SPEC® CFP2006 Result

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Fujitsu

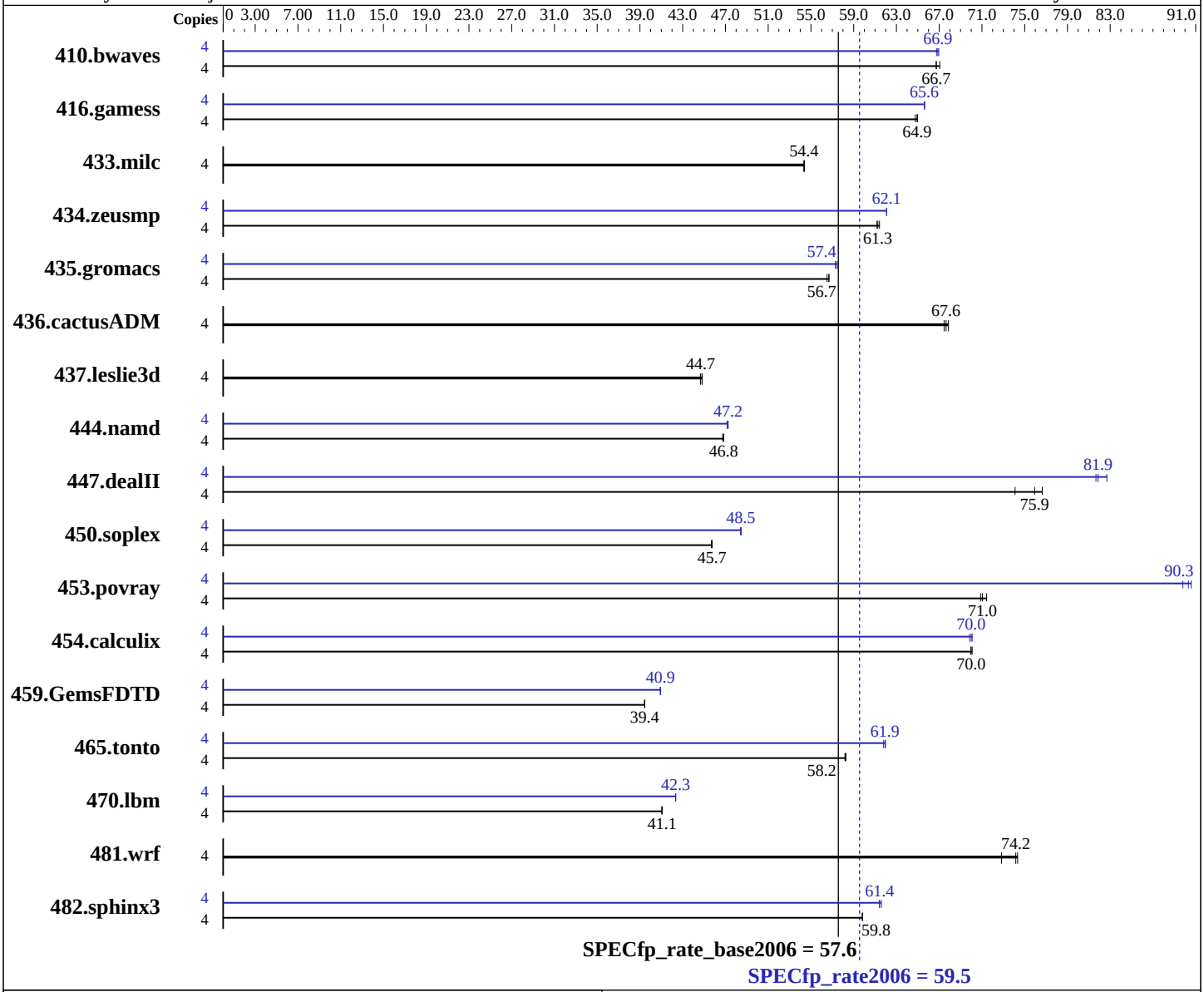
PRIMERGY RX200 S5, Intel Xeon E5504, 2.0 GHz

