SPEC® CFP2006 Result
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Fujitsu

PRIMERGY CX250 S2, Intel Xeon E5-2630L v2, 2.40 GHz
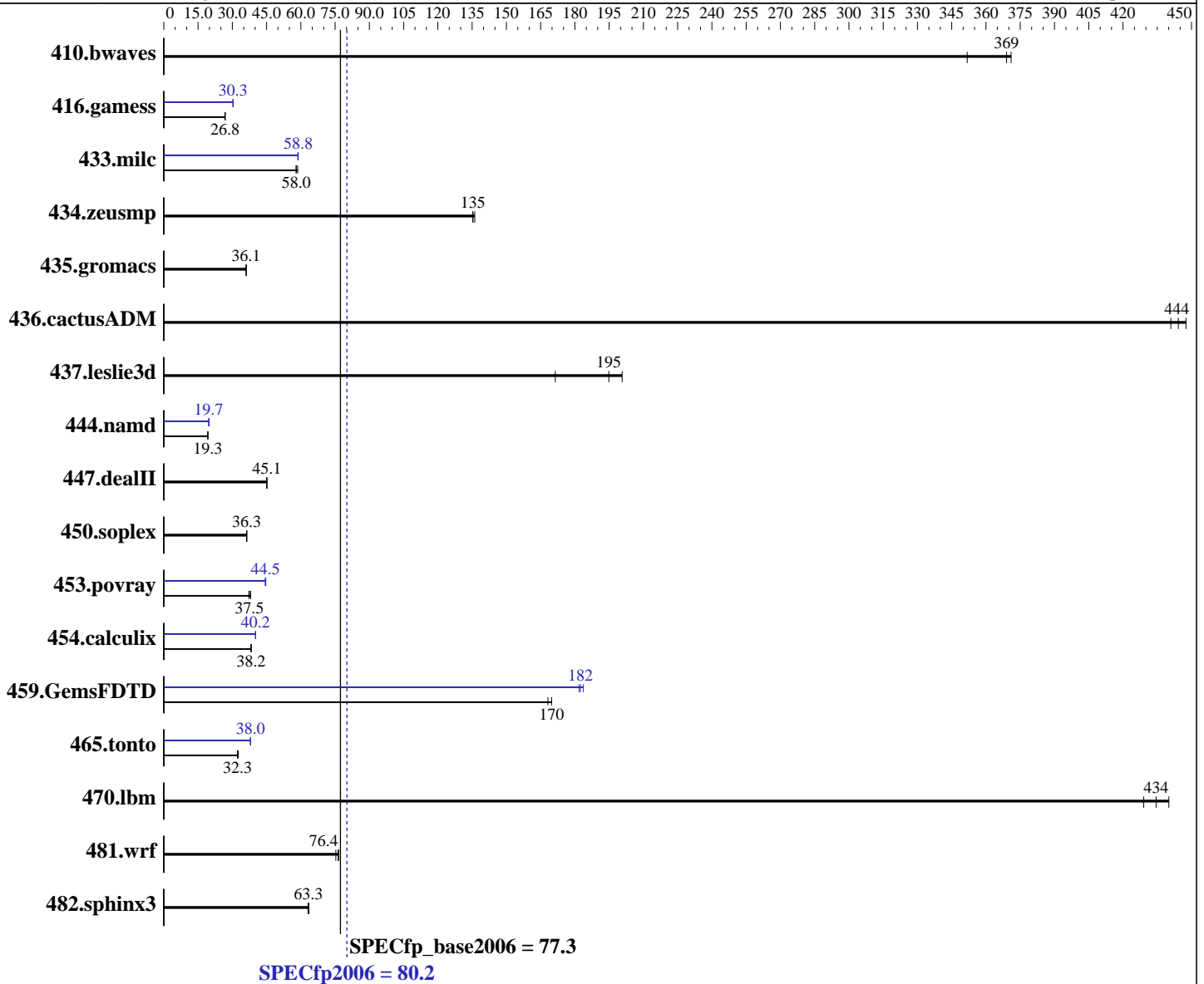
$SPECfp^{®}2006 =$ 80.2

$SPECfp\_base2006 =$ 77.3

CPU2006 license: 19	**Test date:** Sep-2013
Test sponsor: Fujitsu	**Hardware Availability:** Sep-2013
Tested by: Fujitsu	**Software Availability:** Sep-2013

