SPEC® CFP2006 Result

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Fujitsu

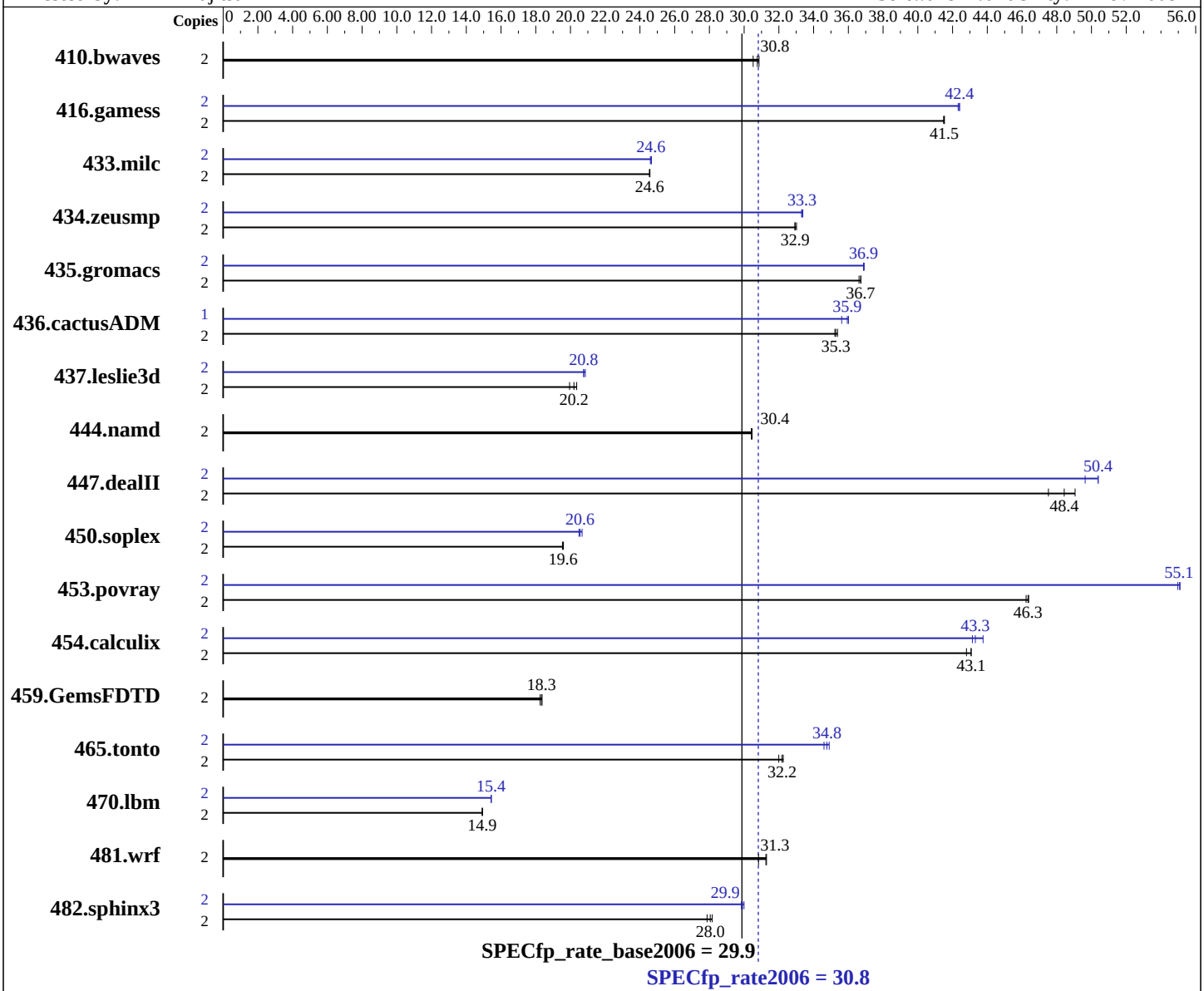
PRIMERGY TX150 S6, Intel Core 2 Duo E7400, 2.80 GHz

