SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

$SPECfp^{®}2006 =$ 40.0

CELSIUS W280, Intel Core i7-870
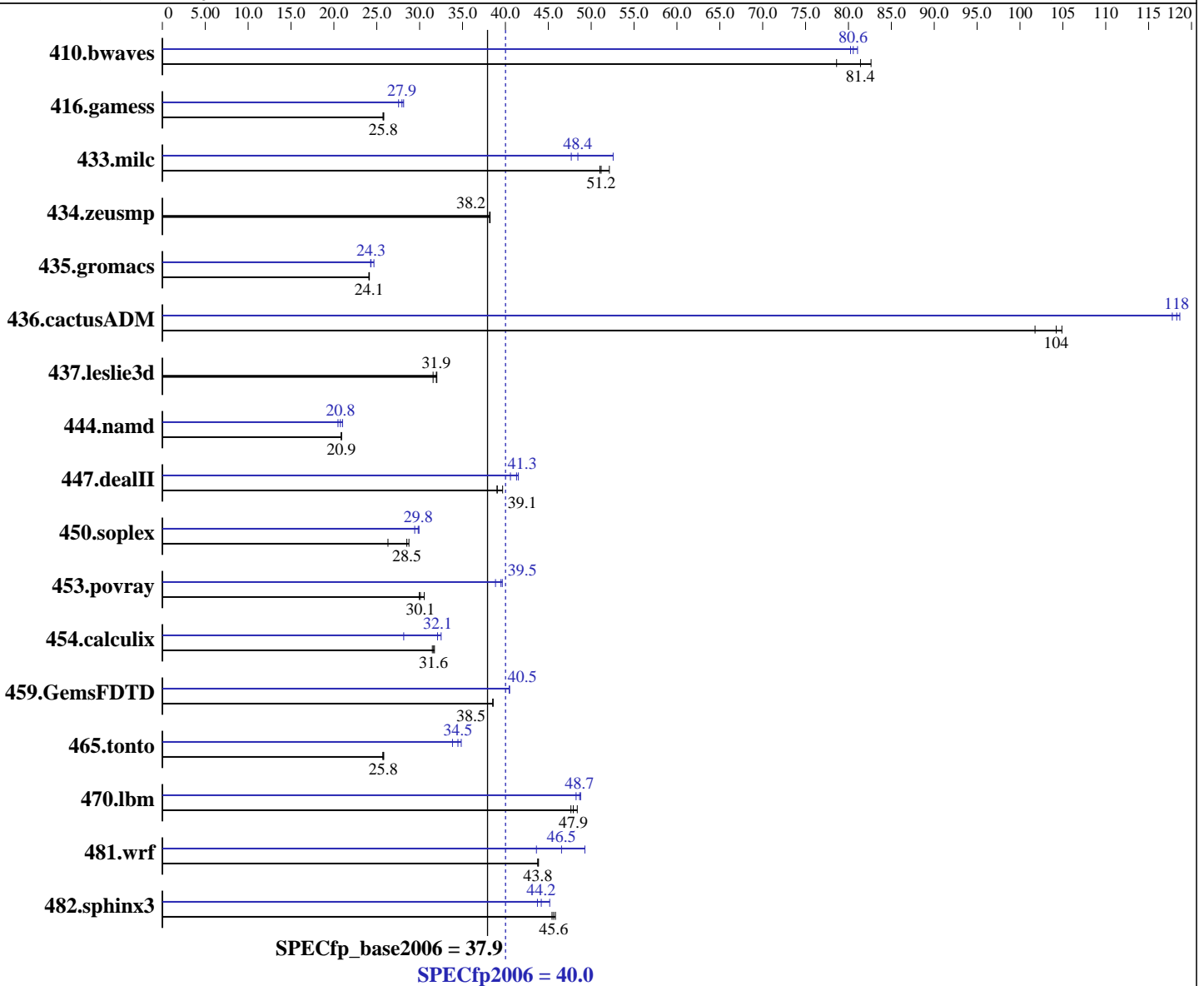
$SPECfp\_base2006 =$ 37.9

CPU2006 license: 19		**Test date:**	Jan-2010
Test sponsor:	Fujitsu	**Hardware Availability:**	Feb-2010
Tested by:	Fujitsu	**Software Availability:**	Oct-2009

Results chart (scale 0 to 120):

- **410.bwaves** — 80.6 / 81.4
- **416.gamess** — 27.9 / 25.8
- **433.milc** — 48.4 / 51.2
- **434.zeusmp** — 38.2
- **435.gromacs** — 24.3 / 24.1
- **436.cactusADM** — 118 / 104
- **437.leslie3d** — 31.9
- **444.namd** — 20.8 / 20.9
- **447.dealII** — 41.3 / 39.1
- **450.soplex** — 29.8 / 28.5
- **453.povray** — 39.5 / 30.1
- **454.calculix** — 32.1 / 31.6
- **459.GemsFDTD** — 40.5 / 38.5
- **465.tonto** — 34.5 / 25.8
- **470.lbm** — 48.7 / 47.9
- **481.wrf** — 46.5 / 43.8
- **482.sphinx3** — 44.2 / 45.6

