SPEC® CFP2006 Result
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Fujitsu

PRIMERGY RX2530 M1, Intel Xeon E5-2667 v3, 3.2 GHz

$SPECfp^{®}2006 =$ 121
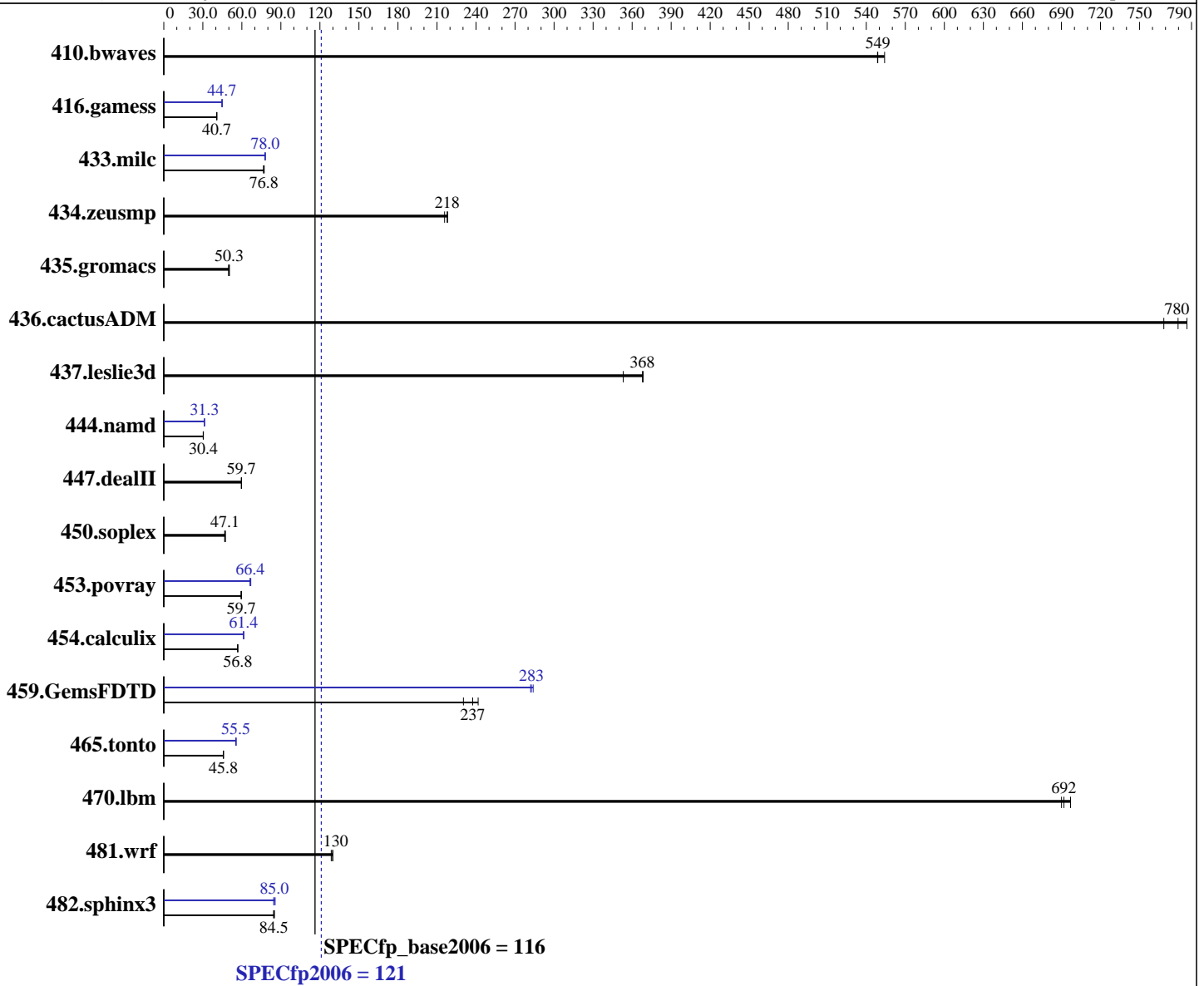
$SPECfp\_base2006 =$ 116