Results graph showing benchmark scores:

- 410.bwaves: 369
- 416.gamess: 30.3 / 26.8
- 433.milc: 58.8 / 58.0
- 434.zeusmp: 135
- 435.gromacs: 36.1
- 436.cactusADM: 444
- 437.leslie3d: 195
- 444.namd: 19.7 / 19.3
- 447.dealII: 45.1
- 450.soplex: 36.3
- 453.povray: 44.5 / 37.5
- 454.calculix: 40.2 / 38.2
- 459.GemsFDTD: 182 / 170
- 465.tonto: 38.0 / 32.3
- 470.lbm: 434
- 481.wrf: 76.4
- 482.sphinx3: 63.3

SPECfp_base2006 = 77.3
SPECfp2006 = 80.2

Hardware

CPU Name:	Intel Xeon E5-2630L v2
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
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:	Red Hat Enterprise Linux Server release 6.4 (Santiago) 2.6.32-358.11.1.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4

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L3 Cache:	15 MB I+D on chip per chip	System State:	Run level 5 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	128 GB (16 x 8 GB 2Rx8 PC3-14900R-13, ECC, running at 1600 MHz and CL11)	Peak Pointers:	32/64-bit
		Other Software:	None
Disk Subsystem:	1 x SATA, 500 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	38.6	352	36.6	371	**36.8**	**369**	38.6	352	36.6	371	**36.8**	**369**
416.gamess	730	26.8	729	26.8	**729**	**26.8**	**646**	**30.3**	645	30.3	646	30.3
433.milc	159	57.9	**158**	**58.0**	157	58.6	156	58.8	**156**	**58.8**	156	58.7
434.zeusmp	66.8	136	67.2	135	**67.2**	**135**	66.8	136	67.2	135	**67.2**	**135**
435.gromacs	**198**	**36.1**	198	36.0	198	36.1	**198**	**36.1**	198	36.0	198	36.1
436.cactusADM	**26.9**	**444**	26.7	448	27.1	441	**26.9**	**444**	26.7	448	27.1	441
437.leslie3d	46.8	201	54.8	171	**48.2**	**195**	46.8	201	54.8	171	**48.2**	**195**
444.namd	416	19.3	416	19.3	**416**	**19.3**	407	19.7	407	19.7	**407**	**19.7**
447.dealII	**254**	**45.1**	254	45.1	253	45.1	**254**	**45.1**	254	45.1	253	45.1
450.soplex	229	36.4	**230**	**36.3**	230	36.2	229	36.4	**230**	**36.3**	230	36.2
453.povray	140	38.1	**142**	**37.5**	143	37.2	120	44.4	119	44.7	**119**	**44.5**
454.calculix	215	38.3	216	38.1	**216**	**38.2**	205	40.2	**205**	**40.2**	205	40.2
459.GemsFDTD	**62.5**	**170**	62.5	170	63.1	168	58.4	182	57.8	184	**58.2**	**182**
465.tonto	301	32.6	305	32.2	**305**	**32.3**	**259**	**38.0**	259	38.0	259	38.0
470.lbm	**31.6**	**434**	31.2	440	32.0	429	**31.6**	**434**	31.2	440	32.0	429
481.wrf	148	75.3	146	76.6	**146**	**76.4**	148	75.3	146	76.6	**146**	**76.4**
482.sphinx3	**308**	**63.3**	307	63.5	308	63.2	**308**	**63.3**	307	63.5	308	63.2

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS configuration:
Energy Performance = Performance
Utilization Profile = Unbalanced

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General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"
OMP_NUM_THREADS = "12"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>

 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
```

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Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
```

Fortran benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias
```

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

```
470.lbm: basepeak = yes
```

```
482.sphinx3: basepeak = yes
```

C++ benchmarks:

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Peak Optimization Flags (Continued)

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: `basepeak = yes`

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`

Fortran benchmarks:

410.bwaves: `basepeak = yes`

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-`

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `-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 -opt-prefetch -parallel`

465.tonto: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
`-no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc`
`-opt-malloc-options=3 -auto -unroll4`

Benchmarks using both Fortran and C:

435.gromacs: `basepeak = yes`

436.cactusADM: `basepeak = yes`

454.calculix: `-xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias`

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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.xml

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

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