SPEC® CFP2006 Result
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Fujitsu

PRIMERGY RX100 S6, Intel Xeon X3440, 2.53 GHz

$SPECfp®\_rate2006 = \quad 83.2$

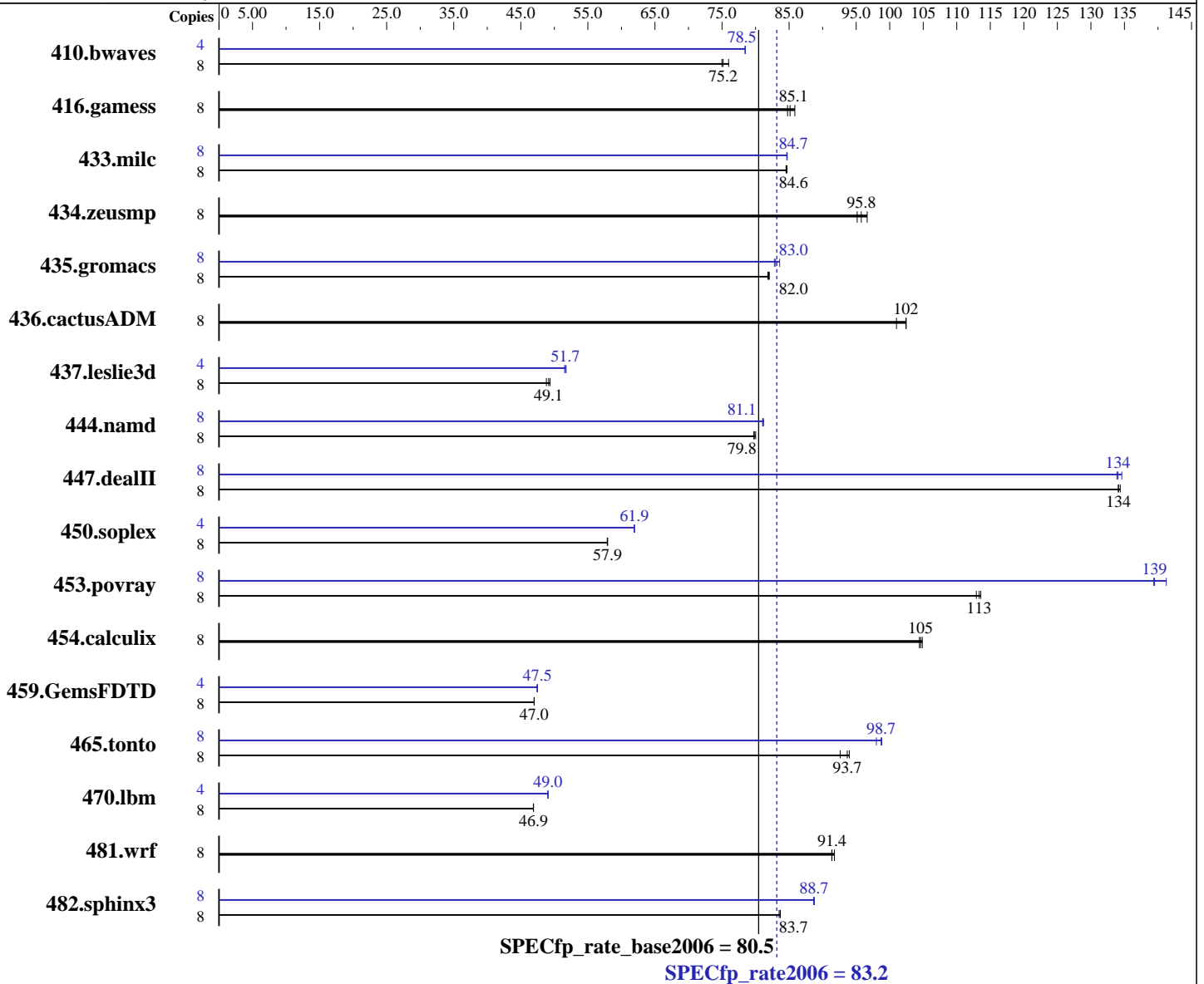$SPECfp\_rate\_base2006 = \quad 80.5$

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

Test date: Jan-2010
Hardware Availability: Jan-2010
Software Availability: Nov-2009

