SPEC® CFP2006 Result
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Fujitsu

PRIMERGY TX200 S6, Intel Xeon E5630, 2.53 GHz

$SPECfp^{®}2006 =$ 38.1

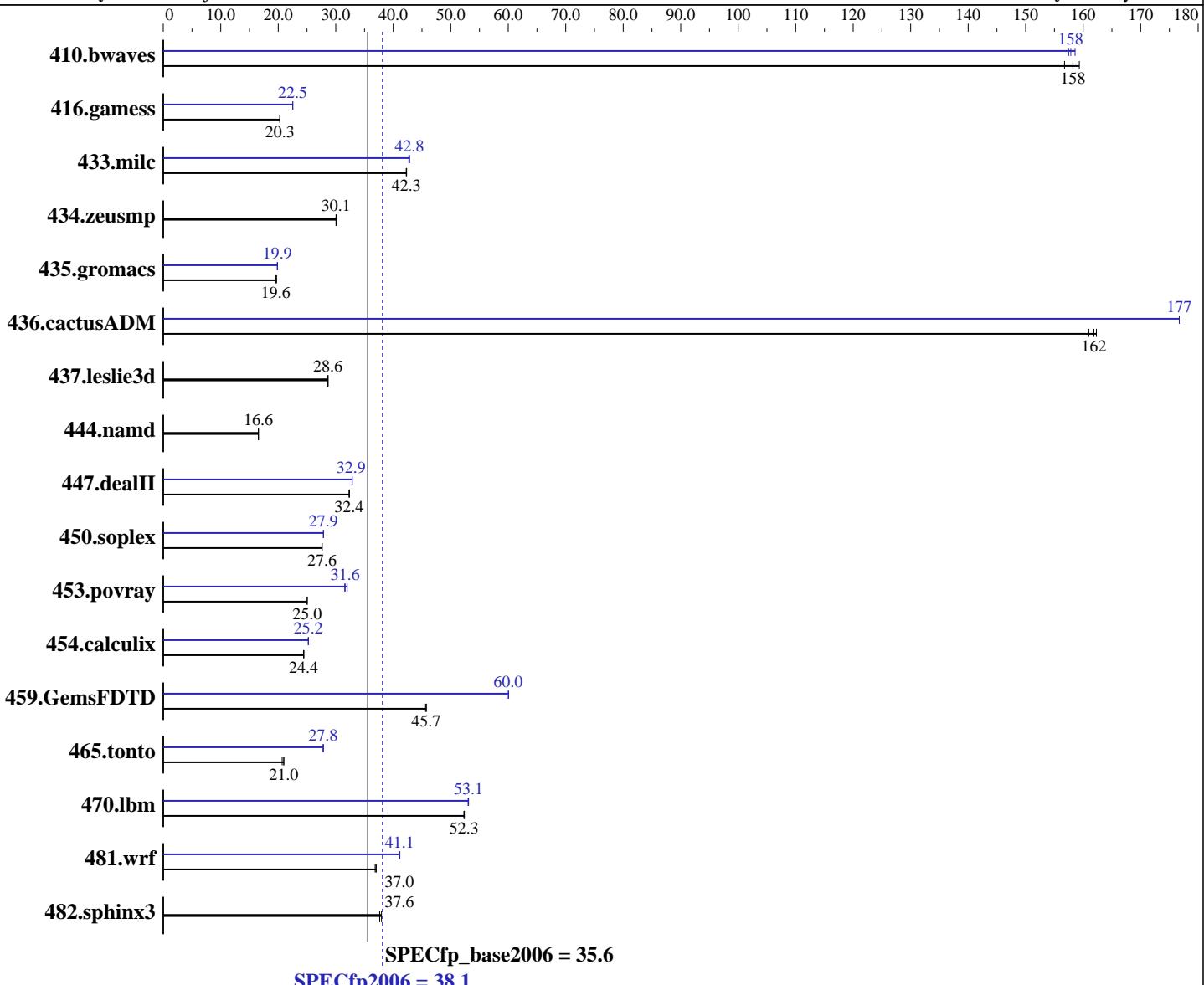$SPECfp\_base2006 =$ 35.6

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

Test date: Aug-2010
Hardware Availability: Jul-2010
Software Availability: May-2010

