SPEC® CFP2006 Result

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Bull SAS

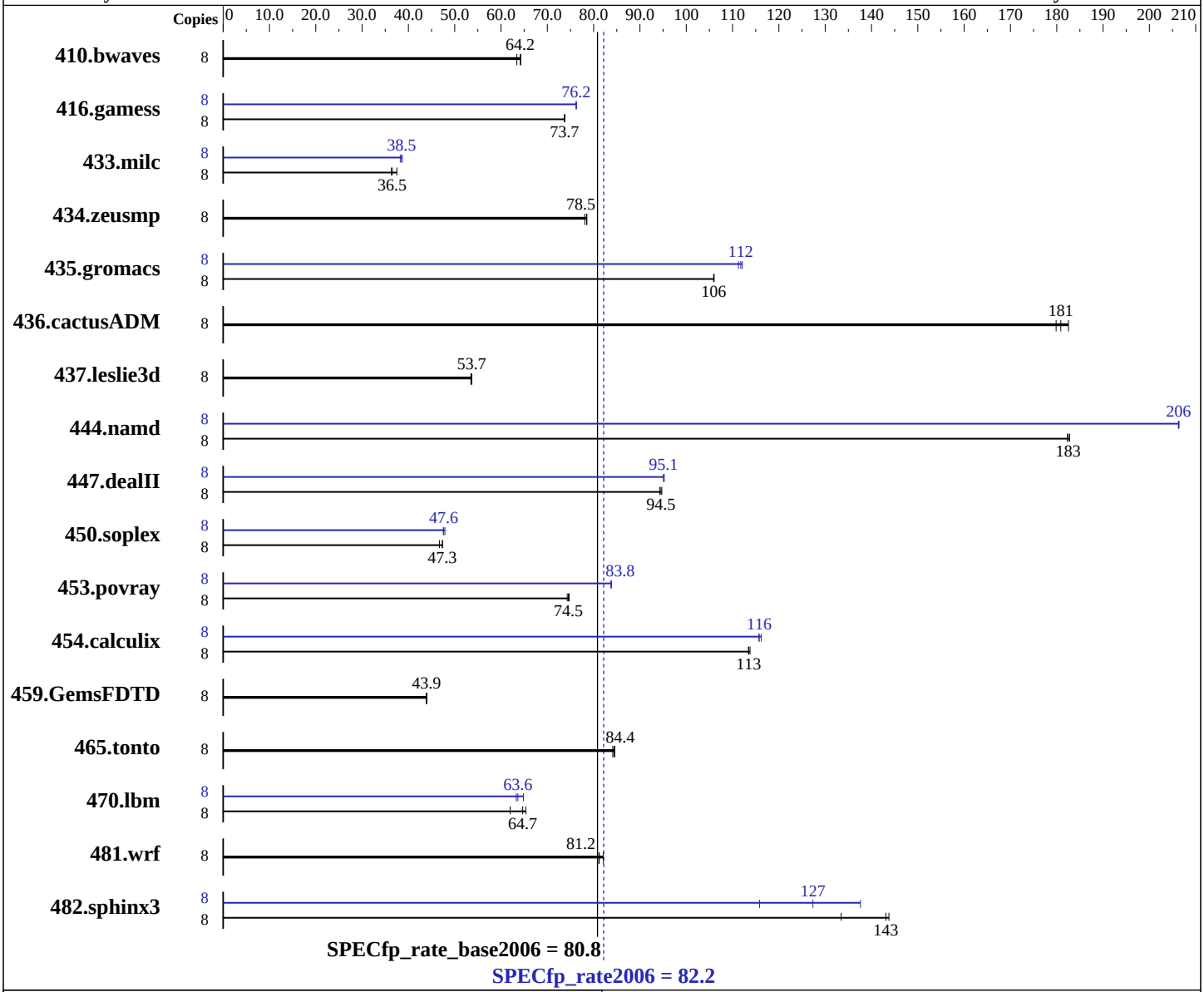
NovaScale 3045
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECfp®_rate2006 = 82.2

SPECfp_rate_base2006 = 80.8

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

Test date: Apr-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:	8 cores, 4 chips, 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	1692	64.3	**1694**	**64.2**	1714	63.4	8	1692	64.3	**1694**	**64.2**	1714	63.4
416.gamess	8	**2125**	**73.7**	2125	73.7	2124	73.7	8	**2054**	**76.2**	2054	76.3	2055	76.2
433.milc	8	2022	36.3	**2012**	**36.5**	1958	37.5	8	1920	38.2	**1906**	**38.5**	1899	38.7
434.zeusmp	8	**927**	**78.5**	932	78.1	927	78.5	8	**927**	**78.5**	932	78.1	927	78.5
435.gromacs	8	539	106	539	106	**539**	**106**	8	510	112	**511**	**112**	513	111
436.cactusADM	8	524	183	532	180	**529**	**181**	8	524	183	532	180	**529**	**181**
437.leslie3d	8	**1401**	**53.7**	1401	53.7	1406	53.5	8	**1401**	**53.7**	1401	53.7	1406	53.5
444.namd	8	**352**	**183**	352	182	351	183	8	311	206	311	206	**311**	**206**
447.dealII	8	971	94.3	**968**	**94.5**	966	94.7	8	**962**	**95.1**	962	95.1	961	95.2
450.soplex	8	**1410**	**47.3**	1409	47.4	1429	46.7	8	1393	47.9	**1401**	**47.6**	1403	47.5
453.povray	8	**571**	**74.5**	570	74.7	573	74.3	8	508	83.8	**508**	**83.8**	508	83.8
454.calculix	8	582	113	**582**	**113**	580	114	8	568	116	570	116	**570**	**116**
459.GemsFDTD	8	1935	43.9	1930	44.0	**1932**	**43.9**	8	1935	43.9	1930	44.0	**1932**	**43.9**
465.tonto	8	936	84.1	**932**	**84.4**	931	84.6	8	936	84.1	**932**	**84.4**	931	84.6
470.lbm	8	1682	65.4	1774	62.0	**1699**	**64.7**	8	1737	63.3	**1727**	**63.6**	1695	64.8
481.wrf	8	1101	81.1	1088	82.1	**1100**	**81.2**	8	1101	81.1	1088	82.1	**1100**	**81.2**
482.sphinx3	8	1168	133	1085	144	**1089**	**143**	8	1133	138	1346	116	**1224**	**127**

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
```

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/IA64_Intel91_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/IA64_Intel91_flags.xml`

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