



SPEC® CFP2006 Result

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Bull SAS

NovaScale R440
(Intel Xeon processor E5335,2.00GHz)

SPECfp®2006 = 13.9

SPECfp_base2006 = 13.5

CPU2006 license: 20

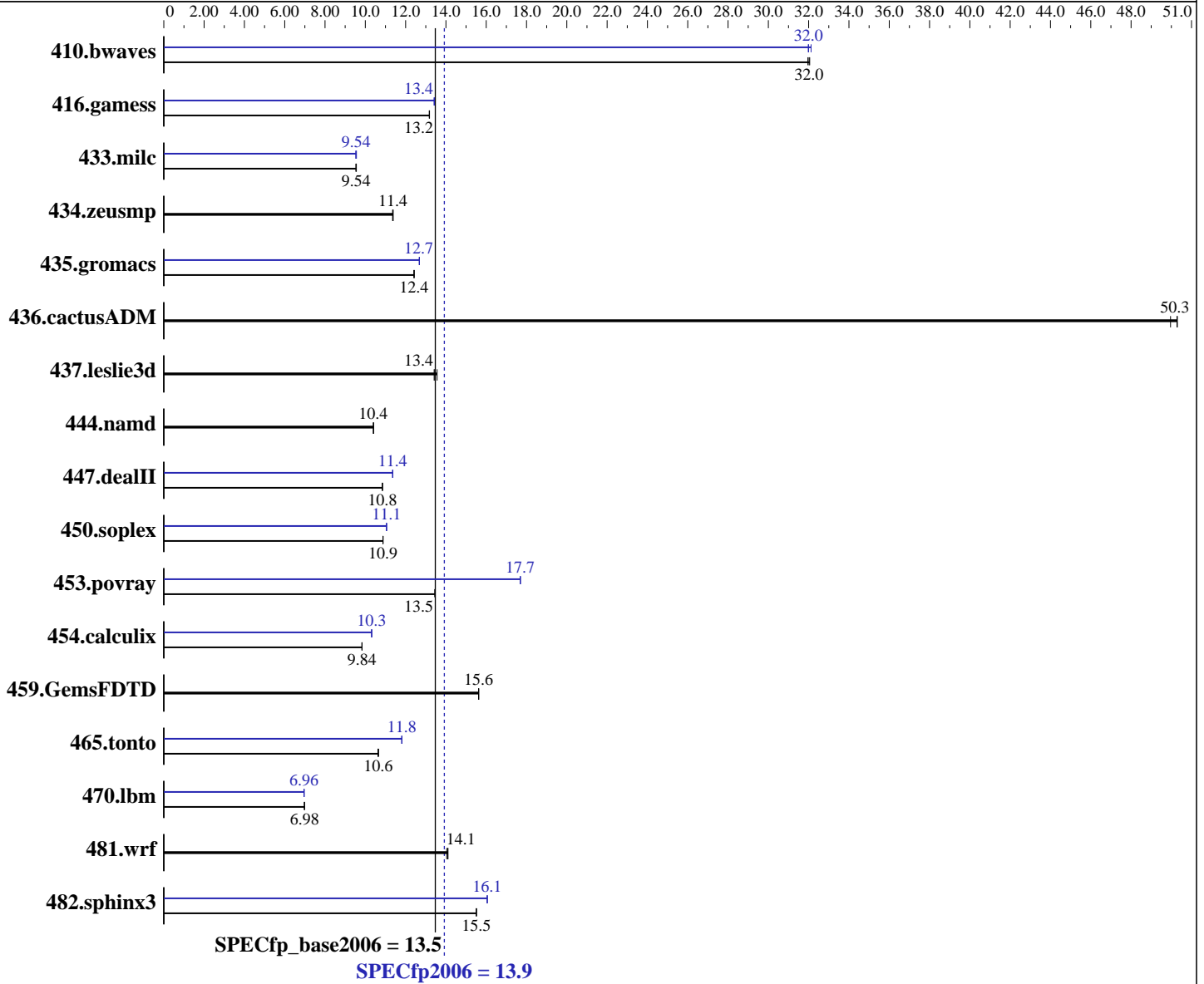
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Sep-2007

Hardware Availability: Mar-2007

Software Availability: Dec-2006



Hardware

CPU Name: Intel Xeon E5335
 CPU Characteristics: 2.00 GHz, 8 MB L2, 1333 MHz system bus
 CPU MHz: 2000
 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: 16 GB (8x2 GB) FB-DIMM PC2-5300F ECC CL5
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>424</u>	<u>32.0</u>	425	32.0	424	32.1	425	32.0	<u>425</u>	<u>32.0</u>	423	32.1
416.gamess	<u>1486</u>	<u>13.2</u>	1486	13.2	1485	13.2	1459	13.4	1459	13.4	<u>1459</u>	<u>13.4</u>
433.milc	961	9.56	<u>962</u>	<u>9.54</u>	963	9.53	964	9.53	<u>962</u>	<u>9.54</u>	960	9.56
434.zeusmp	800	11.4	801	11.4	<u>800</u>	<u>11.4</u>	800	11.4	801	11.4	<u>800</u>	<u>11.4</u>
435.gromacs	<u>575</u>	<u>12.4</u>	575	12.4	575	12.4	<u>563</u>	<u>12.7</u>	563	12.7	563	12.7
436.cactusADM	239	50.0	238	50.3	<u>238</u>	<u>50.3</u>	239	50.0	238	50.3	<u>238</u>	<u>50.3</u>
437.leslie3d	<u>699</u>	<u>13.4</u>	701	13.4	693	13.6	<u>699</u>	<u>13.4</u>	701	13.4	693	13.6
444.namd	<u>771</u>	<u>10.4</u>	771	10.4	771	10.4	<u>771</u>	<u>10.4</u>	771	10.4	771	10.4
447.dealII	1055	10.8	1054	10.9	<u>1054</u>	<u>10.8</u>	<u>1007</u>	<u>11.4</u>	1007	11.4	1007	11.4
450.soplex	767	10.9	<u>767</u>	<u>10.9</u>	767	10.9	755	11.1	<u>755</u>	<u>11.1</u>	754	11.1
453.povray	395	13.5	395	13.5	<u>395</u>	<u>13.5</u>	<u>301</u>	<u>17.7</u>	301	17.7	301	17.7
454.calculix	<u>839</u>	<u>9.84</u>	839	9.83	838	9.84	800	10.3	<u>800</u>	<u>10.3</u>	800	10.3
459.GemsFDTD	<u>679</u>	<u>15.6</u>	679	15.6	679	15.6	<u>679</u>	<u>15.6</u>	679	15.6	679	15.6
465.tonto	<u>925</u>	<u>10.6</u>	926	10.6	923	10.7	833	11.8	833	11.8	<u>833</u>	<u>11.8</u>
470.lbm	1971	6.97	<u>1967</u>	<u>6.98</u>	1967	6.99	<u>1974</u>	<u>6.96</u>	1974	6.96	1974	6.96
481.wrf	<u>792</u>	<u>14.1</u>	796	14.0	792	14.1	<u>792</u>	<u>14.1</u>	796	14.0	792	14.1
482.sphinx3	<u>1257</u>	<u>15.5</u>	1257	15.5	1256	15.5	1214	16.1	1215	16.0	<u>1214</u>	<u>16.1</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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