



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]2006 = 74.3

PRIMERGY TX140 S2, Intel Xeon E3-1240 v3, 3.40 GHz

SPECfp_base2006 = 73.0

CPU2006 license: 19

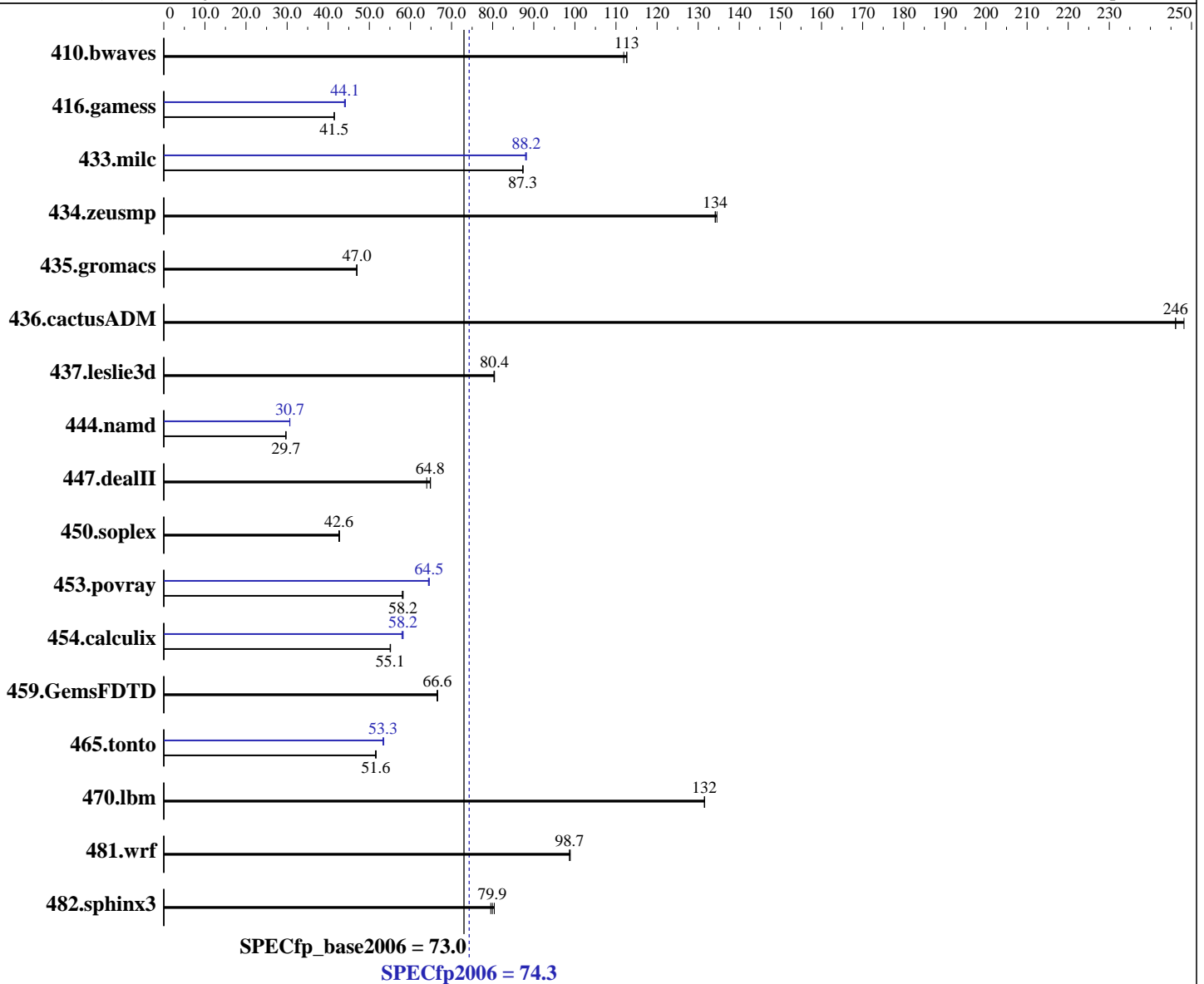
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2013

Hardware Availability: Sep-2013

Software Availability: Sep-2013



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Hardware

CPU Name: Intel Xeon E3-1240 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
 CPU MHz: 3400
 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 6.4 (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

Continued on next page



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L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 32 GB (4 x 8 GB 2Rx8 PC3L-12800E-11, ECC)
 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	121	112	<u>121</u>	<u>113</u>	121	113	<u>121</u>	<u>112</u>	<u>121</u>	<u>113</u>	121	113
416.gamess	<u>472</u>	<u>41.5</u>	472	41.5	472	41.5	445	44.0	443	44.2	<u>444</u>	<u>44.1</u>
433.milc	<u>105</u>	<u>87.3</u>	105	87.4	105	87.3	<u>104</u>	<u>88.2</u>	104	88.0	104	88.2
434.zeusmp	<u>67.8</u>	<u>134</u>	67.8	134	67.6	135	<u>67.8</u>	<u>134</u>	67.8	134	67.6	135
435.gromacs	152	46.9	<u>152</u>	<u>47.0</u>	152	47.0	152	46.9	<u>152</u>	<u>47.0</u>	152	47.0
436.cactusADM	48.2	248	48.6	246	<u>48.6</u>	<u>246</u>	48.2	248	48.6	246	<u>48.6</u>	<u>246</u>
437.leslie3d	117	80.3	<u>117</u>	<u>80.4</u>	117	80.4	117	80.3	<u>117</u>	<u>80.4</u>	117	80.4
444.namd	<u>270</u>	<u>29.7</u>	270	29.7	270	29.7	<u>262</u>	<u>30.7</u>	262	30.7	262	30.6
447.dealII	179	64.0	176	64.9	<u>176</u>	<u>64.8</u>	179	64.0	176	64.9	<u>176</u>	<u>64.8</u>
450.soplex	<u>196</u>	<u>42.6</u>	196	42.6	195	42.8	<u>196</u>	<u>42.6</u>	196	42.6	195	42.8
453.povray	91.7	58.0	91.4	58.2	<u>91.4</u>	<u>58.2</u>	82.6	64.4	82.4	64.6	<u>82.5</u>	<u>64.5</u>
454.calculix	150	55.2	<u>150</u>	<u>55.1</u>	150	55.1	<u>142</u>	<u>58.2</u>	142	58.2	142	57.9
459.GemsFDTD	160	66.5	<u>159</u>	<u>66.6</u>	159	66.6	160	66.5	<u>159</u>	<u>66.6</u>	159	66.6
465.tonto	191	51.7	191	51.5	<u>191</u>	<u>51.6</u>	184	53.3	<u>184</u>	<u>53.3</u>	184	53.5
470.lbm	<u>104</u>	<u>132</u>	104	132	104	132	<u>104</u>	<u>132</u>	104	132	104	132
481.wrf	113	98.7	113	98.9	<u>113</u>	<u>98.7</u>	113	98.7	113	98.9	<u>113</u>	<u>98.7</u>
482.sphinx3	<u>244</u>	<u>79.9</u>	245	79.5	242	80.4	<u>244</u>	<u>79.9</u>	245	79.5	242	80.4

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"

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.:

Continued on next page



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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

Continued on next page



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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: basepeak = yes

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

Continued on next page



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Peak Optimization Flags (Continued)

447.dealIII: 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 other inquiries, please contact webmaster@spec.org.

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