SPEC® CFP2006 Result

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Bull SAS

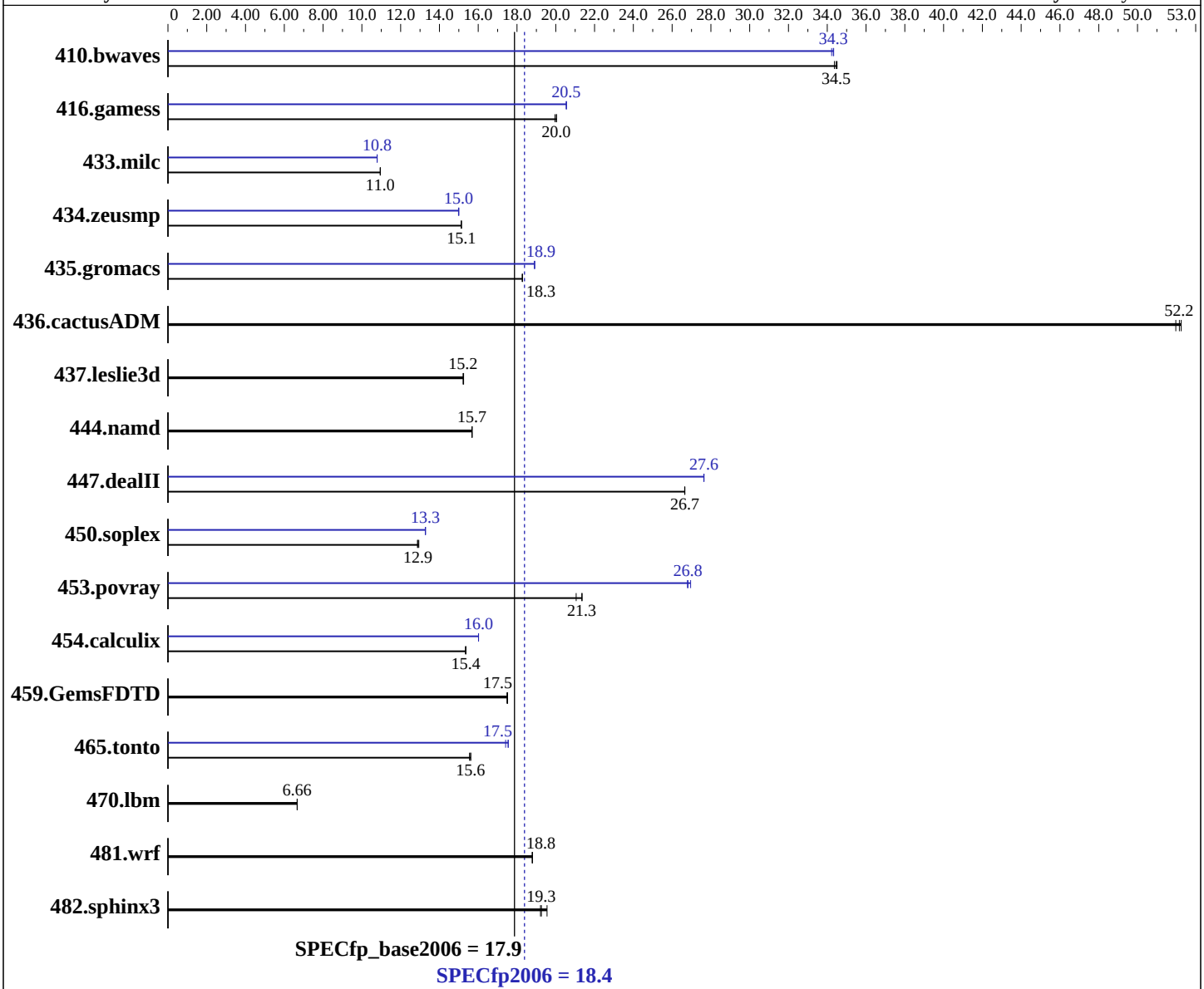
NovaScale R422
(Intel Xeon processor 5160,3.00GHz)

