



# SPEC<sup>®</sup> CFP2006 Result

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## Bull SAS

NovaScale R460  
(Intel Xeon processor E5320,1.86GHz)

SPECfp<sup>®</sup>2006 = 11.1

SPECfp\_base2006 = 10.9

CPU2006 license: 20

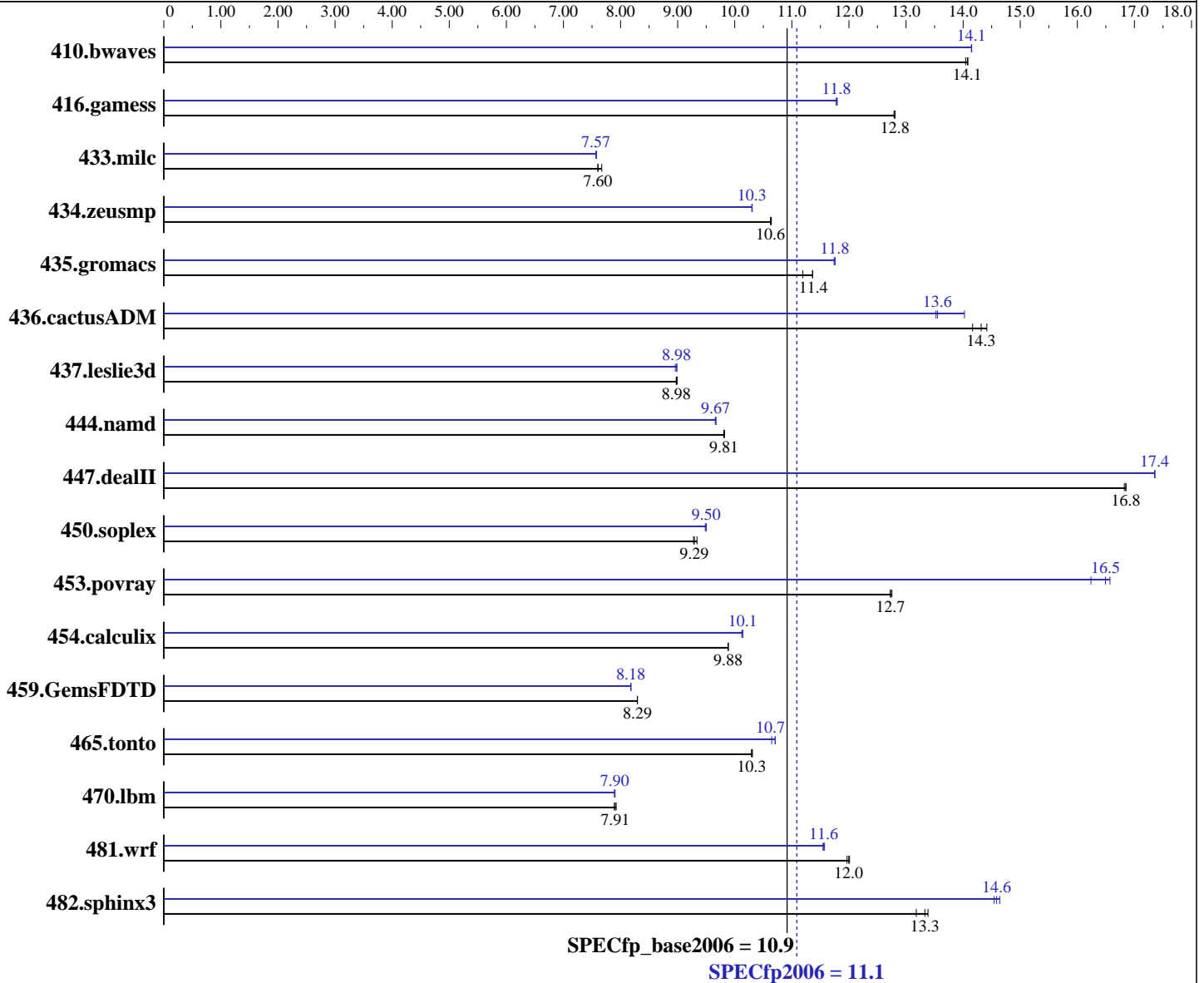
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Apr-2007

Hardware Availability: Mar-2007

Software Availability: Dec-2006



**Hardware**

CPU Name: Intel Xeon E5320  
 CPU Characteristics: 1.86 GHz, 8 MB L2, 1066 MHz system bus  
 CPU MHz: 1860  
 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 (12x1 GB) FB-DIMM PC2-5300F ECC CL5  
Disk Subsystem: 1x73 GB SAS, 10000 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	<b>966</b>	<b>14.1</b>	965	14.1	968	14.0	<b>961</b>	<b>14.1</b>	960	14.1	961	14.1
416.gamess	<b>1529</b>	<b>12.8</b>	1529	12.8	1531	12.8	1660	11.8	<b>1662</b>	<b>11.8</b>	1662	11.8
433.milc	1197	7.67	<b>1207</b>	<b>7.60</b>	1207	7.60	1212	7.58	1213	7.57	<b>1213</b>	<b>7.57</b>
434.zeusmp	855	10.6	856	10.6	<b>856</b>	<b>10.6</b>	884	10.3	<b>883</b>	<b>10.3</b>	883	10.3
435.gromacs	<b>628</b>	<b>11.4</b>	628	11.4	638	11.2	<b>608</b>	<b>11.8</b>	607	11.8	608	11.7
436.cactusADM	844	14.2	829	14.4	<b>835</b>	<b>14.3</b>	852	14.0	<b>882</b>	<b>13.6</b>	884	13.5
437.leslie3d	1045	8.99	<b>1047</b>	<b>8.98</b>	1047	8.98	1046	8.99	<b>1047</b>	<b>8.98</b>	1049	8.96
444.namd	818	9.81	<b>817</b>	<b>9.81</b>	817	9.82	<b>830</b>	<b>9.67</b>	829	9.67	830	9.66
447.dealII	<b>679</b>	<b>16.8</b>	680	16.8	679	16.9	<b>659</b>	<b>17.4</b>	659	17.4	659	17.4
450.soplex	893	9.34	<b>897</b>	<b>9.29</b>	899	9.28	878	9.50	<b>878</b>	<b>9.50</b>	879	9.48
453.povray	<b>418</b>	<b>12.7</b>	418	12.7	417	12.8	328	16.2	<b>323</b>	<b>16.5</b>	321	16.6
454.calculix	834	9.89	<b>835</b>	<b>9.88</b>	835	9.88	815	10.1	814	10.1	<b>814</b>	<b>10.1</b>
459.GemsFDTD	<b>1279</b>	<b>8.29</b>	1280	8.29	1279	8.30	1297	8.18	<b>1297</b>	<b>8.18</b>	1297	8.18
465.tonto	954	10.3	<b>956</b>	<b>10.3</b>	956	10.3	919	10.7	<b>919</b>	<b>10.7</b>	924	10.6
470.lbm	1734	7.92	<b>1738</b>	<b>7.91</b>	1741	7.89	1738	7.90	<b>1740</b>	<b>7.90</b>	1741	7.89
481.wrf	<b>931</b>	<b>12.0</b>	930	12.0	933	12.0	965	11.6	<b>966</b>	<b>11.6</b>	967	11.5
482.sphinx3	1456	13.4	1479	13.2	<b>1462</b>	<b>13.3</b>	1331	14.6	1340	14.5	<b>1336</b>	<b>14.6</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  
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.



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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).

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 11:50:12 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 29 May 2007.