SPEC® CFP2006 Result

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Fujitsu Siemens Computers

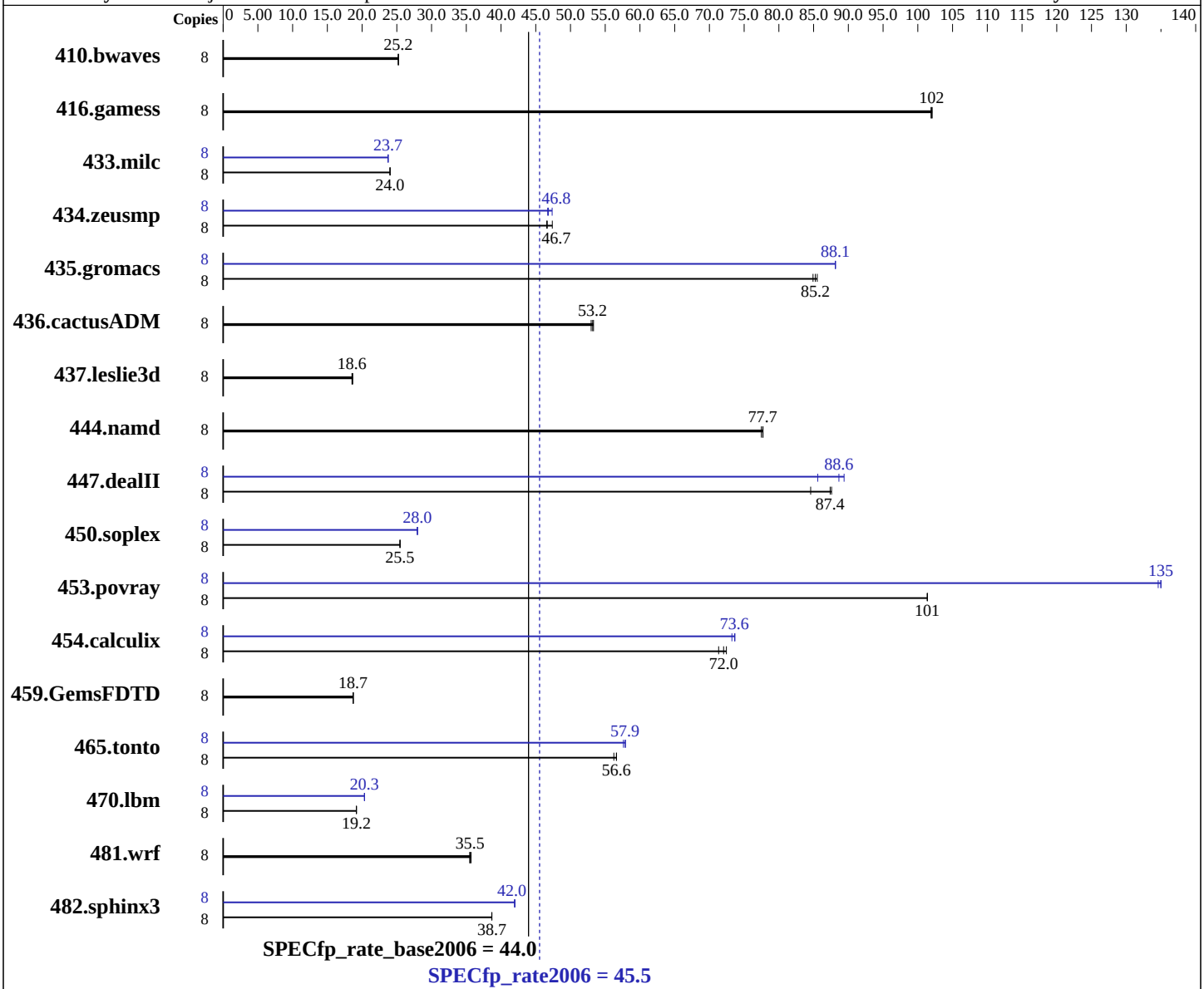
PRIMERGY RX200 S3, Intel Xeon processor E5320, 1.86 GHz

