SPEC® CFP2006 Result

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Fujitsu Siemens Computers

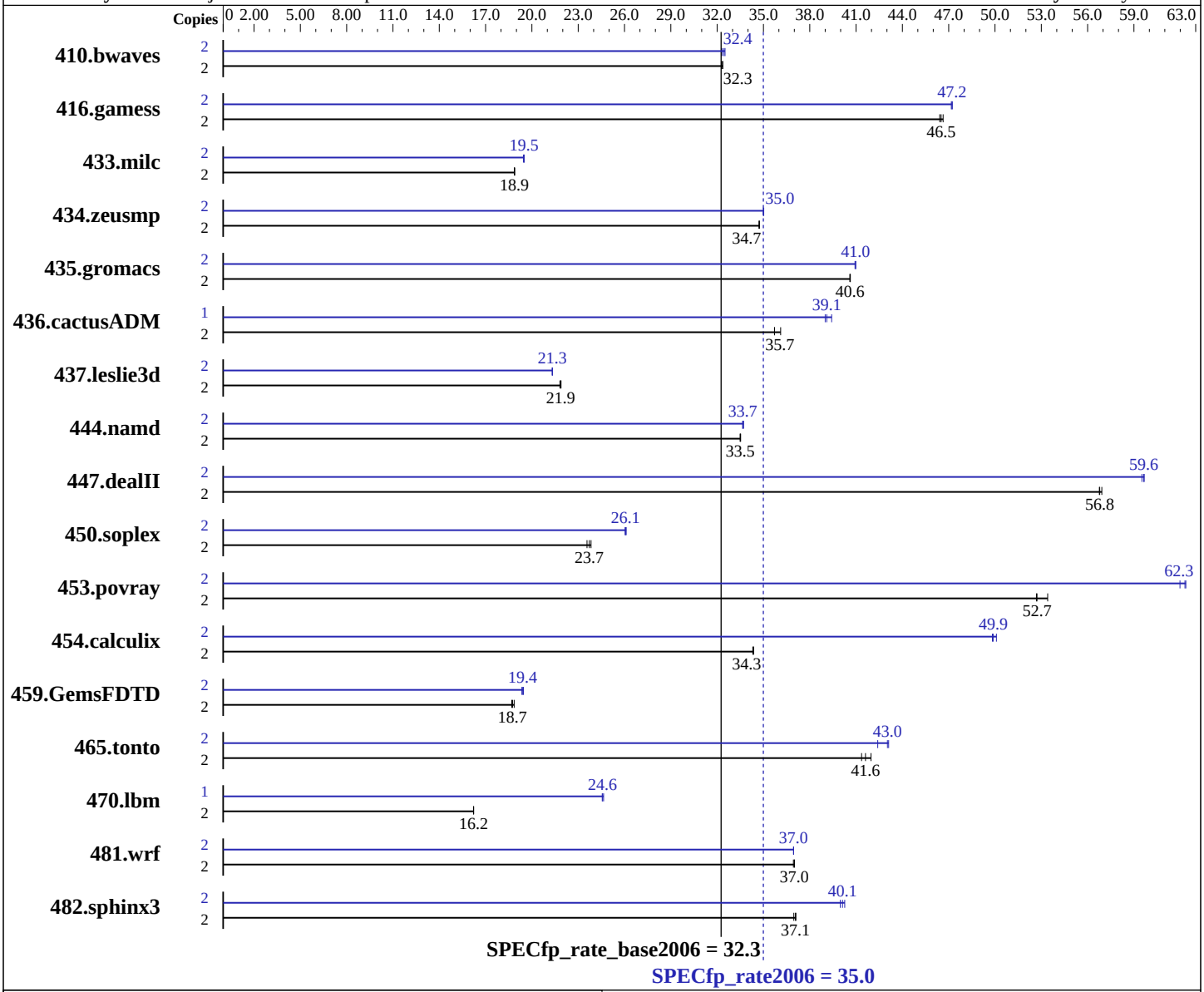
PRIMERGY RX100 S5, Intel Xeon E3120, 3.16 GHz