Benchmark	Copies	Result
410.bwaves	4	78.5
	8	75.2
416.gamess	8	85.1
433.milc	8	84.7
	8	84.6
434.zeusmp	8	95.8
435.gromacs	8	83.0
	8	82.0
436.cactusADM	8	102
437.leslie3d	4	51.7
	8	49.1
444.namd	8	81.1
	8	79.8
447.dealII	8	134
	8	134
450.soplex	4	61.9
	8	57.9
453.povray	8	139
	8	113
454.calculix	8	105
459.GemsFDTD	4	47.5
	8	47.0
465.tonto	8	98.7
	8	93.7
470.lbm	4	49.0
	8	46.9
481.wrf	8	91.4
482.sphinx3	8	88.7
	8	83.7

SPECfp_rate_base2006 = 80.5

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Hardware

CPU Name:	Intel Xeon X3440
CPU Characteristics:	Intel Turbo Boost Technology up to 2.93 GHz
CPU MHz:	2533
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

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Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-smp
Compiler:	Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091012 Package ID: l_cproc_p_11.1.059, l_cprof_p_11.1.059
Auto Parallel:	No
File System:	ext3
System State:	Multi-User Run Level 3

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L3 Cache:	8 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	16 GB (4x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC)	Other Software:	Binutils 2.18.50.0.7.20080502
Disk Subsystem:	1 x SATA, 250 GB, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	1450	75.0	**1447**	**75.2**	1431	76.0	4	**693**	**78.5**	693	78.5	693	78.4
416.gamess	8	1824	85.9	1848	84.8	**1840**	**85.1**	8	1824	85.9	1848	84.8	**1840**	**85.1**
433.milc	8	867	84.7	**868**	**84.6**	869	84.5	8	867	84.7	**867**	**84.7**	867	84.7
434.zeusmp	8	753	96.6	**760**	**95.8**	765	95.2	8	753	96.6	**760**	**95.8**	765	95.2
435.gromacs	8	698	81.8	**697**	**82.0**	696	82.0	8	683	83.6	**688**	**83.0**	690	82.8
436.cactusADM	8	933	102	**933**	**102**	946	101	8	933	102	**933**	**102**	946	101
437.leslie3d	8	1524	49.4	1541	48.8	**1530**	**49.1**	4	**728**	**51.7**	727	51.8	730	51.5
444.namd	8	**804**	**79.8**	805	79.7	802	80.0	8	792	81.1	790	81.2	**791**	**81.1**
447.dealII	8	681	134	**682**	**134**	683	134	8	684	134	680	135	**683**	**134**
450.soplex	8	**1152**	**57.9**	1152	57.9	1153	57.9	4	539	61.9	538	62.0	**539**	**61.9**
453.povray	8	**376**	**113**	377	113	375	114	8	301	141	**305**	**139**	305	139
454.calculix	8	629	105	632	104	**631**	**105**	8	629	105	632	104	**631**	**105**
459.GemsFDTD	8	**1806**	**47.0**	1806	47.0	1807	47.0	4	**894**	**47.5**	895	47.4	894	47.5
465.tonto	8	838	94.0	850	92.6	**840**	**93.7**	8	803	98.0	797	98.8	**797**	**98.7**
470.lbm	8	2345	46.9	**2344**	**46.9**	2344	46.9	4	1120	49.1	1121	49.0	**1121**	**49.0**
481.wrf	8	**978**	**91.4**	978	91.4	974	91.8	8	**978**	**91.4**	978	91.4	974	91.8
482.sphinx3	8	1867	83.5	**1863**	**83.7**	1863	83.7	8	1759	88.7	1757	88.8	**1757**	**88.7**

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

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

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

General Notes

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

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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:
      -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

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Peak Compiler Invocation

C benchmarks (except as noted below):
    icc   -m64

        482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):
    icpc   -m64

        450.soplex: `icpc -m32`

Fortran benchmarks:
    ifort -m64

Benchmarks using both Fortran and C:
    icc   -m64 ifort -m64

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: `-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` `-opt-prefetch`

         470.lbm: `-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` `-ansi-alias` `-auto-ilp32`

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Peak Optimization Flags (Continued)

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

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: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -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 -opt-prefetch

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

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 -inline-calloc -opt-malloc-options=3

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: basepeak = yes

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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-ic11.1-fp-linux64-revF.20100202.html`

You can also download the XML flags source by saving the following link:

`http://www.spec.org/cpu2006/flags/Intel-ic11.1-fp-linux64-revF.20100202.xml`

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