Benchmark	Base	Peak
410.bwaves	158	158
416.gamess	20.3	22.5
433.milc	42.3	42.8
434.zeusmp	30.1	
435.gromacs	19.6	19.9
436.cactusADM	162	177
437.leslie3d	28.6	
444.namd	16.6	
447.dealII	32.4	32.9
450.soplex	27.6	27.9
453.povray	25.0	31.6
454.calculix	24.4	25.2
459.GemsFDTD	45.7	60.0
465.tonto	21.0	27.8
470.lbm	52.3	53.1
481.wrf	37.0	41.1
482.sphinx3	37.6	

SPECfp_base2006 = 35.6
SPECfp2006 = 38.1

Hardware

CPU Name: Intel Xeon E5630
CPU Characteristics: Intel Turbo Boost Technology up to 2.8 GHz
CPU MHz: 2533
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
CPU(s) orderable: 1,2 chips
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 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: Multi-User Run Level 3

Continued on next page

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L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes)
Disk Subsystem:	1 x SATA, 160 GB, 5.4 krpm
Other Hardware:	None

Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	86.7	157	**85.9**	**158**	85.3	159	86.3	157	**86.1**	**158**	85.7	159
416.gamess	**965**	**20.3**	965	20.3	965	20.3	870	22.5	**870**	**22.5**	869	22.5
433.milc	217	42.3	**217**	**42.3**	217	42.3	215	42.7	214	42.8	**214**	**42.8**
434.zeusmp	**303**	**30.1**	302	30.2	303	30.1	**303**	**30.1**	302	30.2	303	30.1
435.gromacs	362	19.7	**365**	**19.6**	366	19.5	**360**	**19.9**	359	19.9	360	19.8
436.cactusADM	74.2	161	**73.8**	**162**	73.6	162	67.6	177	**67.6**	**177**	67.6	177
437.leslie3d	330	28.5	328	28.7	**328**	**28.6**	330	28.5	328	28.7	**328**	**28.6**
444.namd	**484**	**16.6**	485	16.5	484	16.6	**484**	**16.6**	485	16.5	484	16.6
447.dealII	354	32.3	354	32.4	**354**	**32.4**	348	32.9	348	32.8	**348**	**32.9**
450.soplex	302	27.6	302	27.6	**302**	**27.6**	299	27.9	300	27.8	299	27.9
453.povray	214	24.8	212	25.0	**213**	**25.0**	166	32.0	**168**	**31.6**	169	31.6
454.calculix	338	24.4	**338**	**24.4**	338	24.4	327	25.2	327	25.2	**327**	**25.2**
459.GemsFDTD	232	45.7	233	45.6	**232**	**45.7**	177	60.1	177	59.8	**177**	**60.0**
465.tonto	**469**	**21.0**	469	21.0	476	20.7	353	27.8	**354**	**27.8**	354	27.8
470.lbm	**263**	**52.3**	263	52.3	262	52.4	259	53.0	259	53.1	**259**	**53.1**
481.wrf	**302**	**37.0**	303	36.9	302	37.0	272	41.1	**272**	**41.1**	271	41.2
482.sphinx3	514	38.0	522	37.4	**518**	**37.6**	514	38.0	522	37.4	**518**	**37.6**

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

Platform Notes

The system automatically configures the memory to run at 1066 MHz.
BIOS configuration:
Data Reuse Optimization = Disable
Intel HT Technology = Disable

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Test sponsor: Fujitsu		**Hardware Availability:**	Jul-2010
Tested by: Fujitsu		**Software Availability:**	May-2010

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
```

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 -parallel -opt-prefetch`

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

Continued on next page

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Base Optimization Flags (Continued)

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
```

Peak Compiler Invocation

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

C++ benchmarks:
```
icpc   -m64
```

Fortran benchmarks:
```
ifort -m64
```

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

Peak Portability Flags

```
Same as Base Portability Flags
```

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

482.sphinx3: basepeak = yes
```

C++ benchmarks:

```
  444.namd: basepeak = yes

  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
```

Continued on next page

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Peak Optimization Flags (Continued)

```
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 -auto-ilp32

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

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-revE.20100708.html

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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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Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 14:43:46 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 October 2010.