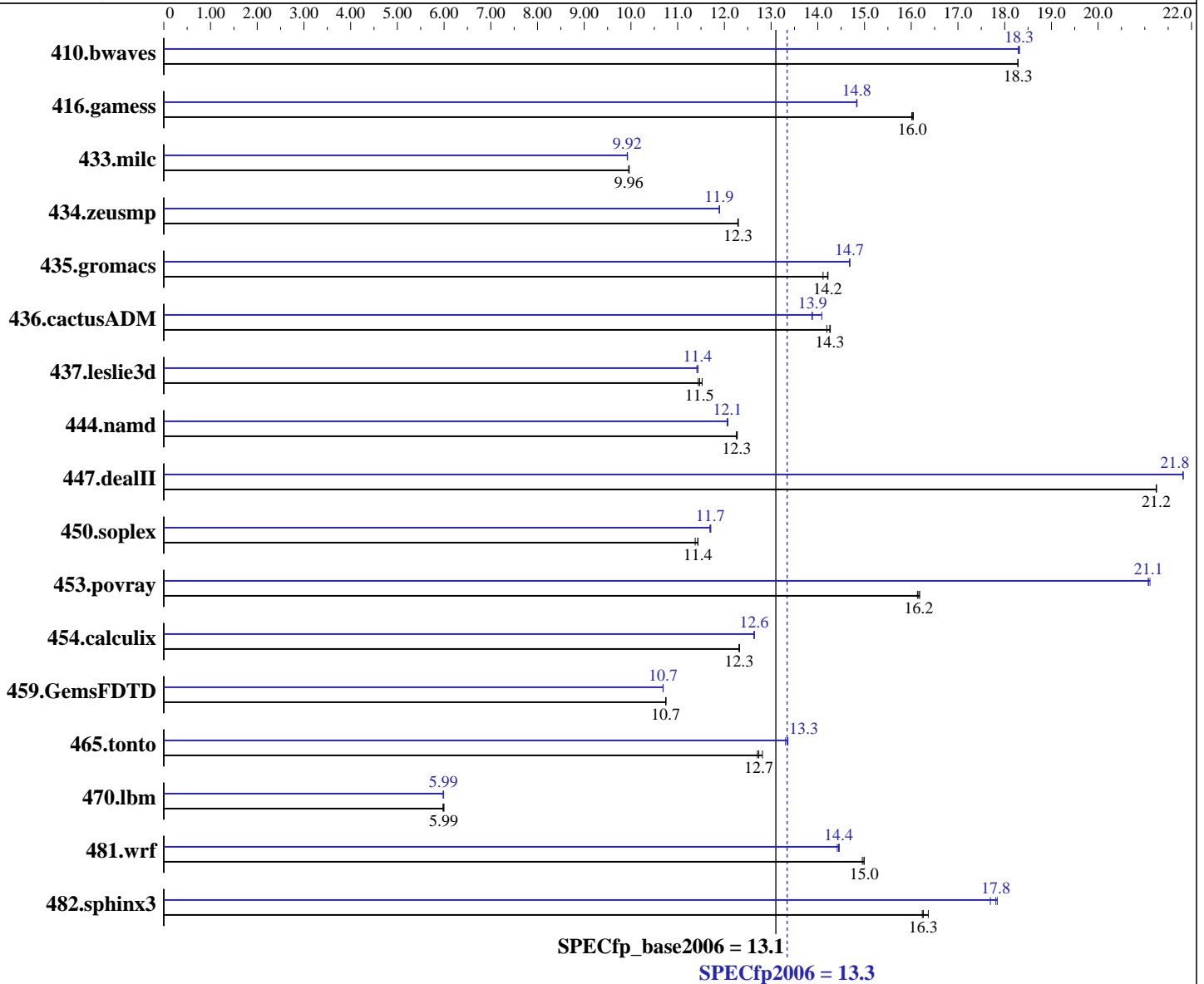
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Apr-2007

Hardware Availability: Mar-2007

Software Availability: Dec-2006



### Hardware

CPU Name: Intel Xeon E5345  
 CPU Characteristics: 2.33GHz, 2x4 MB L2 shared, 1333 MHz system bus  
 CPU MHz: 2330  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 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: 24 GB (2GB 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	<b>743</b>	<b>18.3</b>	743	18.3	743	18.3	<b>742</b>	<b>18.3</b>	743	18.3	742	18.3
416.gamess	1223	16.0	1220	16.0	<b>1222</b>	<b>16.0</b>	<b>1320</b>	<b>14.8</b>	1319	14.8	1320	14.8
433.milc	922	9.95	921	9.96	<b>922</b>	<b>9.96</b>	<b>925</b>	<b>9.92</b>	925	9.92	925	9.93
434.zeusmp	741	12.3	740	12.3	<b>740</b>	<b>12.3</b>	<b>765</b>	<b>11.9</b>	765	11.9	765	11.9
435.gromacs	<b>502</b>	<b>14.2</b>	502	14.2	506	14.1	486	14.7	<b>486</b>	<b>14.7</b>	486	14.7
436.cactusADM	837	14.3	842	14.2	<b>838</b>	<b>14.3</b>	861	13.9	<b>861</b>	<b>13.9</b>	848	14.1
437.leslie3d	<b>819</b>	<b>11.5</b>	822	11.4	816	11.5	<b>822</b>	<b>11.4</b>	822	11.4	824	11.4
444.namd	<b>654</b>	<b>12.3</b>	654	12.3	653	12.3	664	12.1	665	12.1	<b>664</b>	<b>12.1</b>
447.dealII	<b>538</b>	<b>21.2</b>	539	21.2	538	21.3	<b>524</b>	<b>21.8</b>	524	21.8	524	21.8
450.soplex	<b>730</b>	<b>11.4</b>	729	11.4	733	11.4	<b>713</b>	<b>11.7</b>	713	11.7	712	11.7
453.povray	330	16.1	329	16.2	<b>329</b>	<b>16.2</b>	252	21.1	252	21.1	<b>252</b>	<b>21.1</b>
454.calculix	670	12.3	<b>670</b>	<b>12.3</b>	670	12.3	653	12.6	<b>653</b>	<b>12.6</b>	653	12.6
459.GemsFDTD	<b>987</b>	<b>10.7</b>	987	10.7	987	10.7	993	10.7	<b>993</b>	<b>10.7</b>	993	10.7
465.tonto	<b>773</b>	<b>12.7</b>	774	12.7	768	12.8	736	13.4	<b>737</b>	<b>13.3</b>	739	13.3
470.lbm	2291	6.00	<b>2293</b>	<b>5.99</b>	2299	5.98	2298	5.98	2293	5.99	<b>2296</b>	<b>5.99</b>
481.wrf	<b>745</b>	<b>15.0</b>	747	15.0	745	15.0	775	14.4	772	14.5	<b>773</b>	<b>14.4</b>
482.sphinx3	1191	16.4	1200	16.2	<b>1199</b>	<b>16.3</b>	1092	17.8	1101	17.7	<b>1094</b>	<b>17.8</b>

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 R440 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 questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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