



SPEC® CFP2006 Result

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Bull SAS

NovaScale R422
(Intel Xeon processor X5365,3.00GHz)

SPECfp®2006 = 21.4

SPECfp_base2006 = 18.4

CPU2006 license: 20

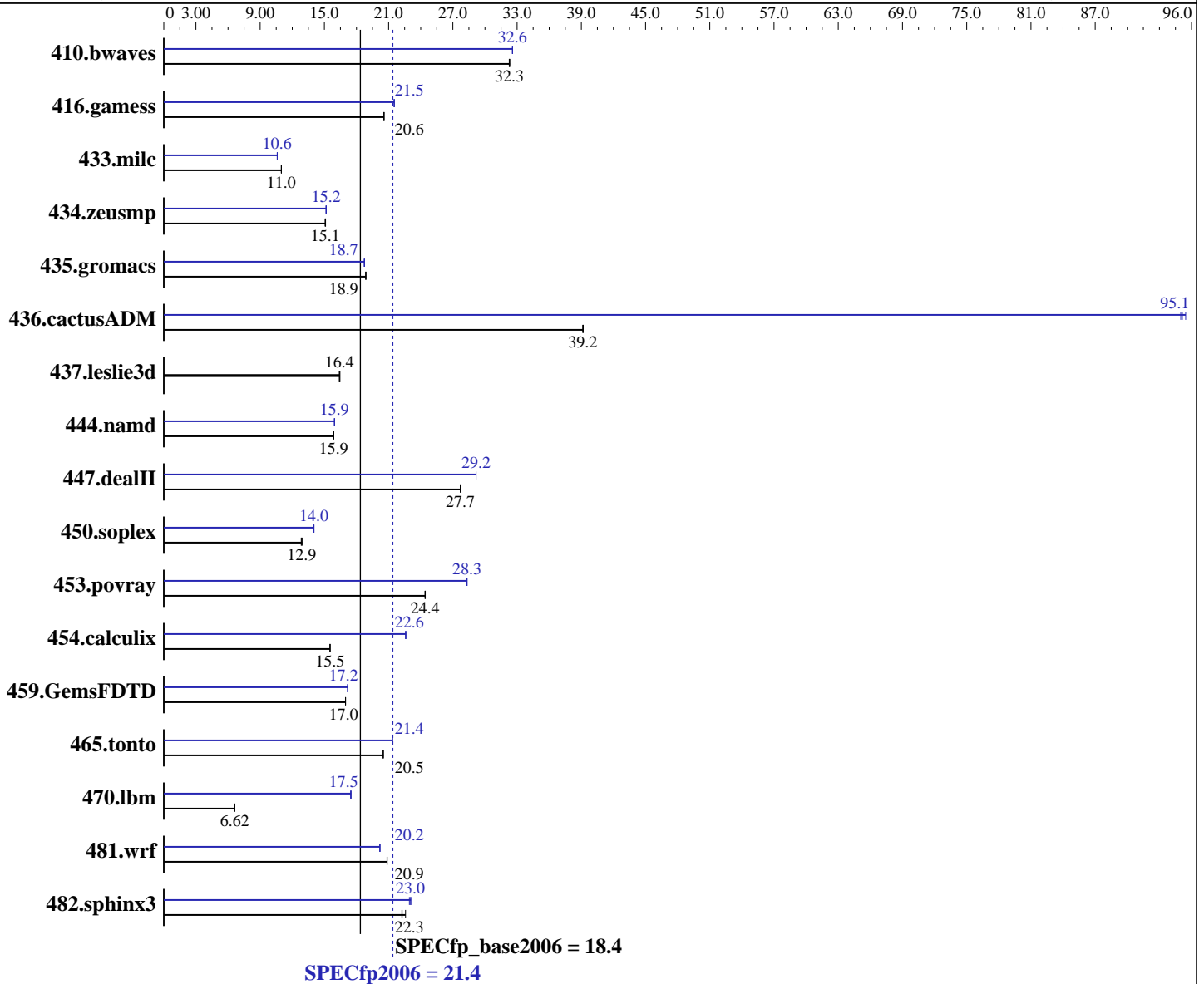
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Oct-2007

