SPEC® CFP2006 Result

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Fujitsu

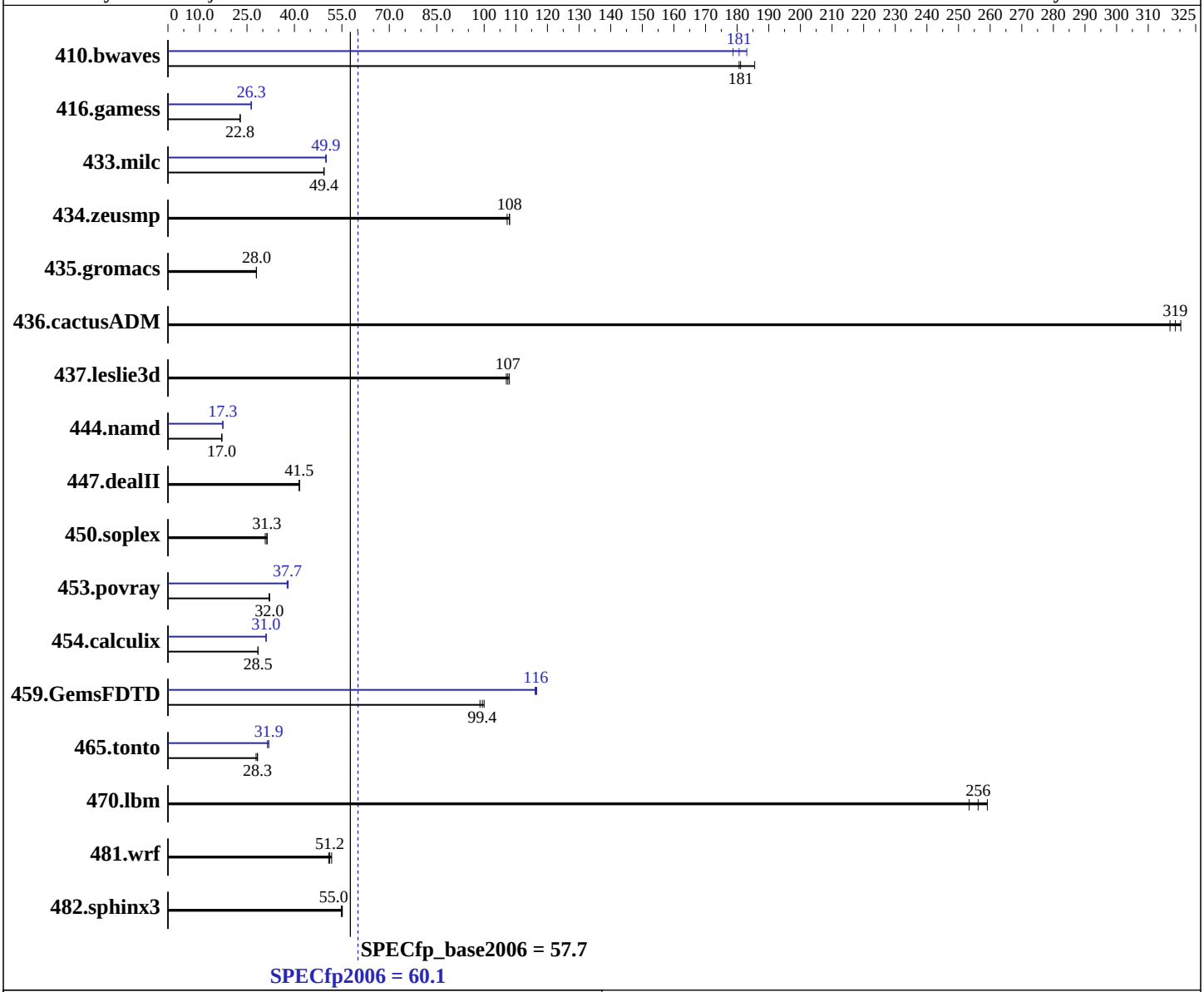
PRIMERGY BX920 S3, Intel Xeon E5-2430L, 2.0 GHz

SPECfp®2006 = 60.1

SPECfp_base2006 = 57.7

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

Test date: May-2012
Hardware Availability: May-2012
Software Availability: Feb-2012



Hardware

CPU Name:	Intel Xeon E5-2430L
CPU Characteristics:	Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 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

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Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux; Fortran: Version 12.1.0.293 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: 96 GB (12 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem: 1 x SATA, 500 GB, 7200 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	75.2	181	73.2	186	**75.0**	**181**	76.0	179	74.2	183	**75.2**	**181**
416.gamess	859	22.8	856	22.9	**858**	**22.8**	743	26.4	**743**	**26.3**	744	26.3
433.milc	186	49.3	186	49.4	**186**	**49.4**	183	50.1	**184**	**49.9**	184	49.9
434.zeusmp	84.8	107	**84.2**	**108**	84.2	108	84.8	107	**84.2**	**108**	84.2	108
435.gromacs	255	28.0	256	27.9	**255**	**28.0**	255	28.0	256	27.9	**255**	**28.0**
436.cactusADM	37.3	320	**37.5**	**319**	37.7	317	37.3	320	**37.5**	**319**	37.7	317
437.leslie3d	87.1	108	87.9	107	**87.5**	**107**	87.1	108	87.9	107	**87.5**	**107**
444.namd	**471**	**17.0**	471	17.0	471	17.0	462	17.3	462	17.3	**462**	**17.3**
447.dealII	275	41.6	**275**	**41.5**	276	41.5	275	41.6	**275**	**41.5**	276	41.5
450.soplex	271	30.8	**267**	**31.3**	266	31.4	271	30.8	**267**	**31.3**	266	31.4
453.povray	**166**	**32.0**	166	32.1	166	32.0	140	38.0	**141**	**37.7**	141	37.7
454.calculix	289	28.5	**290**	**28.5**	290	28.5	**266**	**31.0**	266	31.0	266	31.0
459.GemsFDTD	106	100	108	98.7	**107**	**99.4**	**91.2**	**116**	91.0	117	91.4	116
465.tonto	353	27.9	**348**	**28.3**	347	28.3	313	31.5	**309**	**31.9**	309	31.9
470.lbm	**53.6**	**256**	54.2	253	53.0	259	**53.6**	**256**	54.2	253	53.0	259
481.wrf	**218**	**51.2**	220	50.8	216	51.8	**218**	**51.2**	220	50.8	216	51.8
482.sphinx3	353	55.2	356	54.8	**354**	**55.0**	353	55.2	356	54.8	**354**	**55.0**

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:
Intel HT Technology = Disable
Frequency Floor Override = Enable
```

General Notes

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

 Binaries compiled on a system with 1x E3-1270v2 CPU + 32 GB
 memory using RHEL6.2
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 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:
```
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

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

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

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -static -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) -static -auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

Continued on next page

Peak Optimization Flags (Continued)

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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel -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: basepeak = yes

459.GemsFDTD: -xSSE4.2(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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml

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

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