SPEC® CFP2006 Result

Fujitsu

CELSIUS W410, Intel Core i5-2500

$SPECfp®\_rate2006 = \quad 110$

$SPECfp\_rate\_base2006 = \quad 106$

CPU2006 license: 19	**Test date:** Jun-2011
Test sponsor: Fujitsu	**Hardware Availability:** Mar-2011
Tested by: Fujitsu	**Software Availability:** Jan-2011

Copies: graph scale 0 to 205

- **410.bwaves** — 4: 96.9 / 4: 97.1
- **416.gamess** — 4: 139 / 4: 126
- **433.milc** — 4: 96.8 / 4: 97.2
- **434.zeusmp** — 4: 121
- **435.gromacs** — 4: 94.9 / 4: 86.3
- **436.cactusADM** — 4: 127
- **437.leslie3d** — 4: 64.9 / 4: 65.0
- **444.namd** — 4: 94.0 / 4: 93.0
- **447.dealII** — 4: 171
- **450.soplex** — 4: 71.0 / 4: 64.3
- **453.povray** — 4: 204 / 4: 174
- **454.calculix** — 4: 161
- **459.GemsFDTD** — 4: 56.9
- **465.tonto** — 4: 130 / 4: 127
- **470.lbm** — 4: 122 / 4: 121
- **481.wrf** — 4: 116
- **482.sphinx3** — 4: 97.6 / 4: 94.3

SPECfp_rate_base2006 = 106

SPECfp_rate2006 = 110

Hardware

CPU Name:	Intel Core i5-2500
CPU Characteristics:	Intel Turbo Boost Technology up to 3.7 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 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

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) SP1, kernel 2.6.32.12-0.6-default
Compiler:	Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.2.137 Build 20110112
Auto Parallel:	No
File System:	ext3
System State:	Run Level 3 (multi-user)
Base Pointers:	64-bit

Continued on next page

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CPU2006 license: 19
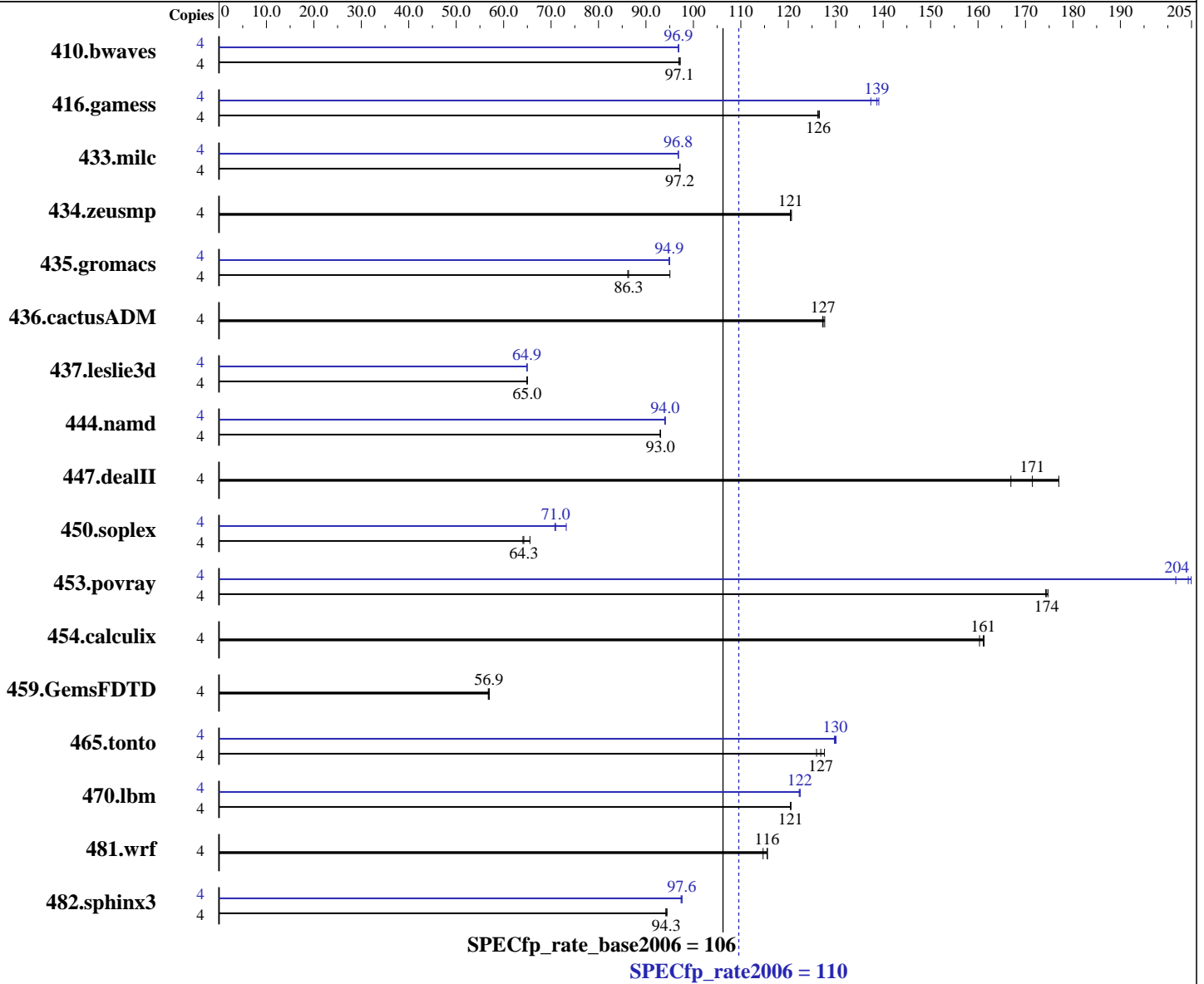**Test sponsor:** Fujitsu
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Test date: Jun-2011
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Software Availability: Jan-2011

