SPEC® CFP2006 Result

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Fujitsu Siemens Computers

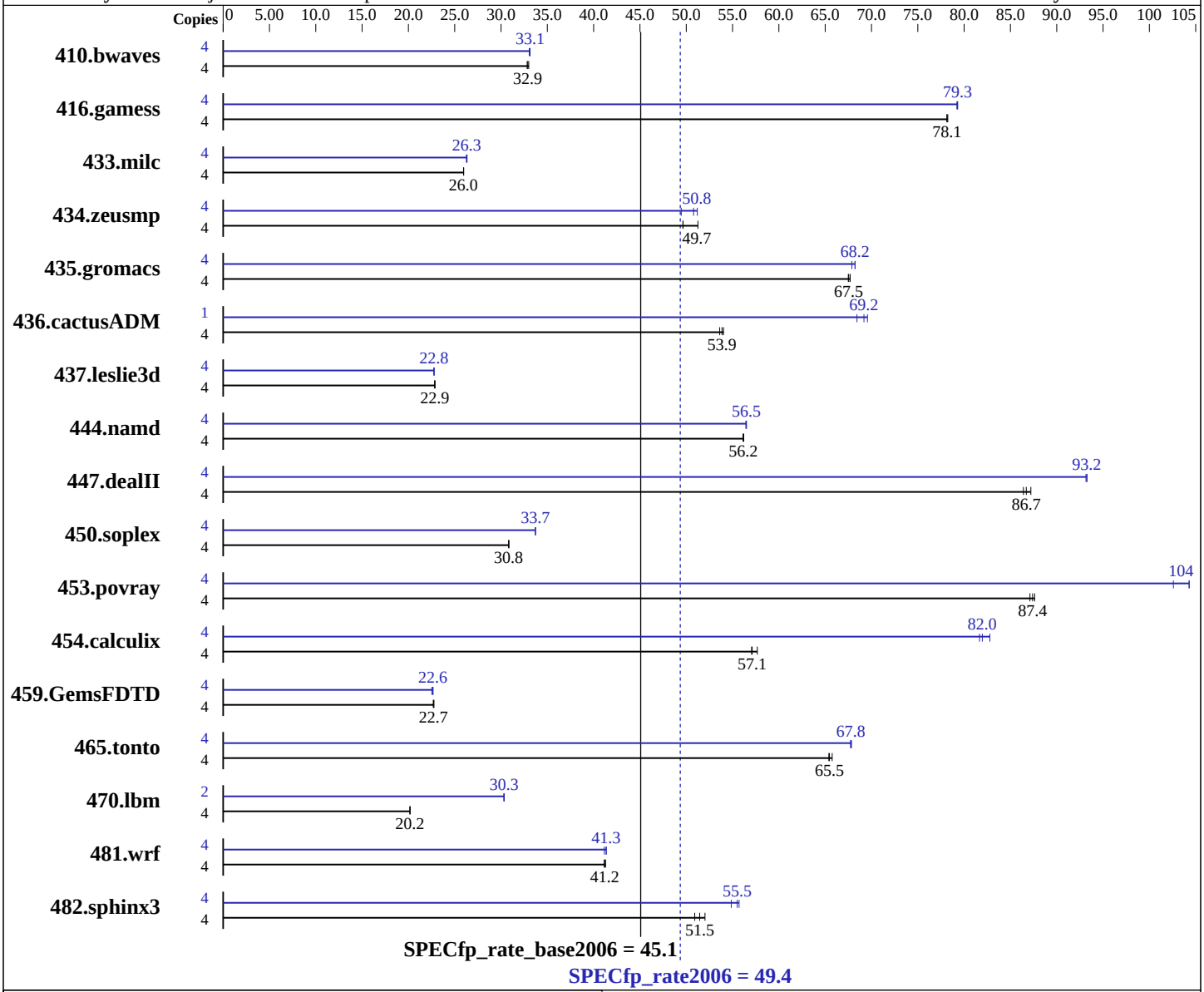
PRIMERGY RX100 S5, Intel Xeon X3350, 2.66 GHz

