



SPEC[®] CFP2006 Result

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Fujitsu

PRIMERGY RX2520 M1, Intel Xeon E5-2430 v2, 2.50 GHz

SPECfp[®]2006 = **78.2**

SPECfp_base2006 = **75.5**

CPU2006 license: 19

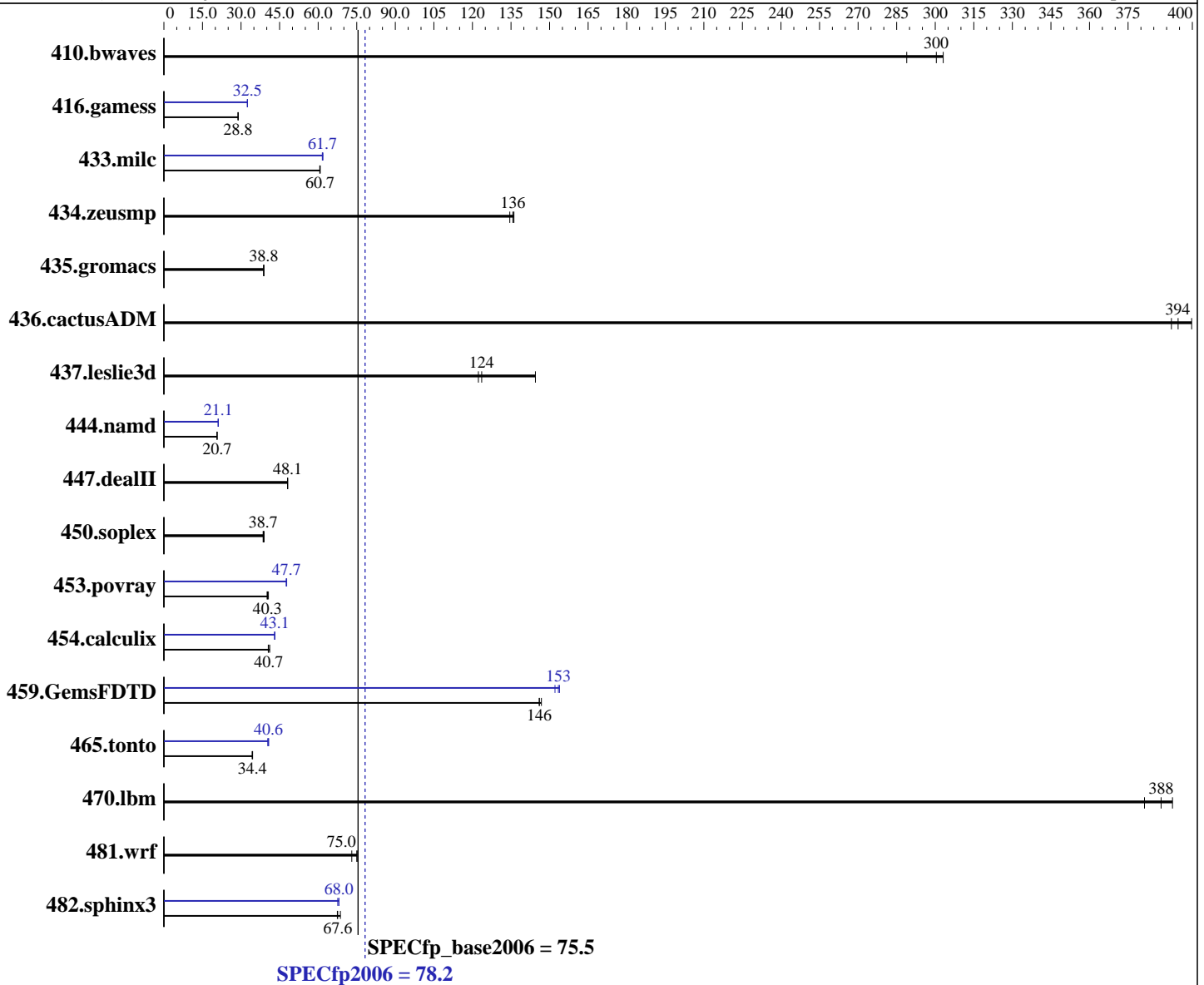
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2014

Hardware Availability: Feb-2014

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2430 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
 CPU MHz: 2500
 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
Other Cache: None
Memory: 192 GB (12 x 16 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM
Other Hardware: None

System State: Run level 5 (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	47.0	289	<u>45.2</u>	<u>300</u>	44.8	303	47.0	289	<u>45.2</u>	<u>300</u>	44.8	303
416.gamess	677	28.9	679	28.8	<u>679</u>	<u>28.8</u>	603	32.5	603	32.5	<u>603</u>	<u>32.5</u>
433.milc	151	60.8	151	60.6	<u>151</u>	<u>60.7</u>	149	61.6	<u>149</u>	<u>61.7</u>	148	61.9
434.zeusmp	66.8	136	67.6	135	<u>67.0</u>	<u>136</u>	66.8	136	67.6	135	<u>67.0</u>	<u>136</u>
435.gromacs	<u>184</u>	<u>38.8</u>	184	38.8	184	38.9	<u>184</u>	<u>38.8</u>	184	38.8	184	38.9
436.cactusADM	29.9	400	<u>30.3</u>	<u>394</u>	30.5	392	29.9	400	<u>30.3</u>	<u>394</u>	30.5	392
437.leslie3d	76.9	122	<u>76.1</u>	<u>124</u>	65.1	144	76.9	122	<u>76.1</u>	<u>124</u>	65.1	144
444.namd	388	20.7	388	20.7	<u>388</u>	<u>20.7</u>	380	21.1	<u>380</u>	<u>21.1</u>	380	21.1
447.dealII	238	48.1	<u>238</u>	<u>48.1</u>	238	48.1	238	48.1	<u>238</u>	<u>48.1</u>	238	48.1
450.soplex	214	39.0	<u>216</u>	<u>38.7</u>	216	38.6	214	39.0	<u>216</u>	<u>38.7</u>	216	38.6
453.povray	<u>132</u>	<u>40.3</u>	133	40.1	131	40.6	112	47.6	111	47.8	<u>112</u>	<u>47.7</u>
454.calculix	203	40.6	<u>203</u>	<u>40.7</u>	201	41.1	191	43.2	<u>191</u>	<u>43.1</u>	192	43.0
459.GemsFDTD	<u>72.7</u>	<u>146</u>	72.3	147	72.7	146	69.8	152	69.0	154	<u>69.2</u>	<u>153</u>
465.tonto	<u>286</u>	<u>34.4</u>	285	34.5	287	34.3	244	40.4	<u>242</u>	<u>40.6</u>	242	40.7
470.lbm	36.0	381	<u>35.4</u>	<u>388</u>	35.0	392	36.0	381	<u>35.4</u>	<u>388</u>	35.0	392
481.wrf	153	73.1	149	75.1	<u>149</u>	<u>75.0</u>	153	73.1	149	75.1	<u>149</u>	<u>75.0</u>
482.sphinx3	<u>288</u>	<u>67.6</u>	284	68.6	289	67.5	288	67.6	<u>287</u>	<u>68.0</u>	286	68.1

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"

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General Notes (Continued)

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
```

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.deallI: -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: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel

Continued on next page



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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.dealIII: 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>
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Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 21:40:27 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 March 2014.