SPECfp®_rate2006 = 35.0

SPECfp_rate_base2006 = 32.3

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Sep-2008
Hardware Availability: Oct-2008
Software Availability: May-2008



Hardware

CPU Name:	Intel Xeon E3120
CPU Characteristics:	1333 MHz system bus
CPU MHz:	3167
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip

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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 for Linux32 and Linux64 Version 10.1 - Build 20070913
Auto Parallel:	Yes
File System:	ext3
System State:	Multi-User Run Level 3
Base Pointers:	64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB PC2-6400E, 2 rank, CL 6-6-6, ECC)
Disk Subsystem: 1x SATA, 160 GB, 7200 rpm
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: binutils-2.17.50.0.5-0.1.x86_64

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	842	32.3	840	32.4	**840**	**32.3**	2	836	32.5	**838**	**32.4**	841	32.3
416.gamess	2	844	46.4	**842**	**46.5**	840	46.6	2	**829**	**47.2**	830	47.2	829	47.2
433.milc	2	972	18.9	974	18.9	**973**	**18.9**	2	**942**	**19.5**	942	19.5	944	19.4
434.zeusmp	2	524	34.7	**524**	**34.7**	524	34.7	2	**520**	**35.0**	520	35.0	520	35.0
435.gromacs	2	352	40.6	351	40.6	**352**	**40.6**	2	349	40.9	**349**	**41.0**	349	41.0
436.cactusADM	2	669	35.7	**669**	**35.7**	662	36.1	1	303	39.4	306	39.0	**306**	**39.1**
437.leslie3d	2	862	21.8	859	21.9	**859**	**21.9**	2	881	21.3	**882**	**21.3**	882	21.3
444.namd	2	478	33.5	**479**	**33.5**	479	33.5	2	477	33.7	476	33.7	**476**	**33.7**
447.dealII	2	402	56.9	403	56.8	**403**	**56.8**	2	383	59.7	384	59.5	**384**	**59.6**
450.soplex	2	700	23.8	**703**	**23.7**	708	23.6	2	639	26.1	**640**	**26.1**	641	26.0
453.povray	2	**202**	**52.7**	199	53.4	202	52.7	2	171	62.4	172	62.0	**171**	**62.3**
454.calculix	2	**480**	**34.3**	481	34.3	480	34.4	2	**331**	**49.9**	331	49.8	329	50.1
459.GemsFDTD	2	1126	18.9	1135	18.7	**1132**	**18.7**	2	1091	19.5	1097	19.4	**1093**	**19.4**
465.tonto	2	469	42.0	**473**	**41.6**	476	41.4	2	457	43.1	464	42.4	**457**	**43.0**
470.lbm	2	1693	16.2	**1694**	**16.2**	1694	16.2	1	**559**	**24.6**	558	24.6	560	24.6
481.wrf	2	605	36.9	**604**	**37.0**	604	37.0	2	605	37.0	**605**	**37.0**	605	37.0
482.sphinx3	2	**1052**	**37.1**	1054	37.0	1051	37.1	2	968	40.3	975	40.0	**972**	**40.1**

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
OMP_NUM_THREADS set to number of cores (default)
```

Platform Notes

```
BIOS configuration:
Hardware Prefetch = Enable, Adjacent Sector Prefetch = Disable
```

General Notes

```
For information about Fujitsu Siemens Computers please see:
http://www.fujitsu-siemens.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:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

C benchmarks (except as noted below):
`/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib -I/opt/intel/cc/10.1.008/include`

433.milc: `icc`

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

450.soplex: `/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib -I/opt/intel/cc/10.1.008/include`

Fortran benchmarks (except as noted below):
`ifort`

437.leslie3d: `/opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib -I/opt/intel/fc/10.1.008/include`

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`
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`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

433.milc: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -fno-alias -auto-ilp32`

470.lbm: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -scalar-rep- -prefetch -opt-malloc-options=3`

Continued on next page

Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.html

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.xml`

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For other inquiries, please contact webmaster@spec.org.

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