SPECfp®_rate2006 = 59.5

SPECfp_rate_base2006 = 57.6

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

Test date: Aug-2009
Hardware Availability: Apr-2009
Software Availability: Feb-2009



Hardware

CPU Name:	Intel Xeon E5504
CPU Characteristics:	
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
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

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Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080, l_cprof_p_11.0.080
Auto Parallel:	No
File System:	ext3
System State:	Multi-User Run Level 3
Base Pointers:	64-bit

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6x4 GB PC3-8500R, 2 rank, CL7-7-7, ECC, see add'l detail in notes)
Disk Subsystem: 1 x SATA, 250 GB, 7200 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	815	66.7	811	67.1	**815**	**66.7**	4	814	66.8	812	67.0	**813**	**66.9**
416.gamess	4	1206	65.0	**1206**	**64.9**	1209	64.8	4	1193	65.6	**1194**	**65.6**	1194	65.6
433.milc	4	675	54.4	**675**	**54.4**	676	54.3	4	675	54.4	**675**	**54.4**	676	54.3
434.zeusmp	4	**594**	**61.3**	595	61.2	593	61.4	4	586	62.1	586	62.1	**586**	**62.1**
435.gromacs	4	**504**	**56.7**	504	56.7	505	56.5	4	497	57.5	**497**	**57.4**	499	57.3
436.cactusADM	4	709	67.5	704	67.9	**707**	**67.6**	4	709	67.5	704	67.9	**707**	**67.6**
437.leslie3d	4	839	44.8	**841**	**44.7**	842	44.7	4	839	44.8	**841**	**44.7**	842	44.7
444.namd	4	685	46.8	686	46.7	**685**	**46.8**	4	**679**	**47.2**	680	47.2	679	47.2
447.dealII	4	618	74.1	597	76.6	**603**	**75.9**	4	553	82.7	**559**	**81.9**	560	81.7
450.soplex	4	729	45.8	**729**	**45.7**	730	45.7	4	**689**	**48.5**	688	48.5	689	48.4
453.povray	4	**300**	**71.0**	300	70.9	298	71.4	4	**236**	**90.3**	237	89.8	235	90.6
454.calculix	4	472	70.0	471	70.1	**472**	**70.0**	4	**471**	**70.0**	471	70.1	472	69.8
459.GemsFDTD	4	1076	39.4	**1076**	**39.4**	1076	39.4	4	**1037**	**40.9**	1038	40.9	1037	40.9
465.tonto	4	675	58.3	676	58.2	**676**	**58.2**	4	637	61.8	635	62.0	**636**	**61.9**
470.lbm	4	1339	41.0	**1338**	**41.1**	1338	41.1	4	1298	42.3	**1298**	**42.3**	1298	42.3
481.wrf	4	613	72.8	601	74.3	**602**	**74.2**	4	613	72.8	601	74.3	**602**	**74.2**
482.sphinx3	4	1303	59.8	1304	59.8	**1303**	**59.8**	4	1270	61.4	1266	61.6	**1269**	**61.4**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

The system automatically configures the memory to run at 800 MHz.

General Notes

For information about Fujitsu please visit: http://www.fujitsu.com

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

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:
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc`

482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `icpc -m32`

Fortran benchmarks:
`ifort`

Benchmarks using both Fortran and C:
`icc ifort`

Peak 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`
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`

Peak Optimization Flags

C benchmarks:

433.milc: `basepeak = yes`

470.lbm: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32`

482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2`

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Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)

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) -static(pass 2) -prof-use(pass 2) -unroll2 -Ob0 -opt-prefetch

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

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Peak Optimization Flags (Continued)

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090901.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090901.xml`

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Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 04:42:38 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 13 October 2009.