SPECfp®_rate2006 = 45.5

SPECfp_rate_base2006 = 44.0

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

Test date: Mar-2007
Hardware Availability: Nov-2006
Software Availability: Jan-2007



Hardware

CPU Name:	Intel Xeon E5320
CPU Characteristics:	E5320
CPU MHz:	1867
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

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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 - built 20070109, Package-ID: l_cc_p_9.1.046 Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - built 20070109, Package ID: l_fc_p_9.1.041
Auto Parallel:	No
File System:	ReiserFS

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB DDR2 PC2-5300F, 2 rank, CAS 5-5-5, with ECC)
Disk Subsystem: SAS (73GB 15400 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	8	**4311**	**25.2**	4309	25.2	4312	25.2	8	**4311**	**25.2**	4309	25.2	4312	25.2
416.gamess	8	1535	102	**1536**	**102**	1537	102	8	1535	102	**1536**	**102**	1537	102
433.milc	8	3057	24.0	3057	24.0	**3057**	**24.0**	8	3093	23.7	**3093**	**23.7**	3091	23.8
434.zeusmp	8	**1560**	**46.7**	1563	46.6	1536	47.4	8	1537	47.4	**1555**	**46.8**	1558	46.7
435.gromacs	8	**670**	**85.2**	668	85.5	673	84.9	8	**648**	**88.1**	648	88.1	648	88.2
436.cactusADM	8	1805	53.0	**1797**	**53.2**	1793	53.3	8	1805	53.0	**1797**	**53.2**	1793	53.3
437.leslie3d	8	4030	18.7	4054	18.6	**4052**	**18.6**	8	4030	18.7	4054	18.6	**4052**	**18.6**
444.namd	8	828	77.5	**826**	**77.7**	826	77.7	8	828	77.5	**826**	**77.7**	826	77.7
447.dealII	8	1045	87.6	1082	84.6	**1047**	**87.4**	8	1024	89.4	1069	85.6	**1032**	**88.6**
450.soplex	8	2621	25.5	2620	25.5	**2621**	**25.5**	8	**2386**	**28.0**	2384	28.0	2388	27.9
453.povray	8	420	101	**420**	**101**	420	101	8	316	135	**315**	**135**	315	135
454.calculix	8	925	71.3	911	72.4	**916**	**72.0**	8	901	73.2	**897**	**73.6**	896	73.7
459.GemsFDTD	8	4535	18.7	4532	18.7	**4533**	**18.7**	8	4535	18.7	4532	18.7	**4533**	**18.7**
465.tonto	8	**1391**	**56.6**	1390	56.6	1400	56.2	8	**1360**	**57.9**	1366	57.6	1359	57.9
470.lbm	8	5731	19.2	**5730**	**19.2**	5730	19.2	8	5403	20.3	5401	20.4	**5403**	**20.3**
481.wrf	8	**2514**	**35.5**	2517	35.5	2503	35.7	8	**2514**	**35.5**	2517	35.5	2503	35.7
482.sphinx3	8	4033	38.7	**4031**	**38.7**	4030	38.7	8	3712	42.0	**3716**	**42.0**	3716	42.0

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 1067 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.

BIOS configuration:
```

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General Notes (Continued)

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

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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/9.1.046/bin/ icc -I/opt/intel/cc/9.1.046/include -L/opt/intel/cc/9.1.046/lib`

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

450.soplex: `/opt/intel/cc/9.1.046/bin/ icpc -I/opt/intel/cc/9.1.046/include -L/opt/intel/cc/9.1.046/lib`

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

434.zeusmp: `/opt/intel/fc/9.1.041/bin/ ifort -I/opt/intel/fc/9.1.041/include -L/opt/intel/fc/9.1.041/lib`

Benchmarks using both Fortran and C:
`icc ifort`

Peak Portability Flags

`Same as Base Portability Flags`

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:

Continued on next page

Peak Optimization Flags (Continued)

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.20090714.21.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.21.xml`

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

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