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

Test date: Mar-2015
Hardware Availability: Feb-2015
Software Availability: Sep-2014

Benchmark	Value
410.bwaves	549
416.gamess	44.7 / 40.7
433.milc	78.0 / 76.8
434.zeusmp	218
435.gromacs	50.3
436.cactusADM	780
437.leslie3d	368
444.namd	31.3 / 30.4
447.dealII	59.7
450.soplex	47.1
453.povray	66.4 / 59.7
454.calculix	61.4 / 56.8
459.GemsFDTD	283 / 237
465.tonto	55.5 / 45.8
470.lbm	692
481.wrf	130
482.sphinx3	85.0 / 84.5

SPECfp_base2006 = 116
SPECfp2006 = 121

Hardware

CPU Name:	Intel Xeon E5-2667 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 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 7.0 (Maipo) Kernel 3.10.0-123.8.1.el7.x86_64
Compiler:	C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux; Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	xfs

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L3 Cache:	20 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24.8	549	**24.8**	**549**	24.5	554	24.8	549	**24.8**	**549**	24.5	554
416.gamess	481	40.7	481	40.7	**481**	**40.7**	435	45.0	439	44.6	**438**	**44.7**
433.milc	120	76.7	119	77.2	**120**	**76.8**	118	78.1	**118**	**78.0**	118	77.7
434.zeusmp	42.2	216	**41.8**	**218**	41.7	218	42.2	216	**41.8**	**218**	41.7	218
435.gromacs	144	49.7	142	50.3	**142**	**50.3**	144	49.7	142	50.3	**142**	**50.3**
436.cactusADM	**15.3**	**780**	15.2	786	15.5	769	**15.3**	**780**	15.2	786	15.5	769
437.leslie3d	25.5	369	26.6	353	**25.5**	**368**	25.5	369	26.6	353	**25.5**	**368**
444.namd	264	30.4	265	30.3	**264**	**30.4**	257	31.2	**257**	**31.3**	257	31.3
447.dealII	192	59.7	**192**	**59.7**	192	59.6	192	59.7	**192**	**59.7**	192	59.6
450.soplex	178	46.8	**177**	**47.1**	176	47.3	178	46.8	**177**	**47.1**	176	47.3
453.povray	**89.1**	**59.7**	89.7	59.3	89.1	59.7	**80.1**	**66.4**	79.5	66.9	80.2	66.4
454.calculix	145	56.9	145	56.8	**145**	**56.8**	134	61.5	**134**	**61.4**	135	61.2
459.GemsFDTD	46.1	230	43.9	242	**44.7**	**237**	**37.6**	**283**	37.6	282	37.4	284
465.tonto	215	45.8	**215**	**45.8**	215	45.9	178	55.4	177	55.6	**177**	**55.5**
470.lbm	19.7	697	19.9	690	**19.9**	**692**	19.7	697	19.9	690	**19.9**	**692**
481.wrf	86.8	129	**86.0**	**130**	86.0	130	86.8	129	**86.0**	**130**	86.0	130
482.sphinx3	229	85.1	**231**	**84.5**	231	84.5	228	85.6	**229**	**85.0**	231	84.4

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
QPI snoop mode:  Home Snoop
    COD Enable = Disabled, Early Snoop = Disabled
CPU C1E Support = Disabled
```

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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 = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"
OMP_NUM_THREADS = "16"

 Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
 memory using RedHat EL 7.0

 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:
```
-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
```

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
```

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Peak Optimization Flags (Continued)

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`

    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: `-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 -opt-prefetch -parallel`

    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-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.html

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

http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml

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Tested with SPEC CPU2006 v1.2.
Report generated on Tue May 19 18:14:03 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 May 2015.