SPEC® CFP2006 Result

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Bull SAS

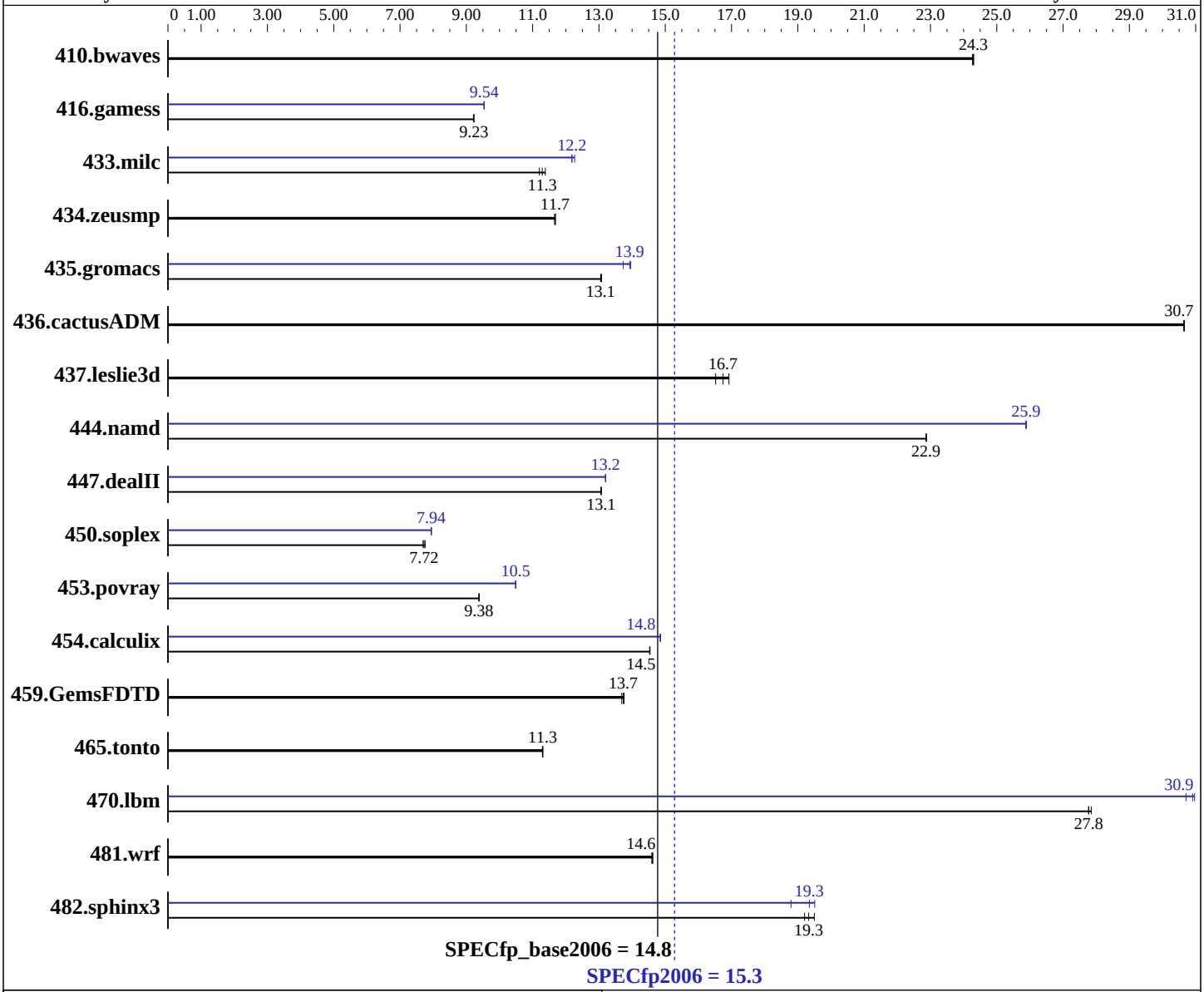
NovaScale 3045
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECfp®2006 = 15.3

SPECfp_base2006 = 14.8

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

Test date: Mar-2007
Hardware Availability: Oct-2006
Software Availability: Nov-2006



Hardware

CPU Name:	Dual-Core Intel Itanium 2 9040
CPU Characteristics:	1.6GHz/18MB, 533MHz FSB
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 2 cores/chip
CPU(s) orderable:	1-4 chips
Primary Cache:	16 KB I + 16 KB D on chip per core
Secondary Cache:	1 MB I + 256 KB D on chip per core

