SPEC® CFP2006 Result

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Fujitsu

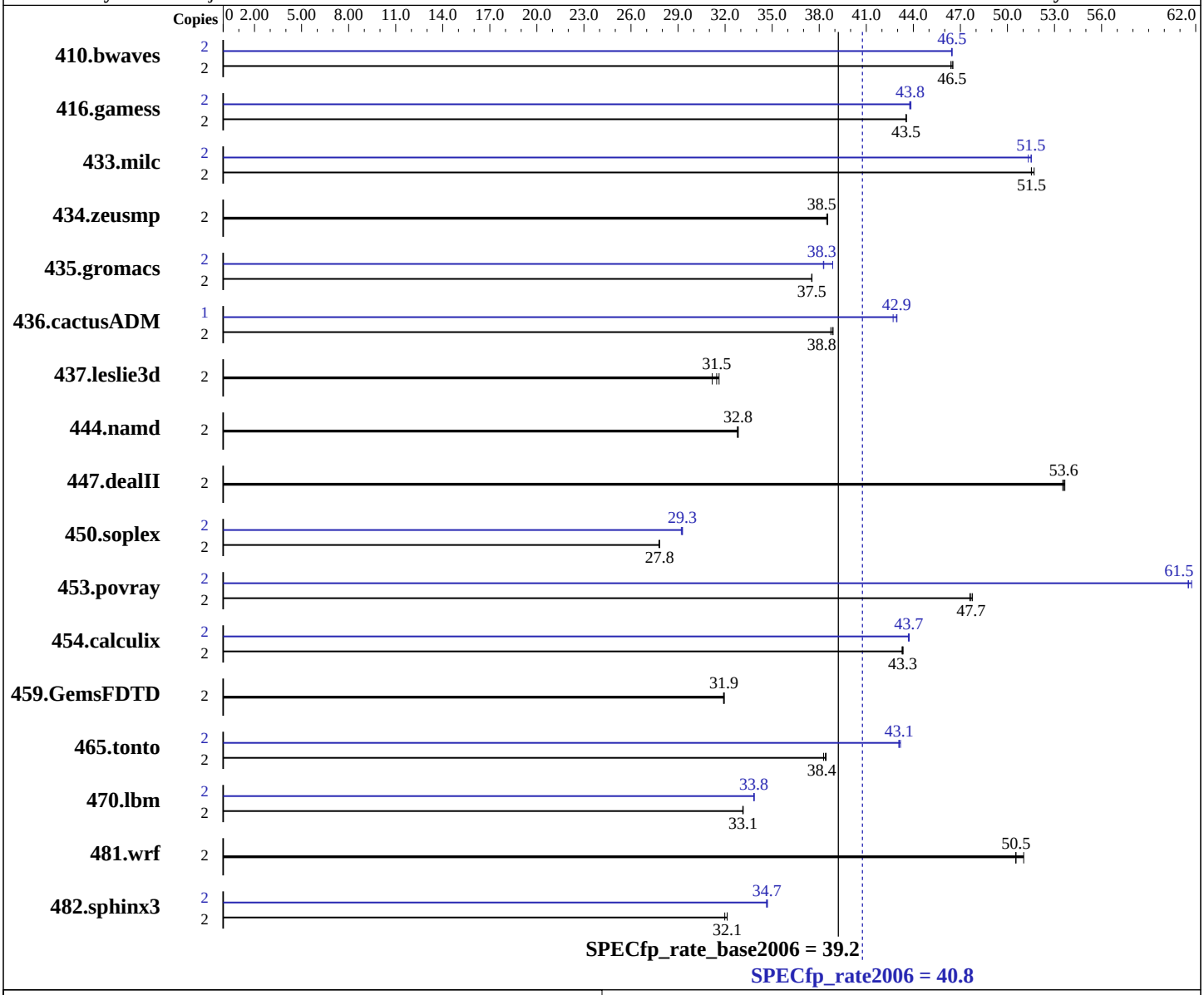
PRIMERGY TX100 S2, Intel Pentium G6950, 2.80 GHz

