SPEC® CFP2006 Result

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Fujitsu

PRIMERGY RX1330 M1, Intel Xeon E3-1240L v3, 2.00 GHz

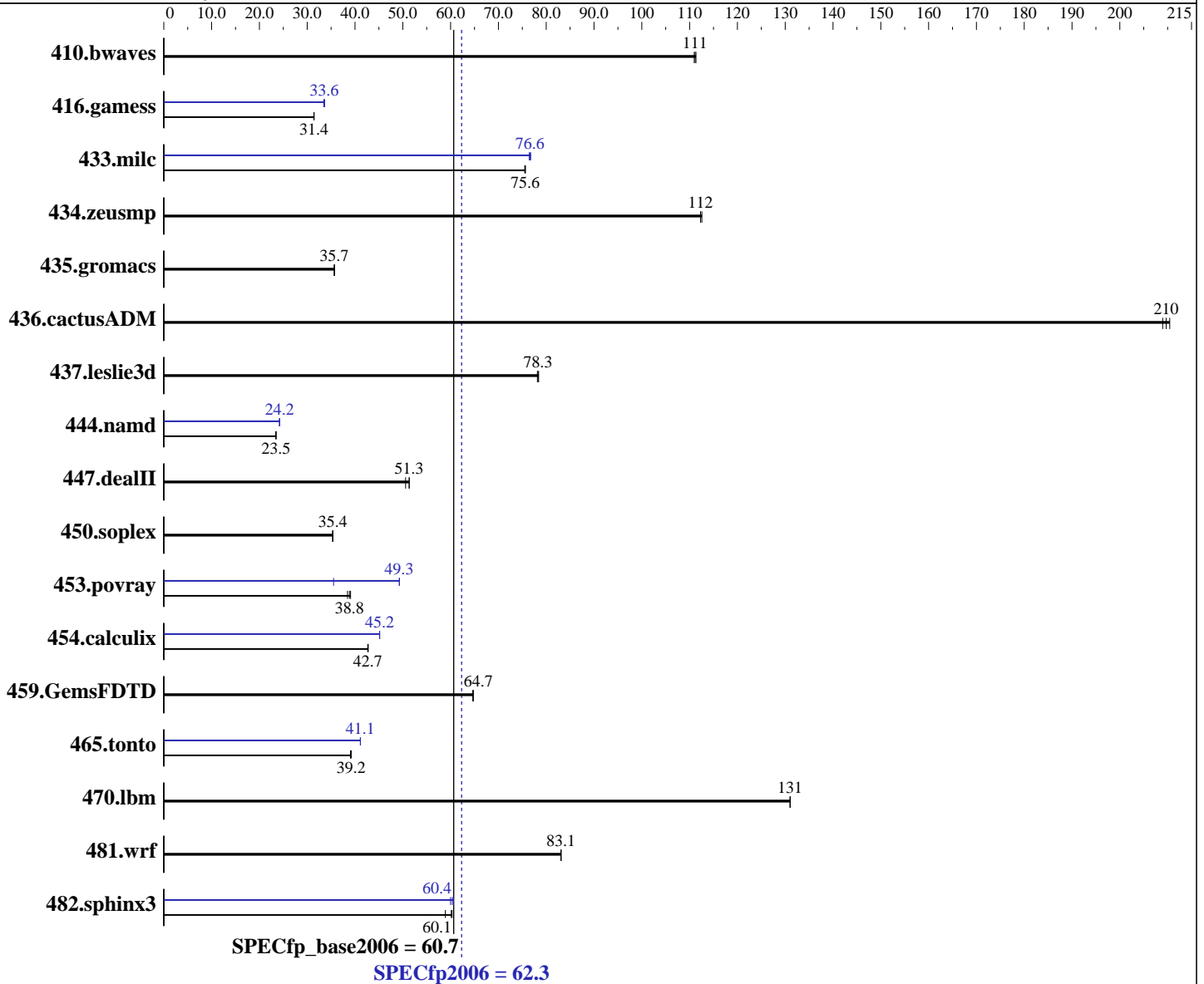$SPECfp^{®}2006 =$ 62.3

$SPECfp\_base2006 =$ 60.7

CPU2006 license: 19	**Test date:** Jul-2014
Test sponsor: Fujitsu	**Hardware Availability:** Jul-2014
Tested by: Fujitsu	**Software Availability:** Nov-2013

