



SPEC[®] CFP2006 Result

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Bull SAS

NovaScale R440
(Intel Xeon processor E5310,1.60GHz)

SPECfp[®]2006 = 11.3

SPECfp_base2006 = 10.9

CPU2006 license: 20

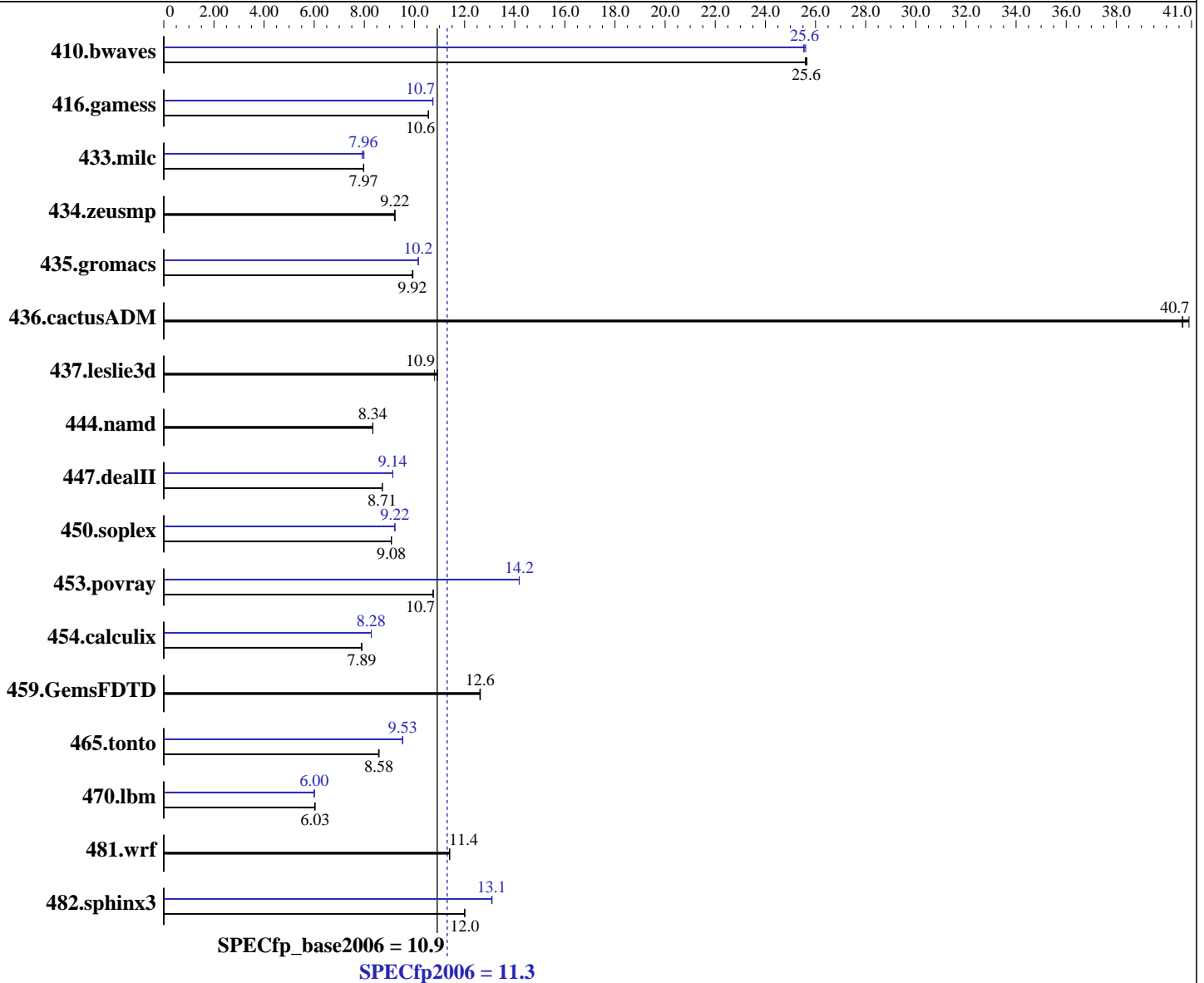
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jul-2007

Hardware Availability: Mar-2007

Software Availability: Dec-2006



Hardware

CPU Name: Intel Xeon E5310
 CPU Characteristics: 1.60 GHz, 8 MB L2, 1066 MHz system bus
 CPU MHz: 1600
 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: Windows Server 2003 Enterprise Edition X64 Edition Service Pack 1
 Compiler: Intel C++ Compiler for EM64T version 9.1
 Package ID W_CC_C_9.1.033 Build no 20061104
 Intel Fortran Compiler for EM64T version 9.1
 Package ID W_FC_C_9.1.033 Build no 20061104
 Microsoft Visual Studio 2005 (lib & linker)
 Auto Parallel: Yes
 File System: NTFS
 System State: Default

