SPEC® CFP2006 Result

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Fujitsu Siemens Computers

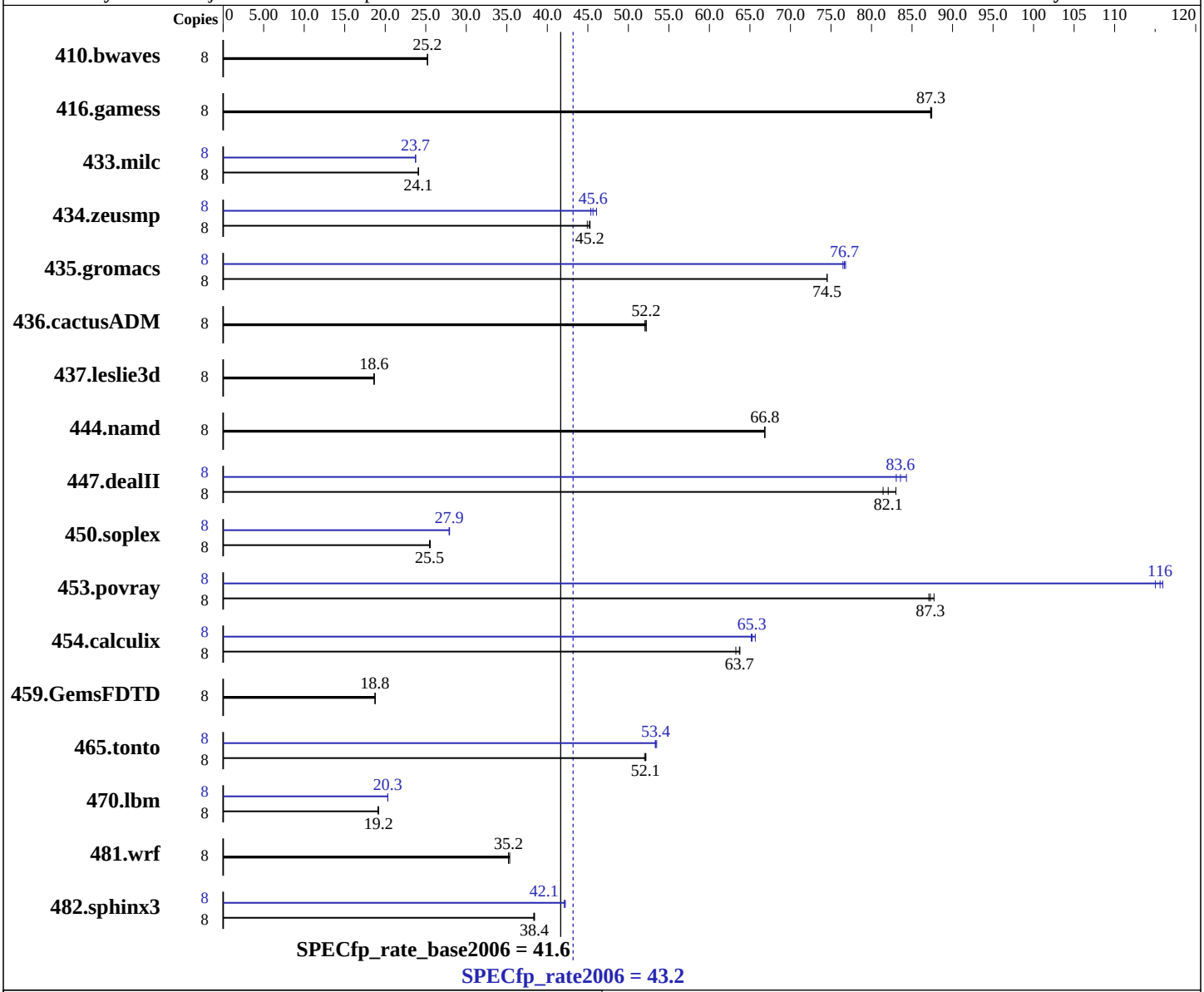
PRIMERGY RX300 S3, Intel Xeon processor E5310, 1.60 GHz

SPECfp®_rate2006 = 43.2

SPECfp_rate_base2006 = 41.6

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

Test date: Apr-2007
Hardware Availability: Nov-2006
Software Availability: Feb-2007



Hardware

CPU Name:	Intel Xeon E5310
CPU Characteristics:	1067 MHz system bus
CPU MHz:	1600
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 - 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:	ext2

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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	**4312**	**25.2**	4310	25.2	4312	25.2	8	**4312**	**25.2**	4310	25.2	4312	25.2
416.gamess	8	1794	87.3	1791	87.4	**1794**	**87.3**	8	1794	87.3	1791	87.4	**1794**	**87.3**
433.milc	8	3049	24.1	**3049**	**24.1**	3048	24.1	8	3094	23.7	**3094**	**23.7**	3093	23.7
434.zeusmp	8	1620	44.9	1608	45.3	**1611**	**45.2**	8	1580	46.1	1605	45.4	**1595**	**45.6**
435.gromacs	8	766	74.5	**767**	**74.5**	767	74.5	8	744	76.8	747	76.5	**745**	**76.7**
436.cactusADM	8	1837	52.0	**1832**	**52.2**	1831	52.2	8	1837	52.0	**1832**	**52.2**	1831	52.2
437.leslie3d	8	**4038**	**18.6**	4042	18.6	4032	18.7	8	**4038**	**18.6**	4042	18.6	4032	18.7
444.namd	8	**960**	**66.8**	960	66.8	960	66.9	8	**960**	**66.8**	960	66.8	960	66.9
447.dealII	8	1103	83.0	**1115**	**82.1**	1124	81.4	8	1085	84.3	**1095**	**83.6**	1102	83.1
450.soplex	8	2611	25.6	**2619**	**25.5**	2620	25.5	8	2393	27.9	2388	27.9	**2392**	**27.9**
453.povray	8	485	87.7	489	87.1	**488**	**87.3**	8	367	116	**368**	**116**	370	115
454.calculix	8	**1036**	**63.7**	1035	63.8	1043	63.3	8	1005	65.7	**1011**	**65.3**	1013	65.2
459.GemsFDTD	8	4529	18.7	4527	18.8	**4527**	**18.8**	8	4529	18.7	4527	18.8	**4527**	**18.8**
465.tonto	8	**1510**	**52.1**	1514	52.0	1509	52.2	8	1472	53.5	1477	53.3	**1475**	**53.4**
470.lbm	8	5734	19.2	**5735**	**19.2**	5757	19.1	8	5411	20.3	5409	20.3	**5410**	**20.3**
481.wrf	8	2539	35.2	2527	35.4	**2537**	**35.2**	8	2539	35.2	2527	35.4	**2537**	**35.2**
482.sphinx3	8	**4060**	**38.4**	4059	38.4	4069	38.3	8	**3702**	**42.1**	3702	42.1	3693	42.2

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

The PRIMERGY RX300 S3 and the PRIMERGY TX300 S3 are electronically equivalent.

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

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Base Optimization Flags (Continued)

C++ benchmarks:
`-fast`

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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