410.bwaves — 111
416.gamess — 33.6 / 31.4
433.milc — 76.6 / 75.6
434.zeusmp — 112
435.gromacs — 35.7
436.cactusADM — 210
437.leslie3d — 78.3
444.namd — 24.2 / 23.5
447.dealII — 51.3
450.soplex — 35.4
453.povray — 49.3 / 38.8
454.calculix — 45.2 / 42.7
459.GemsFDTD — 64.7
465.tonto — 41.1 / 39.2
470.lbm — 131
481.wrf — 83.1
482.sphinx3 — 60.4 / 60.1

SPECfp_base2006 = 60.7

SPECfp2006 = 62.3

Hardware

CPU Name:	Intel Xeon E3-1240L v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.00 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
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:	Red Hat Enterprise Linux Server release 6.5 (Santiago) 2.6.32-431.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:	8 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	16 GB (2 x 8 GB 2Rx8 PC3L-12800E-11, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	122	111	122	111	**122**	**111**	122	111	122	111	**122**	**111**
416.gamess	**623**	**31.4**	623	31.4	624	31.4	**583**	**33.6**	582	33.7	585	33.5
433.milc	**121**	**75.6**	121	75.7	122	75.5	120	76.8	120	76.4	**120**	**76.6**
434.zeusmp	80.8	113	81.0	112	**81.0**	**112**	80.8	113	81.0	112	**81.0**	**112**
435.gromacs	**200**	**35.7**	200	35.7	200	35.6	**200**	**35.7**	200	35.7	200	35.6
436.cactusADM	57.2	209	56.8	210	**57.0**	**210**	57.2	209	56.8	210	**57.0**	**210**
437.leslie3d	120	78.4	120	78.2	**120**	**78.3**	120	78.4	120	78.2	**120**	**78.3**
444.namd	**342**	**23.5**	342	23.5	342	23.5	331	24.2	**331**	**24.2**	331	24.2
447.dealII	226	50.6	223	51.3	**223**	**51.3**	226	50.6	223	51.3	**223**	**51.3**
450.soplex	**236**	**35.4**	236	35.4	236	35.3	**236**	**35.4**	236	35.4	236	35.3
453.povray	**137**	**38.8**	138	38.4	136	39.1	150	35.5	108	49.3	**108**	**49.3**
454.calculix	193	42.7	**193**	**42.7**	193	42.8	183	45.2	**183**	**45.2**	183	45.1
459.GemsFDTD	164	64.7	**164**	**64.7**	164	64.7	164	64.7	**164**	**64.7**	164	64.7
465.tonto	251	39.2	252	39.1	**251**	**39.2**	**239**	**41.1**	239	41.1	239	41.1
470.lbm	105	131	105	131	**105**	**131**	105	131	105	131	**105**	**131**
481.wrf	**134**	**83.1**	134	83.1	134	83.1	**134**	**83.1**	134	83.1	134	83.1
482.sphinx3	**324**	**60.1**	323	60.3	331	58.9	325	60.0	**323**	**60.4**	322	60.6

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"

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 = "4"

    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.:

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General Notes (Continued)

```
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
```

Base Optimization Flags

C benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias
```

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
```

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Base Optimization Flags (Continued)

Fortran benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xCORE-AVX2 -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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
          -parallel
```

C++ benchmarks:

```
444.namd: -xCORE-AVX2(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
```

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Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(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: -xCORE-AVX2(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: basepeak = yes

465.tonto: -xCORE-AVX2(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: -xCORE-AVX2 -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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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