SPEC® CFP2006 Result

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Fujitsu Siemens Computers

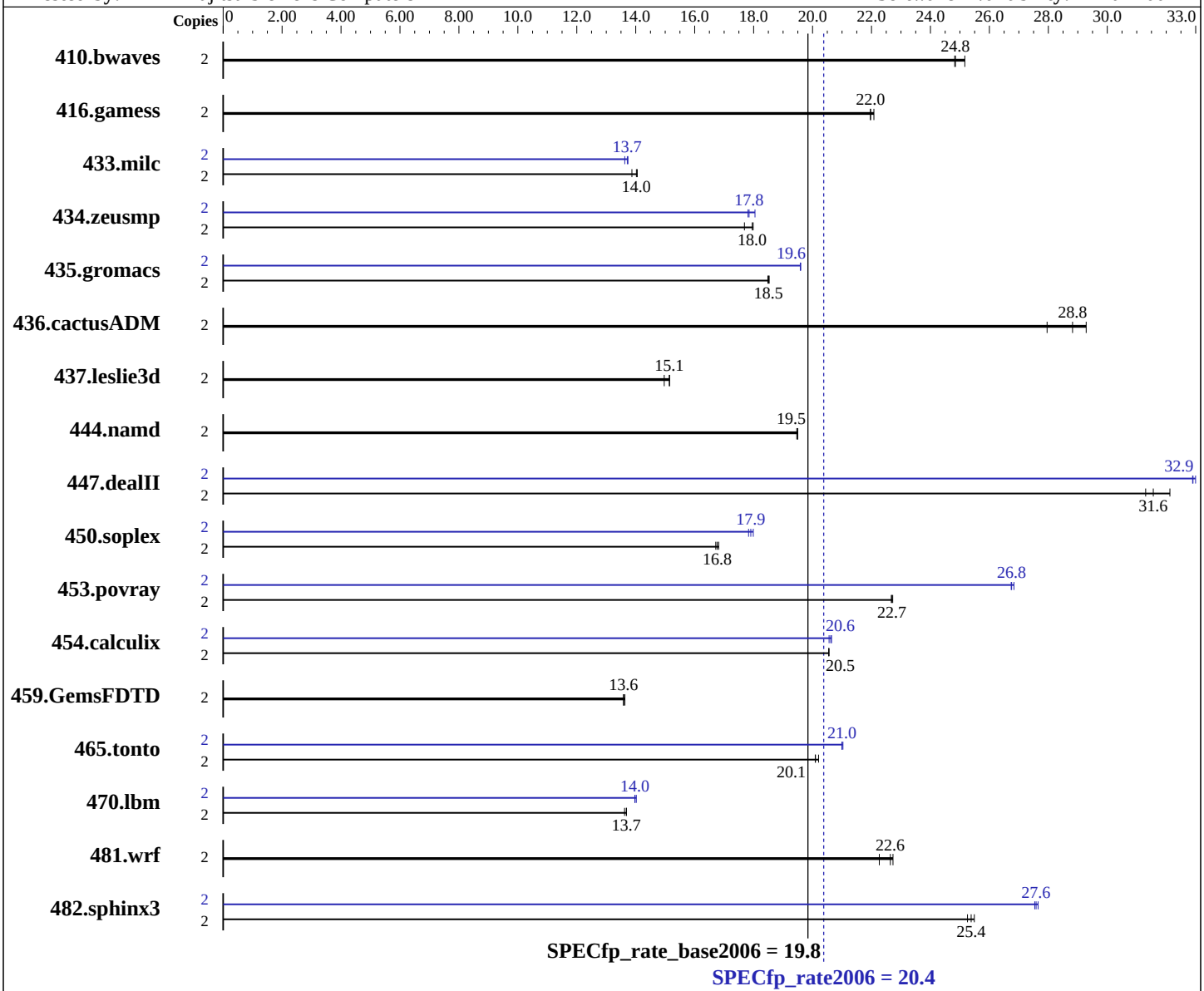
PRIMERGY RX100 S4, Intel Pentium D processor 945, 3.40 GHz

SPECfp®_rate2006 = 20.4

SPECfp_rate_base2006 = 19.8

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

Test date: Jun-2007
Hardware Availability: Sep-2006
Software Availability: Mar-2007



Hardware

CPU Name:	Intel Pentium D 945
CPU Characteristics:	800 MHz system bus
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	12 K micro-ops I + 16 KB D on chip per core
Secondary Cache:	2 MB I+D on chip per core

