



SPEC[®] CFP2006 Result

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Fujitsu

PRIMERGY RX100 S7p, Intel Xeon E3-1220 v2, 3.10 GHz

SPECfp[®]2006 = 66.7

SPECfp_base2006 = 64.8

CPU2006 license: 19

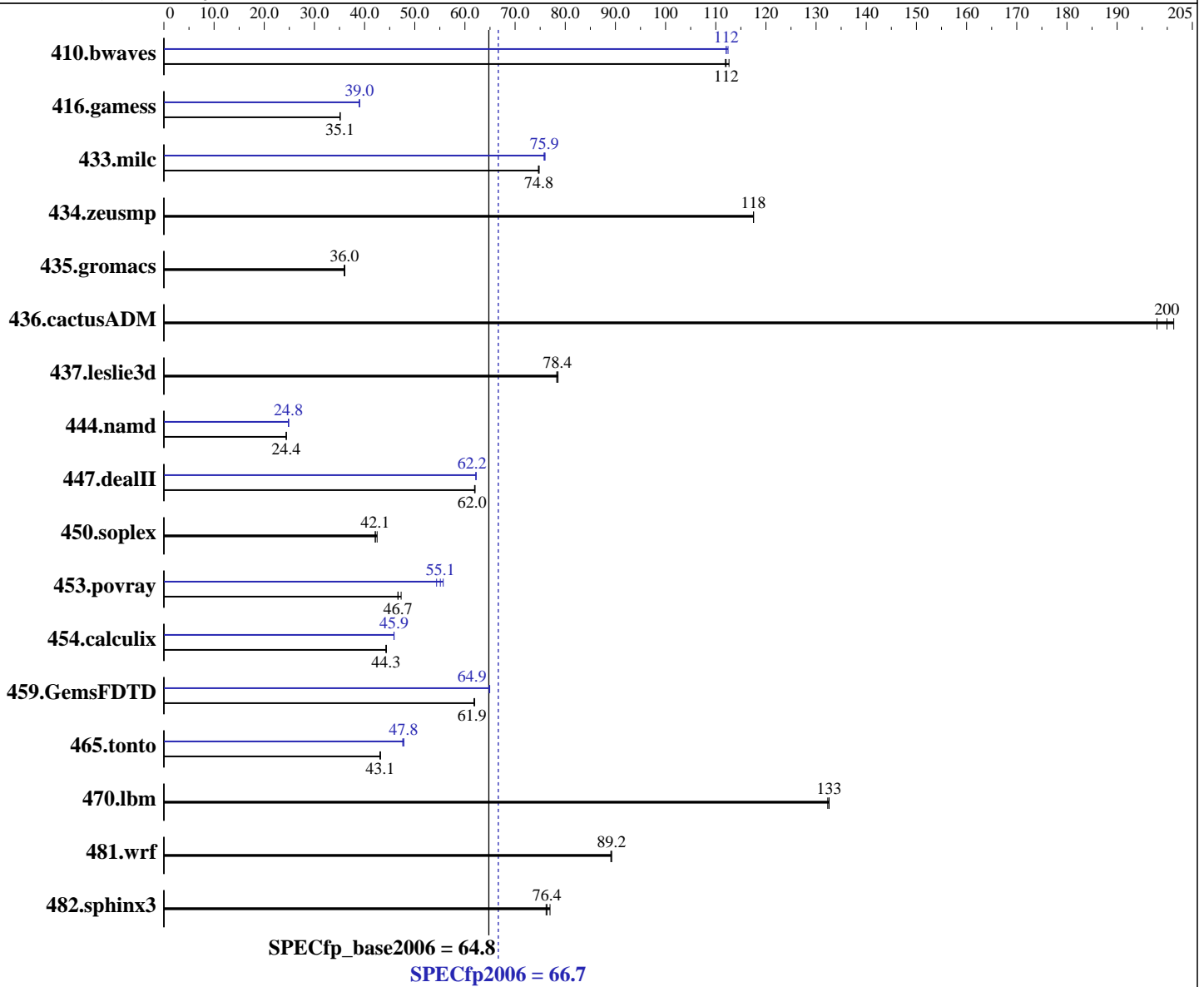
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



Hardware

CPU Name: Intel Xeon E3-1220 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.5 GHz
 CPU MHz: 3100
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 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

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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: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-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>112</u>	121	113	121	112	121	112	<u>121</u>	<u>112</u>
416.gamess	<u>558</u>	<u>35.1</u>	557	35.1	558	35.1	503	39.0	502	39.0	<u>502</u>	<u>39.0</u>
433.milc	123	74.6	123	74.8	<u>123</u>	<u>74.8</u>	<u>121</u>	<u>75.9</u>	121	76.0	121	75.8
434.zeusmp	77.4	118	77.4	118	<u>77.4</u>	<u>118</u>	77.4	118	77.4	118	<u>77.4</u>	<u>118</u>
435.gromacs	198	36.1	199	35.9	<u>198</u>	<u>36.0</u>	198	36.1	199	35.9	<u>198</u>	<u>36.0</u>
436.cactusADM	60.4	198	<u>59.8</u>	<u>200</u>	59.4	201	60.4	198	<u>59.8</u>	<u>200</u>	59.4	201
437.leslie3d	<u>120</u>	<u>78.4</u>	120	78.6	120	78.3	<u>120</u>	<u>78.4</u>	120	78.6	120	78.3
444.namd	329	24.4	329	24.4	<u>329</u>	<u>24.4</u>	323	24.8	323	24.9	<u>323</u>	<u>24.8</u>
447.dealII	<u>185</u>	<u>62.0</u>	185	62.0	185	61.9	184	62.2	<u>184</u>	<u>62.2</u>	184	62.2
450.soplex	196	42.5	198	42.1	<u>198</u>	<u>42.1</u>	196	42.5	198	42.1	<u>198</u>	<u>42.1</u>
453.povray	<u>114</u>	<u>46.7</u>	114	46.6	113	47.3	<u>96.6</u>	<u>55.1</u>	95.5	55.7	97.9	54.4
454.calculix	186	44.3	<u>186</u>	<u>44.3</u>	186	44.3	180	45.9	180	45.9	<u>180</u>	<u>45.9</u>
459.GemsFDTD	<u>171</u>	<u>61.9</u>	172	61.8	171	62.0	<u>164</u>	<u>64.9</u>	164	64.9	163	64.9
465.tonto	<u>228</u>	<u>43.1</u>	228	43.2	229	43.1	207	47.6	<u>206</u>	<u>47.8</u>	206	47.8
470.lbm	<u>104</u>	<u>133</u>	104	132	104	133	<u>104</u>	<u>133</u>	104	132	104	133
481.wrf	125	89.1	<u>125</u>	<u>89.2</u>	125	89.2	125	89.1	<u>125</u>	<u>89.2</u>	125	89.2
482.sphinx3	253	77.0	<u>255</u>	<u>76.4</u>	256	76.2	253	77.0	<u>255</u>	<u>76.4</u>	256	76.2

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

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 = "4"

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General Notes (Continued)

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

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Base Optimization Flags (Continued)

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

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

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Peak Optimization Flags (Continued)

447.deallI: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
-ansi-alias

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>

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