SPEC® CFP2006 Result

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Fujitsu Siemens Computers

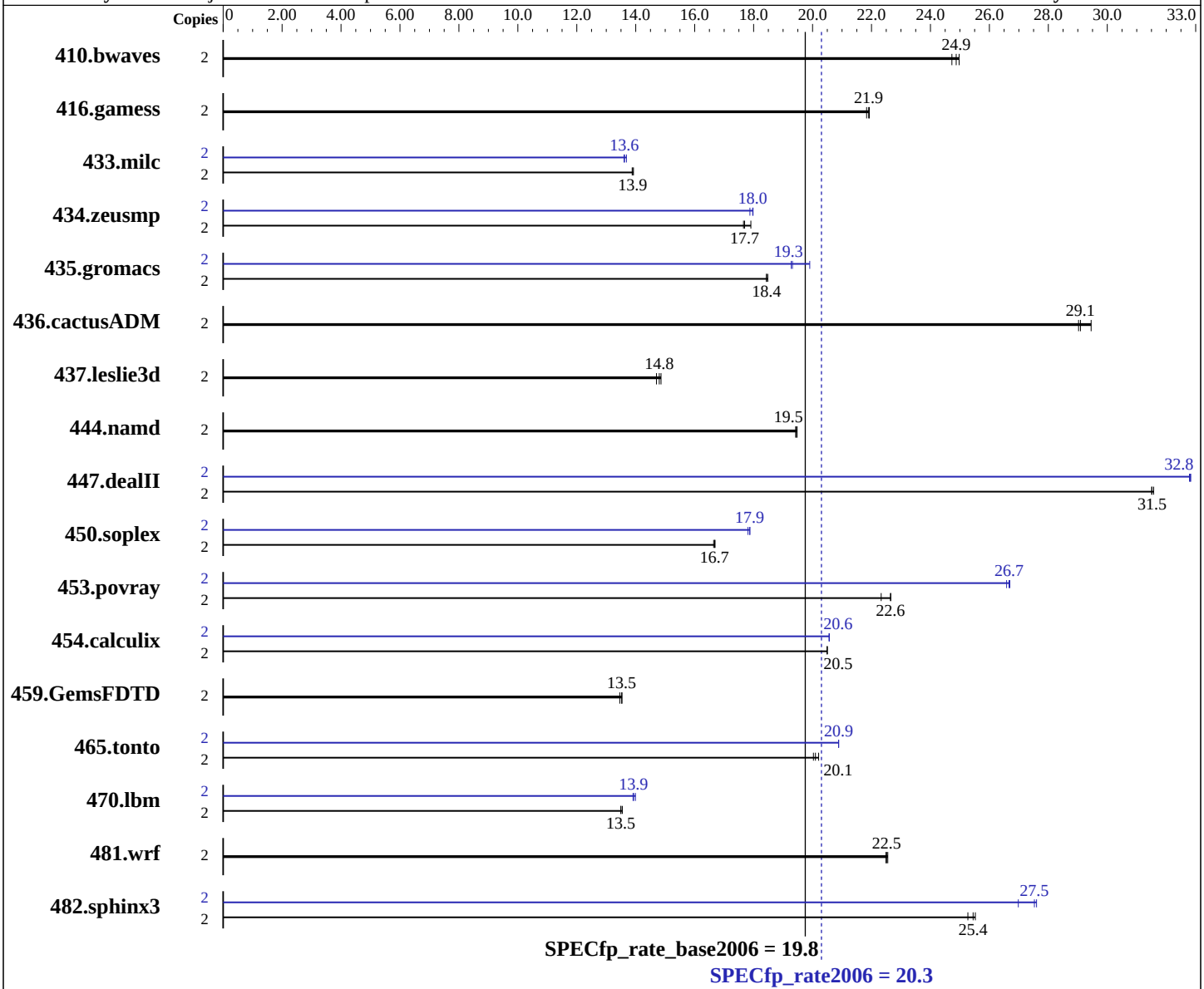
PRIMERGY TX150 S5, Intel Pentium D processor 945, 3.40 GHz

SPECfp®_rate2006 = 20.3

SPECfp_rate_base2006 = 19.8

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

Test date: May-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: SATA(160GB 7200 rpm)
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	1088	25.0	**1093**	**24.9**	1099	24.7	2	1088	25.0	**1093**	**24.9**	1099	24.7
416.gamess	2	**1788**	**21.9**	1793	21.8	1786	21.9	2	**1788**	**21.9**	1793	21.8	1786	21.9
433.milc	2	**1321**	**13.9**	1323	13.9	1319	13.9	2	**1348**	**13.6**	1342	13.7	1350	13.6
434.zeusmp	2	1031	17.7	1016	17.9	**1029**	**17.7**	2	**1013**	**18.0**	1018	17.9	1012	18.0
435.gromacs	2	**775**	**18.4**	775	18.4	773	18.5	2	**739**	**19.3**	717	19.9	741	19.3
436.cactusADM	2	811	29.5	**822**	**29.1**	823	29.0	2	811	29.5	**822**	**29.1**	823	29.0
437.leslie3d	2	1279	14.7	**1270**	**14.8**	1265	14.9	2	1279	14.7	**1270**	**14.8**	1265	14.9
444.namd	2	826	19.4	**825**	**19.5**	824	19.5	2	826	19.4	**825**	**19.5**	824	19.5
447.dealII	2	725	31.6	726	31.5	**726**	**31.5**	2	698	32.8	**697**	**32.8**	697	32.8
450.soplex	2	1002	16.6	**1000**	**16.7**	999	16.7	2	**934**	**17.9**	933	17.9	937	17.8
453.povray	2	477	22.3	**470**	**22.6**	470	22.7	2	399	26.7	400	26.6	**399**	**26.7**
454.calculix	2	**805**	**20.5**	805	20.5	805	20.5	2	**802**	**20.6**	802	20.6	802	20.6
459.GemsFDTD	2	**1569**	**13.5**	1568	13.5	1577	13.5	2	**1569**	**13.5**	1568	13.5	1577	13.5
465.tonto	2	974	20.2	983	20.0	**979**	**20.1**	2	942	20.9	942	20.9	**942**	**20.9**
470.lbm	2	2028	13.5	**2036**	**13.5**	2036	13.5	2	1964	14.0	1976	13.9	**1973**	**13.9**
481.wrf	2	**992**	**22.5**	993	22.5	991	22.6	2	**992**	**22.5**	993	22.5	991	22.6
482.sphinx3	2	1543	25.3	**1532**	**25.4**	1527	25.5	2	**1416**	**27.5**	1445	27.0	1412	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.
```

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General Notes (Continued)

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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

Continued on next page

Base Optimization Flags (Continued)

Fortran benchmarks:
`-fast`

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:

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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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 11:19:40 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 June 2007.