L3 Cache:	6 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 GB 2Rx8 PC3-10600U-9)
Disk Subsystem:	1 x SATA II, 400 GB, 7200 rpm
Other Hardware:	None

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	4	559	97.2	**560**	**97.1**	561	96.9	4	561	96.9	**561**	**96.9**	562	96.8
416.gamess	4	**620**	**126**	621	126	619	127	4	**565**	**139**	563	139	570	137
433.milc	4	378	97.1	**378**	**97.2**	378	97.2	4	379	96.8	379	96.8	**379**	**96.8**
434.zeusmp	4	**302**	**121**	302	121	302	120	4	**302**	**121**	302	121	302	120
435.gromacs	4	**331**	**86.3**	300	95.1	331	86.2	4	**301**	**94.9**	301	94.8	301	95.0
436.cactusADM	4	374	128	376	127	**375**	**127**	4	374	128	376	127	**375**	**127**
437.leslie3d	4	**579**	**65.0**	578	65.0	579	64.9	4	**579**	**64.9**	579	65.0	579	64.9
444.namd	4	345	93.1	345	93.0	**345**	**93.0**	4	341	94.1	**341**	**94.0**	341	93.9
447.dealII	4	**267**	**171**	258	177	274	167	4	**267**	**171**	258	177	274	167
450.soplex	4	521	64.1	**519**	**64.3**	509	65.5	4	471	70.8	**470**	**71.0**	456	73.2
453.povray	4	**122**	**174**	122	175	122	174	4	104	205	106	202	**104**	**204**
454.calculix	4	205	161	**205**	**161**	206	160	4	205	161	**205**	**161**	206	160
459.GemsFDTD	4	**746**	**56.9**	748	56.8	745	57.0	4	**746**	**56.9**	748	56.8	745	57.0
465.tonto	4	308	128	**310**	**127**	312	126	4	303	130	303	130	**303**	**130**
470.lbm	4	456	120	**456**	**121**	456	121	4	449	122	**449**	**122**	449	123
481.wrf	4	390	115	**387**	**116**	386	116	4	390	115	**387**	**116**	386	116
482.sphinx3	4	825	94.4	**827**	**94.3**	828	94.2	4	799	97.6	800	97.4	**799**	**97.6**

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 stack size to unlimited prior to run
     Huge pages were not configured for this run
```

Base Compiler Invocation

C benchmarks:
```
     icc   -m64
```

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Base Compiler Invocation (Continued)

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:
        -xAVX -ipo -O3 -no-prec-div -static -ansi-alias

C++ benchmarks:
        -xAVX -ipo -O3 -no-prec-div -static -ansi-alias

Fortran benchmarks:
        -xAVX -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
        -xAVX -ipo -O3 -no-prec-div -static -ansi-alias

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Hardware Availability: Mar-2011
Software Availability: Jan-2011

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: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
                `-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32`

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

Continued on next page

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Peak Optimization Flags (Continued)

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

C++ benchmarks:

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

```
      447.dealII: basepeak = yes
```

```
      450.soplex: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
                -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

```
      453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
                -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

Fortran benchmarks:

```
      410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -static
```

```
      416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
                -inline-level=0 -scalar-rep- -static
```

```
      434.zeusmp: basepeak = yes
```

```
      437.leslie3d: -xAVX -ipo -O3 -no-prec-div
                -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

```
   459.GemsFDTD: basepeak = yes
```

```
       465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
                -inline-calloc -opt-malloc-options=3
                -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

Benchmarks using both Fortran and C:

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

```
   436.cactusADM: basepeak = yes
```

```
     454.calculix: basepeak = yes
```

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Peak Optimization Flags (Continued)

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Fujitsu_CELSIUS_Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Fujitsu_CELSIUS_Platform.xml

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

Tested with SPEC CPU2006 v1.1.
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