SPECfp®_rate2006 = 30.8

SPECfp_rate_base2006 = 29.9

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

Test date: Mar-2009
Hardware Availability: Apr-2009
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Core 2 Duo E7400
CPU Characteristics:	1067 MHz system bus
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	3 MB I+D on chip per chip

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Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ and Fortran Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066, l_cprof_p_11.0.066
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: 8 GB (4x2 GB PC2-6400E, 2 rank, CL6-6-6, ECC)
Disk Subsystem: 1x SATA, 250 GB, 7200 rpm
Other Hardware: None

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	2	881	30.9	**884**	**30.8**	891	30.5	2	881	30.9	**884**	**30.8**	891	30.5
416.gamess	2	943	41.5	**943**	**41.5**	944	41.5	2	925	42.3	**924**	**42.4**	923	42.4
433.milc	2	748	24.5	747	24.6	**748**	**24.6**	2	**745**	**24.6**	746	24.6	744	24.7
434.zeusmp	2	**553**	**32.9**	551	33.0	553	32.9	2	545	33.4	**546**	**33.3**	546	33.3
435.gromacs	2	389	36.7	390	36.6	**389**	**36.7**	2	**387**	**36.9**	387	36.9	387	36.9
436.cactusADM	2	**677**	**35.3**	676	35.4	679	35.2	1	**332**	**35.9**	336	35.6	332	36.0
437.leslie3d	2	942	19.9	923	20.4	**931**	**20.2**	2	**905**	**20.8**	906	20.8	901	20.9
444.namd	2	527	30.4	527	30.5	**527**	**30.4**	2	527	30.4	527	30.5	**527**	**30.4**
447.dealII	2	466	49.1	**472**	**48.4**	481	47.5	2	454	50.4	461	49.6	**454**	**50.4**
450.soplex	2	854	19.5	851	19.6	**852**	**19.6**	2	814	20.5	807	20.7	**812**	**20.6**
453.povray	2	**230**	**46.3**	229	46.4	230	46.2	2	**193**	**55.1**	193	55.1	194	55.0
454.calculix	2	383	43.1	386	42.8	**383**	**43.1**	2	377	43.8	382	43.1	**381**	**43.3**
459.GemsFDTD	2	1163	18.3	1156	18.4	**1157**	**18.3**	2	1163	18.3	1156	18.4	**1157**	**18.3**
465.tonto	2	**612**	**32.2**	610	32.3	615	32.0	2	564	34.9	**566**	**34.8**	569	34.6
470.lbm	2	1842	14.9	**1841**	**14.9**	1841	14.9	2	**1781**	**15.4**	1781	15.4	1780	15.4
481.wrf	2	**715**	**31.3**	725	30.8	714	31.3	2	**715**	**31.3**	725	30.8	714	31.3
482.sphinx3	2	1399	27.9	**1390**	**28.0**	1384	28.2	2	1300	30.0	**1303**	**29.9**	1306	29.8

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.
 taskset has been used to bind processes to cores except
 for 436.cactusADM peak
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M
```

Platform Notes

```
BIOS configuration:
Adjacent Sector Prefetch = Disable
```

General Notes

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

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

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:
`-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch`

C++ benchmarks:
`-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch`

Fortran benchmarks:
`-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch`

Benchmarks using both Fortran and C:
`-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch`

Peak Compiler Invocation

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

482.sphinx3: `icc -m32`

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

450.soplex: `icpc -m32`

Fortran benchmarks (except as noted below):
`ifort`

437.leslie3d: `ifort -m32`

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`
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`

Continued on next page

Peak Portability Flags (Continued)

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

470.lbm: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32

482.sphinx3: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: basepeak = yes

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

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

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

Fortran benchmarks:

410.bwaves: basepeak = yes

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

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static

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

459.GemsFDTD: basepeak = yes

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll4 -auto

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

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

436.cactusADM: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2 -opt-prefetch -parallel -auto-ilp32`

454.calculix: `-xSSE4.1 -ipo -O3 -no-prec-div -static -auto-ilp32`

481.wrf: `basepeak = yes`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.05.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.05.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.xml

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