SPECfp®_rate2006 = 49.4

SPECfp_rate_base2006 = 45.1

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

Test date: Feb-2008
Hardware Availability: Mar-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X3350
CPU Characteristics:	1333 MHz system bus
CPU MHz:	2667
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

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Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ and Fortran Compiler for Linux32 and Linux64 Version 10.1 - Build 20070725
Auto Parallel:	Yes
File System:	ext2
System State:	Multiuser, Runlevel 3
Base Pointers:	64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB PC2-6400E, 2 rank, CAS 6-6-6, with ECC)
Disk Subsystem: Western Digital WD5000AAKS (SATA, 500GB, 7200rpm)
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: binutils-2.17.tar.gz, Version 2.17

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1648	33.0	**1653**	**32.9**	1656	32.8	4	1640	33.1	1645	33.0	**1640**	**33.1**
416.gamess	4	**1002**	**78.1**	1001	78.2	1002	78.1	4	988	79.3	989	79.2	**988**	**79.3**
433.milc	4	1415	26.0	**1415**	**26.0**	1414	26.0	4	1398	26.3	1394	26.3	**1396**	**26.3**
434.zeusmp	4	710	51.3	**733**	**49.7**	733	49.6	4	**717**	**50.8**	711	51.2	736	49.5
435.gromacs	4	423	67.5	422	67.7	**423**	**67.5**	4	419	68.2	**419**	**68.2**	421	67.9
436.cactusADM	4	885	54.0	892	53.6	**887**	**53.9**	1	175	68.4	**173**	**69.2**	172	69.6
437.leslie3d	4	1644	22.9	1646	22.8	**1646**	**22.9**	4	1651	22.8	**1651**	**22.8**	1653	22.7
444.namd	4	571	56.2	572	56.1	**571**	**56.2**	4	568	56.4	**568**	**56.5**	568	56.5
447.dealII	4	525	87.2	530	86.4	**528**	**86.7**	4	491	93.2	**491**	**93.2**	491	93.3
450.soplex	4	1082	30.8	**1082**	**30.8**	1082	30.8	4	989	33.7	**990**	**33.7**	990	33.7
453.povray	4	243	87.6	244	87.1	**244**	**87.4**	4	204	104	**204**	**104**	207	103
454.calculix	4	**578**	**57.1**	572	57.7	578	57.1	4	399	82.8	**403**	**82.0**	404	81.7
459.GemsFDTD	4	**1870**	**22.7**	1870	22.7	1864	22.8	4	1873	22.7	1884	22.5	**1874**	**22.6**
465.tonto	4	602	65.4	599	65.8	**601**	**65.5**	4	580	67.8	581	67.7	**581**	**67.8**
470.lbm	4	2726	20.2	**2725**	**20.2**	2723	20.2	2	**906**	**30.3**	906	30.3	907	30.3
481.wrf	4	**1085**	**41.2**	1082	41.3	1086	41.1	4	**1081**	**41.3**	1086	41.2	1080	41.4
482.sphinx3	4	**1515**	**51.5**	1499	52.0	1531	50.9	4	**1405**	**55.5**	1400	55.7	1421	54.9

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

Operating System Notes

```
'OMP_NUM_THREADS' set to number of cores (default)
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
```

General Notes

```
This result has been produced with binaries provided and compiled by Intel.

All binaries were built with 64-bit Intel compiler except:
437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with
32-bit Intel compiler by changing the path for include and library files.

BIOS configuration:
```

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General Notes (Continued)

```
Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable

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

Continued on next page

Base Optimization Flags (Continued)

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

C benchmarks (except as noted below):
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

433.milc: icc

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

450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

Fortran benchmarks (except as noted below):
ifort

437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/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

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Peak Portability Flags (Continued)

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:

Continued on next page

Peak Optimization Flags (Continued)

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/Intel-ic10.1-FP-intel64-linux-flags.20090713.02.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090713.02.xml`

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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