SPEC® CFP2006 Result

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Fujitsu

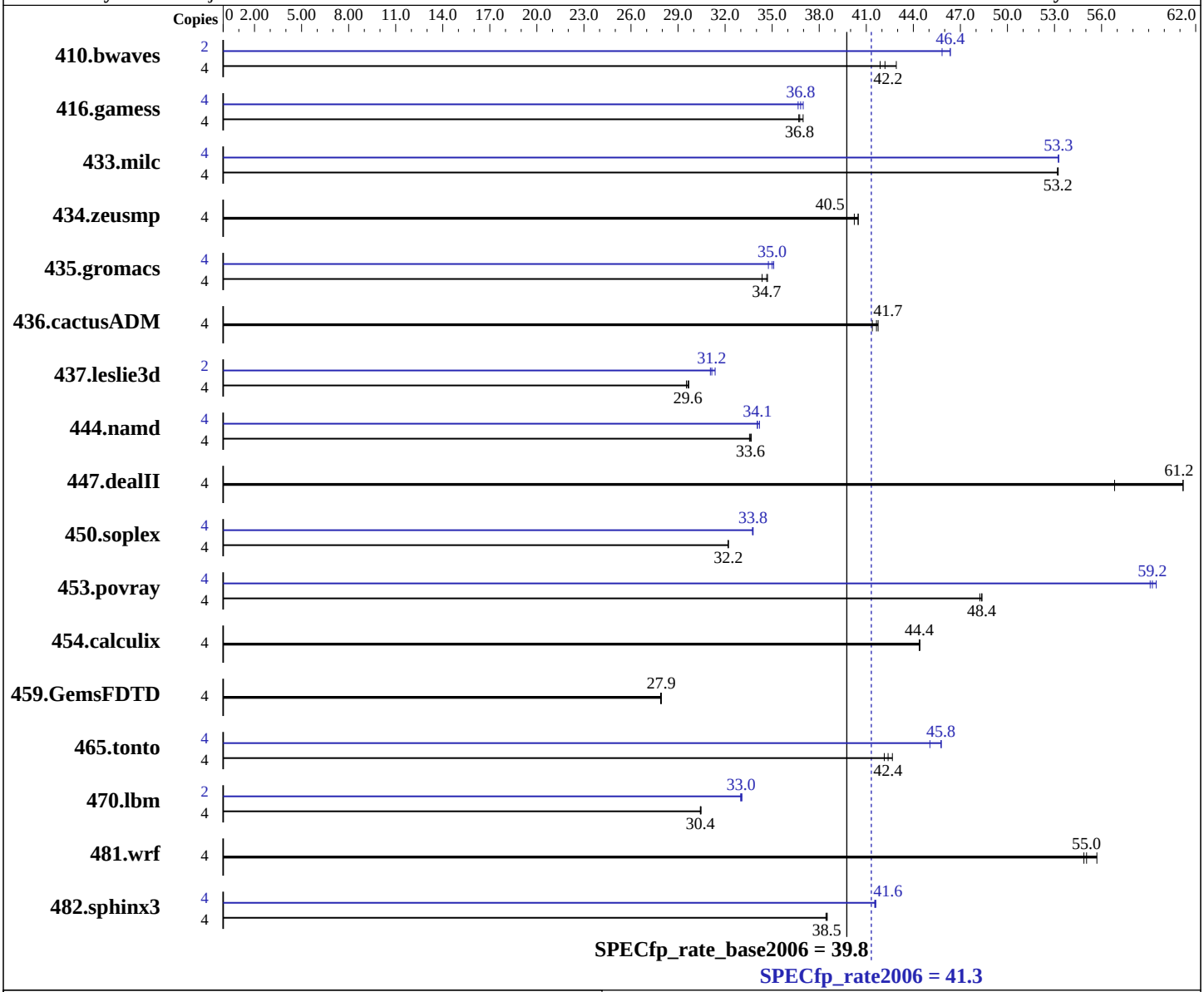
PRIMERGY RX100 S6, Intel Xeon L3406, 2.26 GHz