SPECfp_base2006 = 37.9
SPECfp2006 = 40.0

Hardware

CPU Name:	Intel Core i7-870
CPU Characteristics:	Intel Turbo Boost Technology up to 3.6 GHz
CPU MHz:	2933
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), kernel 2.6.27.19-5-default
Compiler:	Intel C++ and Fortran 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:	Yes
File System:	ext3
System State:	Multi-User Run Level 3

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

CELSIUS W280, Intel Core i7-870

SPECfp2006 =	40.0
SPECfp_base2006 =	37.9

L3 Cache:	8 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	8 GB (2x4 GB PC3-10600U, 2 rank, CL9)	Other Software:	Binutils 2.18.50.0.7.20080502
Disk Subsystem:	1 x SATA II, 400 GB, 7200 rpm		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	164	82.6	**167**	**81.4**	173	78.6	**169**	**80.6**	169	80.2	168	81.1
416.gamess	761	25.7	758	25.8	**760**	**25.8**	**701**	**27.9**	696	28.1	711	27.5
433.milc	176	52.1	180	51.0	**179**	**51.2**	193	47.7	**189**	**48.4**	175	52.6
434.zeusmp	238	38.2	**238**	**38.2**	239	38.2	238	38.2	**238**	**38.2**	239	38.2
435.gromacs	**296**	**24.1**	296	24.1	296	24.1	289	24.7	**294**	**24.3**	294	24.3
436.cactusADM	**115**	**104**	117	102	114	105	101	119	**101**	**118**	101	118
437.leslie3d	294	32.0	**294**	**31.9**	298	31.6	294	32.0	**294**	**31.9**	298	31.6
444.namd	**384**	**20.9**	384	20.9	385	20.9	392	20.5	**386**	**20.8**	382	21.0
447.dealII	288	39.7	**293**	**39.1**	293	39.0	276	41.5	282	40.6	**277**	**41.3**
450.soplex	317	26.3	**293**	**28.5**	290	28.8	**280**	**29.8**	283	29.4	279	29.9
453.povray	**177**	**30.1**	174	30.5	178	29.9	137	38.8	**135**	**39.5**	134	39.6
454.calculix	260	31.7	262	31.5	**261**	**31.6**	254	32.5	293	28.1	**257**	**32.1**
459.GemsFDTD	275	38.6	275	38.5	**275**	**38.5**	262	40.4	262	40.5	**262**	**40.5**
465.tonto	381	25.8	383	25.7	**382**	**25.8**	282	34.9	**286**	**34.5**	291	33.8
470.lbm	284	48.4	**287**	**47.9**	288	47.6	282	48.8	**282**	**48.7**	285	48.2
481.wrf	**255**	**43.8**	255	43.9	255	43.8	227	49.3	256	43.6	**240**	**46.5**
482.sphinx3	425	45.8	429	45.4	**427**	**45.6**	432	45.2	446	43.7	**441**	**44.2**

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

Operating System Notes

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

General Notes

    OMP_NUM_THREADS set to number of cores
    KMP_AFFINITY set to granularity=fine,scatter
    KMP_STACKSIZE set to 200M

Base Compiler Invocation

    C benchmarks:
        icc   -m64

Fujitsu

CELSIUS W280, Intel Core i7-870

$SPECfp2006 =$ 40.0

$SPECfp\_base2006 =$ 37.9

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

Test date: Jan-2010
Hardware Availability: Feb-2010
Software Availability: Oct-2009

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:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Fortran benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

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

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

CELSIUS W280, Intel Core i7-870

$SPECfp2006 =$ 40.0

$SPECfp\_base2006 =$ 37.9

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)`
         `-ansi-alias`

    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)`
         `-parallel -ansi-alias -auto-ilp32`

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

CELSIUS W280, Intel Core i7-870

$SPECfp2006 =$ 40.0

$SPECfp\_base2006 =$ 37.9

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

Test date: Jan-2010
Hardware Availability: Feb-2010
Software Availability: Oct-2009

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: -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 -ansi-alias -scalar-rep- -auto-ilp32

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
-parallel

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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

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)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

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: -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 -opt-prefetch -parallel -auto-ilp32

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

CELSIUS W280, Intel Core i7-870

$SPECfp2006 =$ 40.0

$SPECfp\_base2006 =$ 37.9

Peak Optimization Flags (Continued)

454.calculix: `-xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32`

481.wrf: `Same as 454.calculix`

The flags file that was used to format this result can be browsed at

`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20100119.html`

You can also download the XML flags source by saving the following link:

`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20100119.xml`

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 06:02:50 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 March 2010.