Hardware Availability: Sep-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5365
 CPU Characteristics: 3.00 GHz, 8 MB L2, 1333 MHz system bus
 CPU MHz: 3000
 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: Red Hat Enterprise Linux AS Release 4 Update 4
 Kernel 2.6.9-42.ELsmp for x86_64
 Compiler: Intel C++ Compiler for Linux32 and Linux64
 version 10.1
 Build 20070725
 Auto Parallel: Yes
 File System: ext3
 System State: Multi-user run level 3
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB) FB-DIMM PC2-5300F ECC CL5
Disk Subsystem: 1x147 GB SAS, 15000 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: SmartHeap library V8.1
Binutils 2.17.50.0.15

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>421</u>	<u>32.3</u>	420	32.3	421	32.3	417	32.6	<u>417</u>	<u>32.6</u>	417	32.6
416.gamess	952	20.6	<u>952</u>	<u>20.6</u>	952	20.6	<u>910</u>	<u>21.5</u>	910	21.5	909	21.5
433.milc	836	11.0	<u>836</u>	<u>11.0</u>	836	11.0	866	10.6	866	10.6	<u>866</u>	<u>10.6</u>
434.zeusmp	604	15.1	<u>603</u>	<u>15.1</u>	602	15.1	600	15.2	600	15.2	<u>600</u>	<u>15.2</u>
435.gromacs	378	18.9	<u>378</u>	<u>18.9</u>	378	18.9	381	18.8	<u>381</u>	<u>18.7</u>	381	18.7
436.cactusADM	<u>305</u>	<u>39.2</u>	305	39.1	305	39.2	125	95.5	126	95.0	<u>126</u>	<u>95.1</u>
437.leslie3d	571	16.5	<u>573</u>	<u>16.4</u>	573	16.4	571	16.5	<u>573</u>	<u>16.4</u>	573	16.4
444.namd	505	15.9	505	15.9	<u>505</u>	<u>15.9</u>	<u>503</u>	<u>15.9</u>	503	15.9	503	15.9
447.dealII	413	27.7	413	27.7	<u>413</u>	<u>27.7</u>	<u>392</u>	<u>29.2</u>	392	29.2	392	29.2
450.soplex	650	12.8	646	12.9	<u>647</u>	<u>12.9</u>	594	14.0	<u>595</u>	<u>14.0</u>	595	14.0
453.povray	<u>218</u>	<u>24.4</u>	218	24.4	218	24.4	188	28.3	<u>188</u>	<u>28.3</u>	188	28.3
454.calculix	531	15.5	<u>531</u>	<u>15.5</u>	531	15.5	365	22.6	<u>365</u>	<u>22.6</u>	365	22.6
459.GemsFDTD	625	17.0	<u>625</u>	<u>17.0</u>	625	17.0	617	17.2	<u>618</u>	<u>17.2</u>	618	17.2
465.tonto	<u>480</u>	<u>20.5</u>	480	20.5	481	20.4	<u>461</u>	<u>21.4</u>	461	21.4	461	21.3
470.lbm	2074	6.62	2075	6.62	<u>2075</u>	<u>6.62</u>	<u>786</u>	<u>17.5</u>	786	17.5	787	17.5
481.wrf	<u>536</u>	<u>20.9</u>	536	20.9	535	20.9	554	20.2	<u>553</u>	<u>20.2</u>	553	20.2
482.sphinx3	876	22.2	<u>875</u>	<u>22.3</u>	863	22.6	850	22.9	<u>846</u>	<u>23.0</u>	845	23.1

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

All benchmarks compiled in 64-bit mode except 450.soplex, 470.lbm and 482.sphinx3 for peak, are compiled in 32-bit mode

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

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Base Compiler Invocation (Continued)

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 -parallel

C++ benchmarks:
-fast -parallel

Fortran benchmarks:
-fast -parallel

Benchmarks using both Fortran and C:
-fast -parallel

Peak Compiler Invocation

C benchmarks (except as noted below):
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib

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Peak Compiler Invocation (Continued)

C benchmarks (except as noted below) (continued):

-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include

433.milc: icc

C++ benchmarks (except as noted below):

icpc

450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icpc

-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib

-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icc ifort

Peak 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
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3

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Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch -parallel

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch -parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -parallel -prefetch -auto-ilp32

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

http://www.spec.org/cpu2006/flags/EM64T_Intel101_flags.20090714.html

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

http://www.spec.org/cpu2006/flags/EM64T_Intel101_flags.20090714.xml



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