SPECfp®_rate2006 = 41.3

SPECfp_rate_base2006 = 39.8

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Feb-2010
Hardware Availability: Mar-2010
Software Availability: Nov-2009



Hardware

CPU Name:	Intel Xeon L3406
CPU Characteristics:	Intel Turbo Boost Technology up to 2.53 GHz
CPU MHz:	2267
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-smp
Compiler:	Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091012 Package ID: l_cproc_p_11.1.059, l_cprof_p_11.1.059
Auto Parallel:	No
File System:	ext3
System State:	Multi-User Run Level 3

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2x4 GB PC3-10600E, 2 rank, CL9-9-9, ECC)
Disk Subsystem: 1 x SATA, 250 GB, 7200 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1298	41.9	**1288**	**42.2**	1267	42.9	2	593	45.8	586	46.4	**586**	**46.4**
416.gamess	4	2118	37.0	**2131**	**36.8**	2134	36.7	4	2118	37.0	**2127**	**36.8**	2137	36.7
433.milc	4	690	53.2	**690**	**53.2**	690	53.2	4	**689**	**53.3**	689	53.3	690	53.3
434.zeusmp	4	905	40.2	899	40.5	**899**	**40.5**	4	905	40.2	899	40.5	**899**	**40.5**
435.gromacs	4	831	34.4	823	34.7	**824**	**34.7**	4	814	35.1	**816**	**35.0**	822	34.8
436.cactusADM	4	**1148**	**41.7**	1155	41.4	1145	41.8	4	**1148**	**41.7**	1155	41.4	1145	41.8
437.leslie3d	4	**1269**	**29.6**	1267	29.7	1273	29.5	2	**603**	**31.2**	599	31.4	605	31.1
444.namd	4	953	33.7	**954**	**33.6**	956	33.6	4	938	34.2	942	34.1	**942**	**34.1**
447.dealII	4	748	61.2	805	56.8	**748**	**61.2**	4	748	61.2	805	56.8	**748**	**61.2**
450.soplex	4	1036	32.2	**1036**	**32.2**	1036	32.2	4	989	33.7	987	33.8	**988**	**33.8**
453.povray	4	440	48.4	441	48.2	**440**	**48.4**	4	358	59.5	**359**	**59.2**	360	59.1
454.calculix	4	743	44.4	744	44.4	**744**	**44.4**	4	743	44.4	744	44.4	**744**	**44.4**
459.GemsFDTD	4	1522	27.9	1519	27.9	**1520**	**27.9**	4	1522	27.9	1519	27.9	**1520**	**27.9**
465.tonto	4	923	42.7	934	42.1	**929**	**42.4**	4	860	45.8	**860**	**45.8**	874	45.1
470.lbm	4	1807	30.4	1804	30.5	**1806**	**30.4**	2	831	33.1	**832**	**33.0**	833	33.0
481.wrf	4	814	54.9	802	55.7	**812**	**55.0**	4	814	54.9	802	55.7	**812**	**55.0**
482.sphinx3	4	**2026**	**38.5**	2029	38.4	2024	38.5	4	1877	41.5	**1876**	**41.6**	1874	41.6

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

Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

Operating System Notes

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

General Notes

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For information about Fujitsu please visit: http://www.fujitsu.com
```

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

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:
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -m64`

482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):
`icpc -m64`

450.soplex: `icpc -m32`

Fortran benchmarks:
`ifort -m64`

Benchmarks using both Fortran and C:
`icc -m64 ifort -m64`

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`
470.lbm: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

433.milc: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-static`(pass 2) `-prof-use`(pass 2) `-fno-alias -opt-prefetch`

470.lbm: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-static`(pass 2) `-prof-use`(pass 2) `-opt-malloc-options=3 -ansi-alias -auto-ilp32`

Continued on next page

Peak Optimization Flags (Continued)

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32

447.dealII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-fp-linux64-revF.20100202.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-fp-linux64-revF.20100202.xml

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

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