SPEC® CFP2006 Result

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Fujitsu Siemens Computers

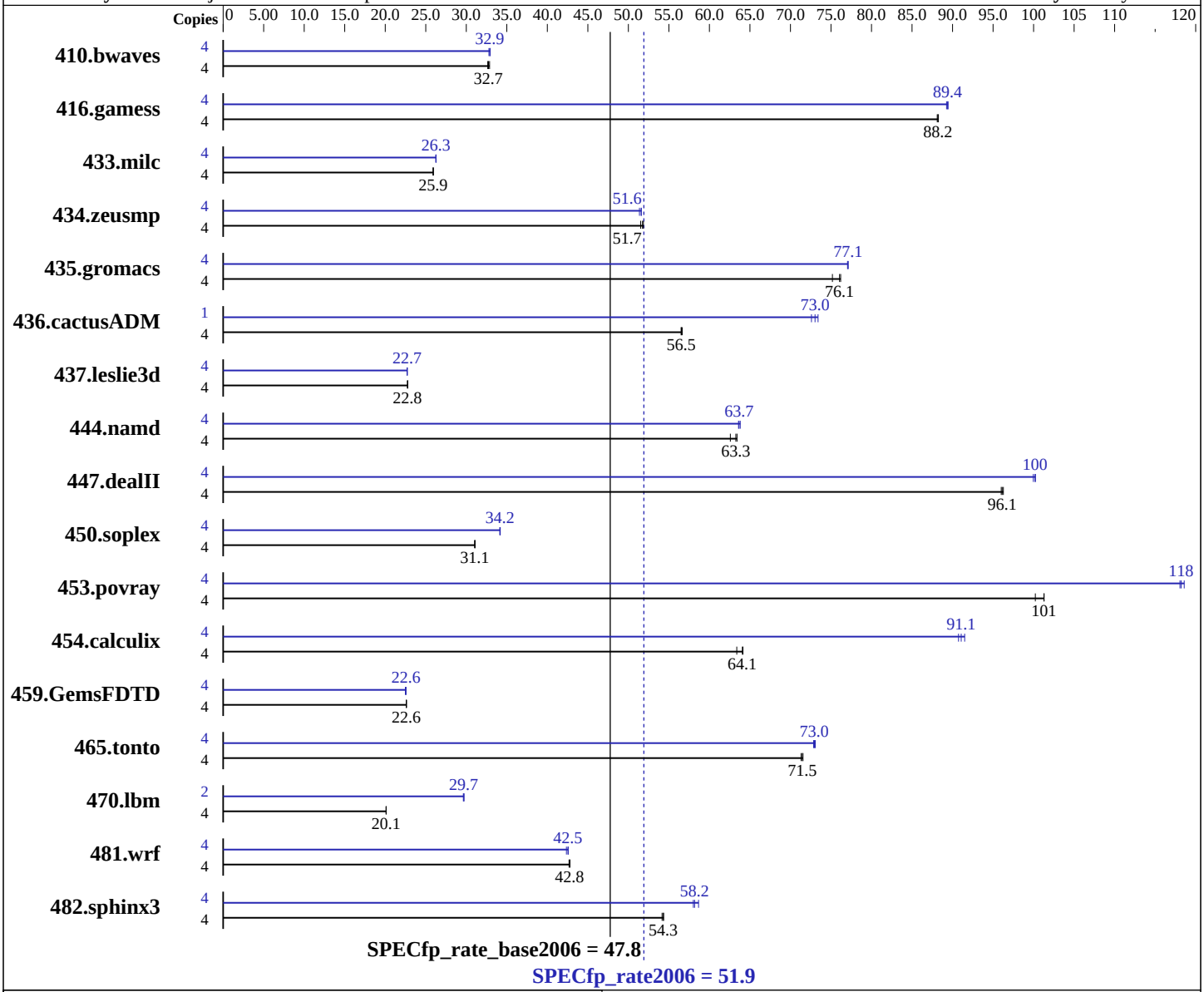
PRIMERGY TX150 S6, Intel Xeon X3370, 3.0 GHz

SPECfp®_rate2006 = 51.9

SPECfp_rate_base2006 = 47.8

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

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



Hardware

CPU Name:	Intel Xeon X3370
CPU Characteristics:	1333 MHz system bus
CPU MHz:	3000
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:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

Continued on next page

Software

Operating System:	SuSE Linux Enterprise Server 10 (x86_64) with 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, 80 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	4	1654	32.9	**1660**	**32.7**	1665	32.6	4	**1653**	**32.9**	1650	32.9	1658	32.8
416.gamess	4	**888**	**88.2**	887	88.3	889	88.1	4	877	89.3	**876**	**89.4**	876	89.4
433.milc	4	1417	25.9	1416	25.9	**1417**	**25.9**	4	**1399**	**26.3**	1398	26.3	1399	26.3
434.zeusmp	4	702	51.9	**703**	**51.7**	707	51.5	4	705	51.6	**706**	**51.6**	709	51.4
435.gromacs	4	375	76.2	380	75.2	**376**	**76.1**	4	370	77.1	**370**	**77.1**	371	77.0
436.cactusADM	4	846	56.5	844	56.6	**846**	**56.5**	1	165	72.6	163	73.4	**164**	**73.0**
437.leslie3d	4	1653	22.7	1651	22.8	**1652**	**22.8**	4	**1656**	**22.7**	1655	22.7	1656	22.7
444.namd	4	513	62.6	506	63.4	**507**	**63.3**	4	504	63.6	**504**	**63.7**	503	63.8
447.dealII	4	477	96.0	**476**	**96.1**	475	96.3	4	**457**	**100**	457	100	458	100
450.soplex	4	1073	31.1	**1074**	**31.1**	1075	31.0	4	977	34.1	976	34.2	**976**	**34.2**
453.povray	4	**210**	**101**	212	100	210	101	4	**180**	**118**	179	119	180	118
454.calculix	4	521	63.4	514	64.1	**515**	**64.1**	4	364	90.7	**362**	**91.1**	361	91.5
459.GemsFDTD	4	1879	22.6	**1877**	**22.6**	1877	22.6	4	1888	22.5	**1882**	**22.6**	1881	22.6
465.tonto	4	552	71.3	550	71.5	**551**	**71.5**	4	539	73.1	**540**	**73.0**	540	72.9
470.lbm	4	**2733**	**20.1**	2733	20.1	2733	20.1	2	925	29.7	**925**	**29.7**	927	29.6
481.wrf	4	1044	42.8	**1045**	**42.8**	1047	42.7	4	1055	42.4	**1050**	**42.5**	1049	42.6
482.sphinx3	4	1434	54.3	1440	54.2	**1435**	**54.3**	4	1329	58.7	**1340**	**58.2**	1344	58.0

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

Compiler Invocation Notes

```
All binaries were built with 64-bit Intel compiler except:
450.soplex, 470.lbm and 482.sphinx3 in peak were built with 32-bit Intel compiler.
```

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 = Disable, 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

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Base Optimization Flags (Continued)

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

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

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Peak Optimization Flags (Continued)

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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