SPEC® CFP2006 Result

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Fujitsu

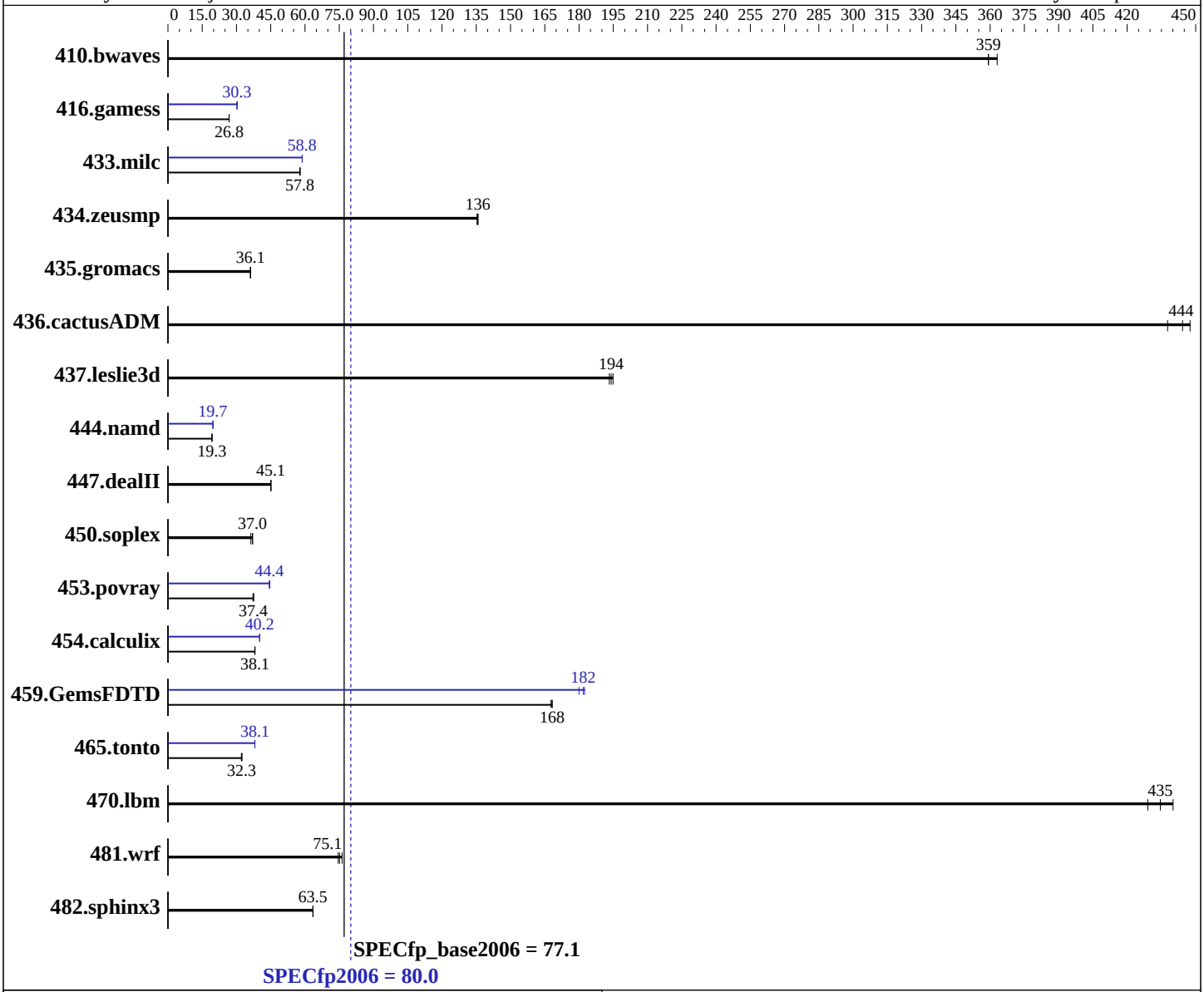
PRIMERGY TX300 S8, Intel Xeon E5-2630L v2, 2.40 GHz

SPECfp®2006 = 80.0

SPECfp_base2006 = 77.1

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

Test date: Sep-2013
Hardware Availability: Oct-2013
Software Availability: Sep-2013



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

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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
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1600 MHz and CL11)
Disk Subsystem: 1 x SATA, 450 GB, 15000 RPM
Other Hardware: None

System State: Run level 3 (multi-user)
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	**37.8**	**359**	37.4	363	37.8	359	**37.8**	**359**	37.4	363	37.8	359
416.gamess	731	26.8	**731**	**26.8**	731	26.8	**647**	**30.3**	647	30.3	648	30.2
433.milc	**159**	**57.8**	159	57.8	159	57.9	156	58.8	156	58.8	**156**	**58.8**
434.zeusmp	**67.0**	**136**	67.2	135	67.0	136	**67.0**	**136**	67.2	135	67.0	136
435.gromacs	**198**	**36.1**	197	36.2	198	36.1	**198**	**36.1**	197	36.2	198	36.1
436.cactusADM	26.7	448	**26.9**	**444**	27.3	438	26.7	448	**26.9**	**444**	27.3	438
437.leslie3d	48.2	195	**48.4**	**194**	48.6	193	48.2	195	**48.4**	**194**	48.6	193
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	45.0	254	45.1	**254**	**45.1**	254	45.0	254	45.1
450.soplex	230	36.3	225	37.1	**225**	**37.0**	230	36.3	225	37.1	**225**	**37.0**
453.povray	**142**	**37.4**	142	37.5	143	37.2	**120**	**44.4**	119	44.6	120	44.4
454.calculix	216	38.1	217	38.0	**217**	**38.1**	**205**	**40.2**	206	40.1	205	40.2
459.GemsFDTD	**63.1**	**168**	63.1	168	63.3	168	58.2	182	**58.4**	**182**	59.0	180
465.tonto	306	32.1	304	32.4	**304**	**32.3**	258	38.1	**259**	**38.1**	259	38.1
470.lbm	**31.6**	**435**	31.2	440	32.0	429	**31.6**	**435**	31.2	440	32.0	429
481.wrf	150	74.5	146	76.3	**149**	**75.1**	150	74.5	146	76.3	**149**	**75.1**
482.sphinx3	307	63.5	**307**	**63.5**	307	63.5	307	63.5	**307**	**63.5**	307	63.5

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
```

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>
 This result was measured on the PRIMERGY RX350 S8. The PRIMERGY RX350 S8
 and the PRIMERGY TX300 S8 are electronically equivalent.
 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
```

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Base Portability Flags (Continued)

482.sphinx3: -DSPEC_CPU_LP64

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

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Peak Optimization Flags (Continued)

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

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: 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.20130924.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.20130924.xml

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For other inquiries, please contact webmaster@spec.org.

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