



# SPEC<sup>®</sup> CFP2006 Result

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## Bull SAS

NovaScale R460  
(Intel Xeon processor 5110,1.60GHz)

SPECfp<sup>®</sup>2006 = **9.88**

SPECfp\_base2006 = **9.69**

CPU2006 license: 20

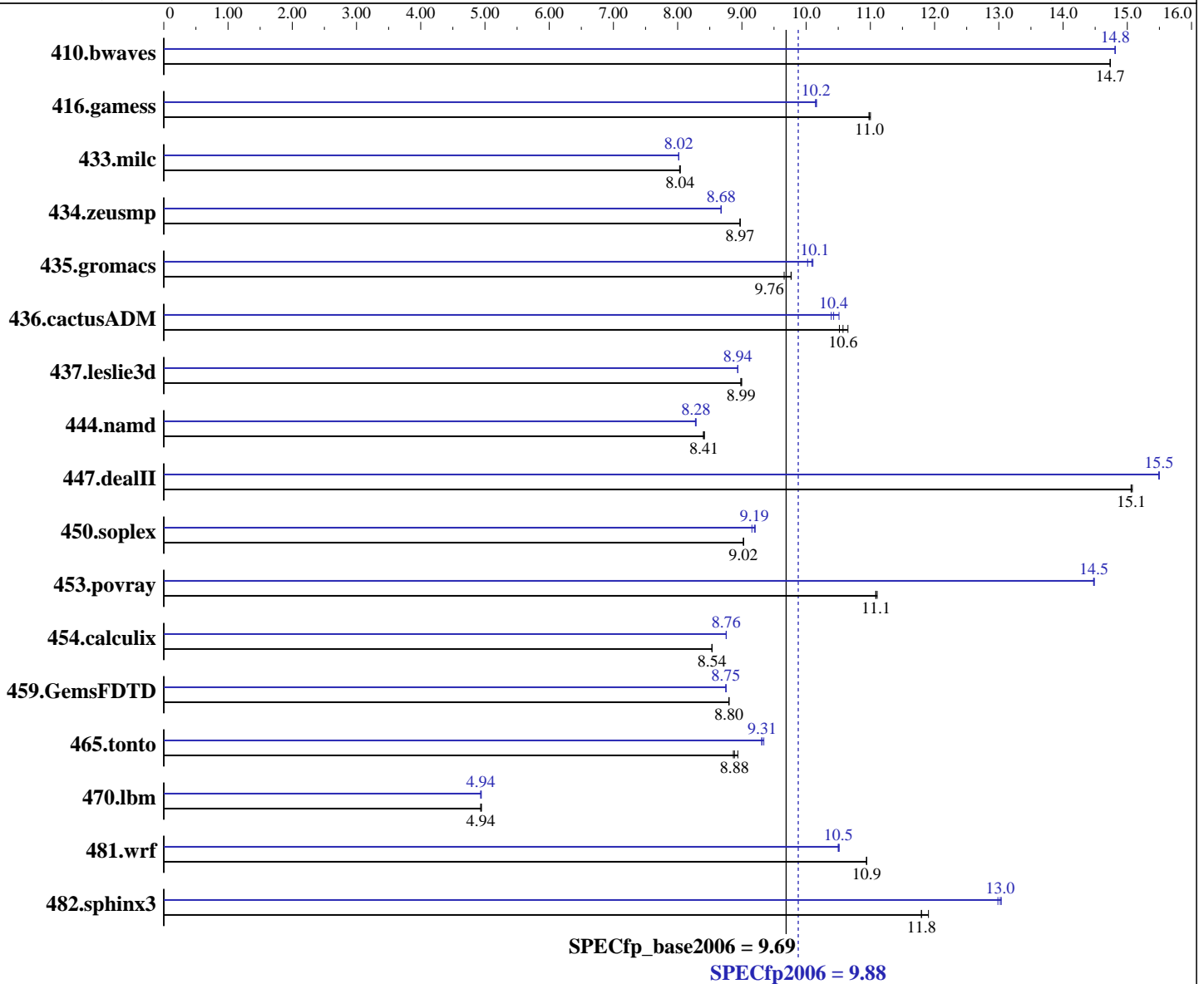
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: May-2007

Hardware Availability: Mar-2007

Software Availability: Dec-2006



**Hardware**

CPU Name: Intel Xeon 5110  
 CPU Characteristics: 1.60 GHz, 4 MB L2, 1066 MHz system bus  
 CPU MHz: 1600  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 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)  
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>922</u>	<u>14.7</u>	923	14.7	922	14.7	<u>917</u>	<u>14.8</u>	918	14.8	917	14.8
416.gamess	1780	11.0	<u>1782</u>	<u>11.0</u>	1784	11.0	1930	10.1	<u>1929</u>	<u>10.2</u>	1927	10.2
433.milc	1142	8.04	<u>1142</u>	<u>8.04</u>	1143	8.03	<u>1145</u>	<u>8.02</u>	1145	8.02	1145	8.01
434.zeusmp	1014	8.97	1014	8.97	<u>1014</u>	<u>8.97</u>	1049	8.67	1049	8.68	<u>1049</u>	<u>8.68</u>
435.gromacs	739	9.66	731	9.77	<u>731</u>	<u>9.76</u>	712	10.0	706	10.1	<u>708</u>	<u>10.1</u>
436.cactusADM	1122	10.7	1136	10.5	<u>1130</u>	<u>10.6</u>	1137	10.5	<u>1146</u>	<u>10.4</u>	1150	10.4
437.leslie3d	1046	8.98	1045	9.00	<u>1046</u>	<u>8.99</u>	<u>1052</u>	<u>8.94</u>	1052	8.93	1052	8.94
444.namd	953	8.42	<u>954</u>	<u>8.41</u>	955	8.40	969	8.28	<u>968</u>	<u>8.28</u>	968	8.29
447.dealII	<u>759</u>	<u>15.1</u>	759	15.1	760	15.1	<u>738</u>	<u>15.5</u>	739	15.5	738	15.5
450.soplex	<u>924</u>	<u>9.02</u>	924	9.02	924	9.03	906	9.21	<u>907</u>	<u>9.19</u>	911	9.16
453.povray	479	11.1	480	11.1	<u>480</u>	<u>11.1</u>	<u>367</u>	<u>14.5</u>	368	14.5	367	14.5
454.calculix	966	8.54	<u>966</u>	<u>8.54</u>	967	8.53	<u>942</u>	<u>8.76</u>	942	8.75	942	8.76
459.GemsFDTD	<u>1206</u>	<u>8.80</u>	1206	8.80	1206	8.80	1212	8.75	<u>1212</u>	<u>8.75</u>	1212	8.75
465.tonto	1101	8.94	<u>1108</u>	<u>8.88</u>	1110	8.87	1053	9.34	1057	9.31	<u>1056</u>	<u>9.31</u>
470.lbm	2778	4.95	<u>2783</u>	<u>4.94</u>	2785	4.93	<u>2783</u>	<u>4.94</u>	2780	4.94	2785	4.93
481.wrf	1021	10.9	1021	10.9	<u>1021</u>	<u>10.9</u>	<u>1063</u>	<u>10.5</u>	1064	10.5	1062	10.5
482.sphinx3	1637	11.9	<u>1652</u>	<u>11.8</u>	1653	11.8	1495	13.0	<u>1497</u>	<u>13.0</u>	1501	13.0

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

/usr/bin/taskset utility used to bind CPU(s) to processes

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

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