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L3 Cache: None
Other Cache: None
Memory: 12 GB (12x1 GB) FB-DIMM PC2-4200F ECC CL4
Disk Subsystem: 1x73 GB SAS, 15000 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: MicroQuill SmartHeap Library 8.0 (shIW32M.lib)

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>530</u>	<u>25.6</u>	530	25.7	531	25.6	532	25.5	531	25.6	<u>532</u>	<u>25.6</u>
416.gamess	<u>1855</u>	<u>10.6</u>	1855	10.6	1855	10.6	<u>1824</u>	<u>10.7</u>	1824	10.7	1824	10.7
433.milc	<u>1152</u>	<u>7.97</u>	1150	7.98	1152	7.97	<u>1153</u>	<u>7.96</u>	1149	7.99	1160	7.92
434.zeusmp	989	9.20	986	9.23	<u>987</u>	<u>9.22</u>	989	9.20	986	9.23	<u>987</u>	<u>9.22</u>
435.gromacs	718	9.94	<u>720</u>	<u>9.92</u>	720	9.91	703	10.2	<u>703</u>	<u>10.2</u>	703	10.2
436.cactusADM	292	40.9	294	40.6	<u>294</u>	<u>40.7</u>	292	40.9	294	40.6	<u>294</u>	<u>40.7</u>
437.leslie3d	870	10.8	<u>862</u>	<u>10.9</u>	862	10.9	870	10.8	<u>862</u>	<u>10.9</u>	862	10.9
444.namd	<u>962</u>	<u>8.34</u>	962	8.34	962	8.34	<u>962</u>	<u>8.34</u>	962	8.34	962	8.34
447.dealII	<u>1313</u>	<u>8.71</u>	1312	8.72	1313	8.71	<u>1252</u>	<u>9.14</u>	1252	9.14	1252	9.14
450.soplex	919	9.08	<u>919</u>	<u>9.08</u>	918	9.08	905	9.21	<u>905</u>	<u>9.22</u>	905	9.22
453.povray	<u>495</u>	<u>10.7</u>	495	10.7	495	10.7	375	14.2	375	14.2	<u>375</u>	<u>14.2</u>
454.calculix	<u>1045</u>	<u>7.89</u>	1045	7.89	1045	7.90	997	8.28	<u>997</u>	<u>8.28</u>	997	8.28
459.GemsFDTD	841	12.6	<u>841</u>	<u>12.6</u>	840	12.6	841	12.6	<u>841</u>	<u>12.6</u>	840	12.6
465.tonto	1145	8.59	1149	8.57	<u>1147</u>	<u>8.58</u>	1033	9.53	<u>1033</u>	<u>9.53</u>	1033	9.52
470.lbm	2284	6.02	<u>2277</u>	<u>6.03</u>	2277	6.03	<u>2289</u>	<u>6.00</u>	2289	6.00	2289	6.00
481.wrf	980	11.4	<u>980</u>	<u>11.4</u>	979	11.4	980	11.4	<u>980</u>	<u>11.4</u>	979	11.4
482.sphinx3	1624	12.0	1623	12.0	<u>1623</u>	<u>12.0</u>	1490	13.1	1488	13.1	<u>1490</u>	<u>13.1</u>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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:
icl -Qvc8 -Qc99

C++ benchmarks:
icl -Qvc8

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Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
416.gamess: -DSPEC_CPU_P64
433.milc: -D_Complex= -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -D_Complex= -DSPEC_CPU_P64
436.cactusADM: -D_Complex= -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -D_Complex= -DSPEC_CPU_P64 -DBOOST_NO_INTRINSIC_WCHAR_T
-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -D_Complex= -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER
-Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -D_Complex= -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -D_Complex= -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-fast -Qparallel

C++ benchmarks:
-fast -Qparallel -Qcxx-features

Fortran benchmarks:
-fast -Qparallel

Benchmarks using both Fortran and C:
-fast -Qparallel



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Base Other Flags

C benchmarks:
-F950000000

C++ benchmarks:
-F950000000

Fortran benchmarks:
-F950000000

Benchmarks using both Fortran and C:
-F950000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc8 -Qc99

C++ benchmarks:
icl -Qvc8

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features

450.soplex: Same as 447.dealII

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Peak Optimization Flags (Continued)

453.povray: Same as 447.dealII

Fortran benchmarks:

410.bwaves: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qparallel

416.gamess: -fast

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: Same as 410.bwaves

Benchmarks using both Fortran and C:

435.gromacs: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast

436.cactusADM: basepeak = yes

454.calculix: Same as 435.gromacs

481.wrf: basepeak = yes

Peak Other Flags

C benchmarks:
-F950000000

C++ benchmarks:
-F950000000

Fortran benchmarks:
-F950000000

Benchmarks using both Fortran and C:
-F950000000

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/flags.xml>



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