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Software

Operating System:	Red Hat Enterprise Linux AS release 4 (Update 4)
Compiler:	Intel C++ Compiler 9.1 for Linux (Build 20061105) Intel Fortran Compiler 9.1 for Linux (Build 20061105)
Auto Parallel:	No
File System:	ext3
System State:	Multi-user

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L3 Cache: 9 MB I+D on chip per core
Other Cache: None
Memory: 64 GB (32x2GB DIMMs)
Disk Subsystem: 2x73 GB 15K RPM SAS
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	560	24.3	559	24.3	**559**	**24.3**	560	24.3	559	24.3	**559**	**24.3**
416.gamess	**2122**	**9.23**	2125	9.21	2121	9.23	2053	9.54	**2053**	**9.54**	2053	9.54
433.milc	819	11.2	**813**	**11.3**	806	11.4	**753**	**12.2**	753	12.2	748	12.3
434.zeusmp	779	11.7	780	11.7	**779**	**11.7**	779	11.7	780	11.7	**779**	**11.7**
435.gromacs	547	13.1	**547**	**13.1**	546	13.1	520	13.7	511	14.0	**513**	**13.9**
436.cactusADM	**390**	**30.7**	390	30.6	390	30.7	**390**	**30.7**	390	30.6	390	30.7
437.leslie3d	569	16.5	556	16.9	**561**	**16.7**	569	16.5	556	16.9	**561**	**16.7**
444.namd	**351**	**22.9**	351	22.9	351	22.9	**310**	**25.9**	310	25.9	310	25.9
447.dealII	875	13.1	**876**	**13.1**	876	13.1	866	13.2	867	13.2	**867**	**13.2**
450.soplex	1075	7.76	**1080**	**7.72**	1084	7.70	**1050**	**7.94**	1050	7.94	1049	7.95
453.povray	567	9.38	**567**	**9.38**	567	9.38	507	10.5	**507**	**10.5**	507	10.5
454.calculix	567	14.5	**568**	**14.5**	568	14.5	555	14.9	**556**	**14.8**	556	14.8
459.GemsFDTD	771	13.8	**772**	**13.7**	775	13.7	771	13.8	**772**	**13.7**	775	13.7
465.tonto	870	11.3	**871**	**11.3**	871	11.3	870	11.3	**871**	**11.3**	871	11.3
470.lbm	495	27.8	**495**	**27.8**	493	27.9	447	30.7	444	31.0	**445**	**30.9**
481.wrf	764	14.6	765	14.6	**765**	**14.6**	764	14.6	765	14.6	**765**	**14.6**
482.sphinx3	1000	19.5	1015	19.2	**1008**	**19.3**	**1007**	**19.3**	1037	18.8	999	19.5

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

Operating System Notes

```
stacksize set to unlimited prior to run

system was booted uniprocessor by setting "maxcpus=0"
kernel parameter in elilo.conf
```

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_LINUX -DSPEC_CPU_CASE_FLAG
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-fast -IPF_fp_relaxed -ansi-alias

C++ benchmarks:
-fast -IPF_fp_relaxed -ansi-alias

Fortran benchmarks:
-fast -IPF_fp_relaxed

Benchmarks using both Fortran and C:
-fast -IPF_fp_relaxed -ansi-alias

Peak Compiler Invocation

C benchmarks:
icc

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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 -IPF_fp_relaxed -ansi-alias -fno-alias

470.lbm: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed -ansi-alias

482.sphinx3: Same as 470.lbm

C++ benchmarks:

444.namd: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed -no-prefetch -fno-alias

447.dealII: -fast -IPF_fp_relaxed -ansi-alias -no-alias-args

450.soplex: -fast -IPF_fp_relaxed -ansi-alias -inline-factor=150

453.povray: -prof_gen(pass 1) -prof_use(pass 2) -fast -IPF_fp_relaxed -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -fast -IPF_fp_relaxed -inline-factor=150

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

Continued on next page

Peak Optimization Flags (Continued)

459.GemsFDTD: `basepeak = yes`

465.tonto: `basepeak = yes`

Benchmarks using both Fortran and C:

435.gromacs: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -IPF_fp_relaxed -fno-alias -inline-factor=150`

436.cactusADM: `basepeak = yes`

454.calculix: `-fast -IPF_fp_relaxed -fno-alias`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/IPF_intel91_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/IPF_intel91_flags.xml`

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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