SPECfp®2006 = 18.4

SPECfp_base2006 = 17.9

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Sep-2007
Hardware Availability: Aug-2007
Software Availability: May-2007



Hardware

CPU Name:	Intel Xeon 5160
CPU Characteristics:	3.00 GHz, 4 MB L2, 1333 MHz system bus
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 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 Kernel 2.6.16.21-0.8-smp for x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application version 9.1 Build 20070510 Package ID: l_cc_p_9.1.051 Intel Fortran Compiler for IA32/EM64T application version 9.1 Build 20070510 Package ID: l_fc_p_9.1.051
Auto Parallel:	Yes
File System:	ext3

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1 GB) FB-DIMM PC2-5300F ECC CL5
Disk Subsystem: 1x147 GB SAS, 15000 RPM
Other Hardware: None

System State: Multi-user run level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: --

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	394	34.5	395	34.4	**394**	**34.5**	397	34.2	396	34.3	**396**	**34.3**
416.gamess	981	20.0	**978**	**20.0**	977	20.0	**953**	**20.5**	953	20.5	953	20.5
433.milc	838	11.0	**838**	**11.0**	838	10.9	**851**	**10.8**	851	10.8	851	10.8
434.zeusmp	602	15.1	**601**	**15.1**	601	15.1	607	15.0	607	15.0	**607**	**15.0**
435.gromacs	390	18.3	**391**	**18.3**	391	18.3	378	18.9	378	18.9	**378**	**18.9**
436.cactusADM	230	52.0	229	52.3	**229**	**52.2**	230	52.0	229	52.3	**229**	**52.2**
437.leslie3d	616	15.2	**617**	**15.2**	617	15.2	616	15.2	**617**	**15.2**	617	15.2
444.namd	**511**	**15.7**	511	15.7	511	15.7	**511**	**15.7**	511	15.7	511	15.7
447.dealII	**429**	**26.7**	429	26.6	429	26.7	414	27.6	414	27.6	**414**	**27.6**
450.soplex	**647**	**12.9**	648	12.9	645	12.9	628	13.3	628	13.3	**628**	**13.3**
453.povray	249	21.4	**249**	**21.3**	253	21.1	199	26.8	**198**	**26.8**	197	27.0
454.calculix	537	15.4	538	15.3	**537**	**15.4**	**515**	**16.0**	515	16.0	515	16.0
459.GemsFDTD	**606**	**17.5**	607	17.5	606	17.5	**606**	**17.5**	607	17.5	606	17.5
465.tonto	630	15.6	633	15.6	**630**	**15.6**	**561**	**17.5**	565	17.4	561	17.6
470.lbm	2061	6.67	**2062**	**6.66**	2062	6.66	2061	6.67	**2062**	**6.66**	2062	6.66
481.wrf	594	18.8	**594**	**18.8**	595	18.8	594	18.8	**594**	**18.8**	595	18.8
482.sphinx3	1014	19.2	**1012**	**19.3**	997	19.5	1014	19.2	**1012**	**19.3**	997	19.5

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

General Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
The R422 is built with two identical (half size) motherboards.
Only one of the two motherboards was powered on during the test run.
```

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:
icc

Continued on next page

Peak Compiler Invocation (Continued)

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:

433.milc: -fast -auto_ilp32

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -fast -auto_ilp32

450.soplex: -prof_gen(pass 1) -prof_use(pass 2) -fast -parallel -auto_ilp32

453.povray: Same as 450.soplex

Fortran benchmarks:

410.bwaves: -prof_gen(pass 1) -prof_use(pass 2) -fast -parallel

416.gamess: -fast

434.zeusmp: Same as 410.bwaves

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

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Peak Optimization Flags (Continued)

465.tonto: `Same as 410.bwaves`

Benchmarks using both Fortran and C:

435.gromacs: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -parallel -auto_ilp32`

436.cactusADM: `basepeak = yes`

454.calculix: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -auto_ilp32`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.xml`

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 14:04:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 October 2007.