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Software

Operating System:	64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070215, Package-ID: l_cc_p_9.1.047 Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - Build 20070215, Package ID: l_fc_p_9.1.043
Auto Parallel:	No
File System:	ReiserFS

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB DDR2 PC2-4200E, 2 rank, CAS 4-4-4, with ECC)
Disk Subsystem: Seagate ST373454SS (SAS, 73GB, 15000rpm)
Other Hardware: None

System State: Multiuser, Runlevel 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	1080	25.2	**1094**	**24.8**	1095	24.8	2	1080	25.2	**1094**	**24.8**	1095	24.8
416.gamess	2	1783	22.0	1773	22.1	**1782**	**22.0**	2	1783	22.0	1773	22.1	**1782**	**22.0**
433.milc	2	1324	13.9	1307	14.1	**1309**	**14.0**	2	1347	13.6	**1339**	**13.7**	1337	13.7
434.zeusmp	2	1029	17.7	1012	18.0	**1014**	**18.0**	2	**1020**	**17.8**	1009	18.0	1022	17.8
435.gromacs	2	771	18.5	**772**	**18.5**	773	18.5	2	729	19.6	**729**	**19.6**	729	19.6
436.cactusADM	2	855	28.0	816	29.3	**829**	**28.8**	2	855	28.0	816	29.3	**829**	**28.8**
437.leslie3d	2	1256	15.0	**1242**	**15.1**	1241	15.1	2	1256	15.0	**1242**	**15.1**	1241	15.1
444.namd	2	823	19.5	824	19.5	**823**	**19.5**	2	823	19.5	824	19.5	**823**	**19.5**
447.dealII	2	712	32.1	731	31.3	**725**	**31.6**	2	**695**	**32.9**	693	33.0	696	32.9
450.soplex	2	998	16.7	**995**	**16.8**	992	16.8	2	927	18.0	**932**	**17.9**	936	17.8
453.povray	2	469	22.7	468	22.7	**469**	**22.7**	2	**398**	**26.8**	397	26.8	398	26.7
454.calculix	2	803	20.6	803	20.5	**803**	**20.5**	2	799	20.6	803	20.6	**800**	**20.6**
459.GemsFDTD	2	1557	13.6	**1562**	**13.6**	1562	13.6	2	1557	13.6	**1562**	**13.6**	1562	13.6
465.tonto	2	980	20.1	**979**	**20.1**	974	20.2	2	936	21.0	**937**	**21.0**	937	21.0
470.lbm	2	**2008**	**13.7**	2017	13.6	2008	13.7	2	1960	14.0	1967	14.0	**1966**	**14.0**
481.wrf	2	983	22.7	**987**	**22.6**	1003	22.3	2	983	22.7	**987**	**22.6**	1003	22.3
482.sphinx3	2	1529	25.5	1543	25.3	**1536**	**25.4**	2	1415	27.5	1410	27.7	**1413**	**27.6**

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
'/usr/bin/taskset' used to bind processes to CPUs

General Notes

The system bus runs at 800 MHz

All binaries were built with 64-bit Intel compiler except:
433.milc, 434.zeusmp, 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.

For information about Fujitsu Siemens Computers in your country please see:

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General Notes (Continued)

http://www.fujitsu-siemens.com/countries

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

Continued on next page

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
`-fast`

Peak Compiler Invocation

C benchmarks:
`/opt/intel/cc/9.1.047/bin/icc -I/opt/intel/cc/9.1.047/include -L/opt/intel/cc/9.1.047/lib`

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

450.soplex: `/opt/intel/cc/9.1.047/bin/icpc -I/opt/intel/cc/9.1.047/include -L/opt/intel/cc/9.1.047/lib`

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

434.zeusmp: `/opt/intel/fc/9.1.043/bin/ifort -I/opt/intel/fc/9.1.043/include -L/opt/intel/fc/9.1.043/lib`

Benchmarks using both Fortran and C:
`icc ifort`

Peak Portability Flags

410.bwaves: `-DSPEC_CPU_LP64`
416.gamess: `-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`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

433.milc: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

470.lbm: `Same as 433.milc`

482.sphinx3: `-fast`

C++ benchmarks:

444.namd: `basepeak = yes`

447.dealII: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

450.soplex: `Same as 447.dealII`

453.povray: `Same as 447.dealII`

Fortran benchmarks:

410.bwaves: `basepeak = yes`

416.gamess: `basepeak = yes`

434.zeusmp: `-fast`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

Benchmarks using both Fortran and C:

435.gromacs: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

436.cactusADM: `basepeak = yes`

454.calculix: `Same as 435.gromacs`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.09.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.09.xml`

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