SPECfp®_rate2006 = 40.8

SPECfp_rate_base2006 = 39.2

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

Test date: Jul-2010
Hardware Availability: Jul-2010
Software Availability: Jan-2010



Hardware

CPU Name:	Intel Pentium G6950
CPU Characteristics:	
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:	256 KB I+D on chip per core

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Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)

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L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4x4 GB PC3-10600E, 2 rank, CL9-9-9, ECC, see add'l detail in notes)
Disk Subsystem: 1 x SATA, 160 GB, 5400 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-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	2	584	46.5	586	46.4	**585**	**46.5**	2	585	46.4	**585**	**46.5**	585	46.5
416.gamess	2	**900**	**43.5**	899	43.6	900	43.5	2	893	43.8	895	43.8	**894**	**43.8**
433.milc	2	355	51.7	356	51.5	**356**	**51.5**	2	356	51.5	358	51.3	**356**	**51.5**
434.zeusmp	2	473	38.5	**472**	**38.5**	472	38.5	2	473	38.5	**472**	**38.5**	472	38.5
435.gromacs	2	**380**	**37.5**	381	37.5	380	37.5	2	367	38.9	373	38.3	**373**	**38.3**
436.cactusADM	2	**615**	**38.8**	615	38.9	617	38.7	1	280	42.7	**278**	**42.9**	278	43.0
437.leslie3d	2	595	31.6	603	31.2	**598**	**31.5**	2	595	31.6	603	31.2	**598**	**31.5**
444.namd	2	488	32.8	**489**	**32.8**	489	32.8	2	488	32.8	**489**	**32.8**	489	32.8
447.dealII	2	426	53.7	**427**	**53.6**	427	53.5	2	426	53.7	**427**	**53.6**	427	53.5
450.soplex	2	600	27.8	**600**	**27.8**	599	27.8	2	**570**	**29.3**	570	29.3	571	29.2
453.povray	2	223	47.8	224	47.6	**223**	**47.7**	2	**173**	**61.5**	172	61.7	173	61.5
454.calculix	2	381	43.3	381	43.3	**381**	**43.3**	2	**377**	**43.7**	377	43.7	378	43.7
459.GemsFDTD	2	664	31.9	**665**	**31.9**	665	31.9	2	664	31.9	**665**	**31.9**	665	31.9
465.tonto	2	512	38.4	**513**	**38.4**	514	38.3	2	457	43.1	**457**	**43.1**	456	43.2
470.lbm	2	829	33.2	830	33.1	**829**	**33.1**	2	812	33.9	**812**	**33.8**	812	33.8
481.wrf	2	**442**	**50.5**	438	51.0	442	50.5	2	**442**	**50.5**	438	51.0	442	50.5
482.sphinx3	2	1213	32.1	1219	32.0	**1213**	**32.1**	2	1125	34.6	**1125**	**34.7**	1123	34.7

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 was used to bind copies to the cores except
 for 436.cactusADM peak
```

Operating System Notes

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

Platform Notes

```
The system automatically configures the memory to run at 1067 MHz.
```

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
```

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:
```
-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
```

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Base Optimization Flags (Continued)

C++ benchmarks:
`-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch`

Fortran benchmarks:
`-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch`

Benchmarks using both Fortran and C:
`-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch`

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: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -fno-alias`

470.lbm: `-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32`

482.sphinx3: `-xSSSE3 -ipo -O3 -no-prec-div -static -unroll2`

C++ benchmarks:

444.namd: `basepeak = yes`

447.dealII: `basepeak = yes`

450.soplex: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -opt-malloc-options=3`

453.povray: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -unroll4 -ansi-alias`

Fortran benchmarks:

410.bwaves: `-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch`

416.gamess: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -Ob0 -ansi-alias -scalar-rep-`

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -unroll4 -auto`

Benchmarks using both Fortran and C:

435.gromacs: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32`

436.cactusADM: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -opt-prefetch -parallel -auto-ilp32`

454.calculix: `-xSSSE3 -ipo -O3 -no-prec-div -static -auto-ilp32`

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Peak Optimization Flags (Continued)

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-linux64-revE.20100708.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.xml`

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