SPEC® CFP2006 Result
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Fujitsu Siemens Computers

PRIMERGY BX620 S3, Intel Xeon processor E5320, 1.86 GHz

$SPECfp®\_rate2006 =$ 45.4

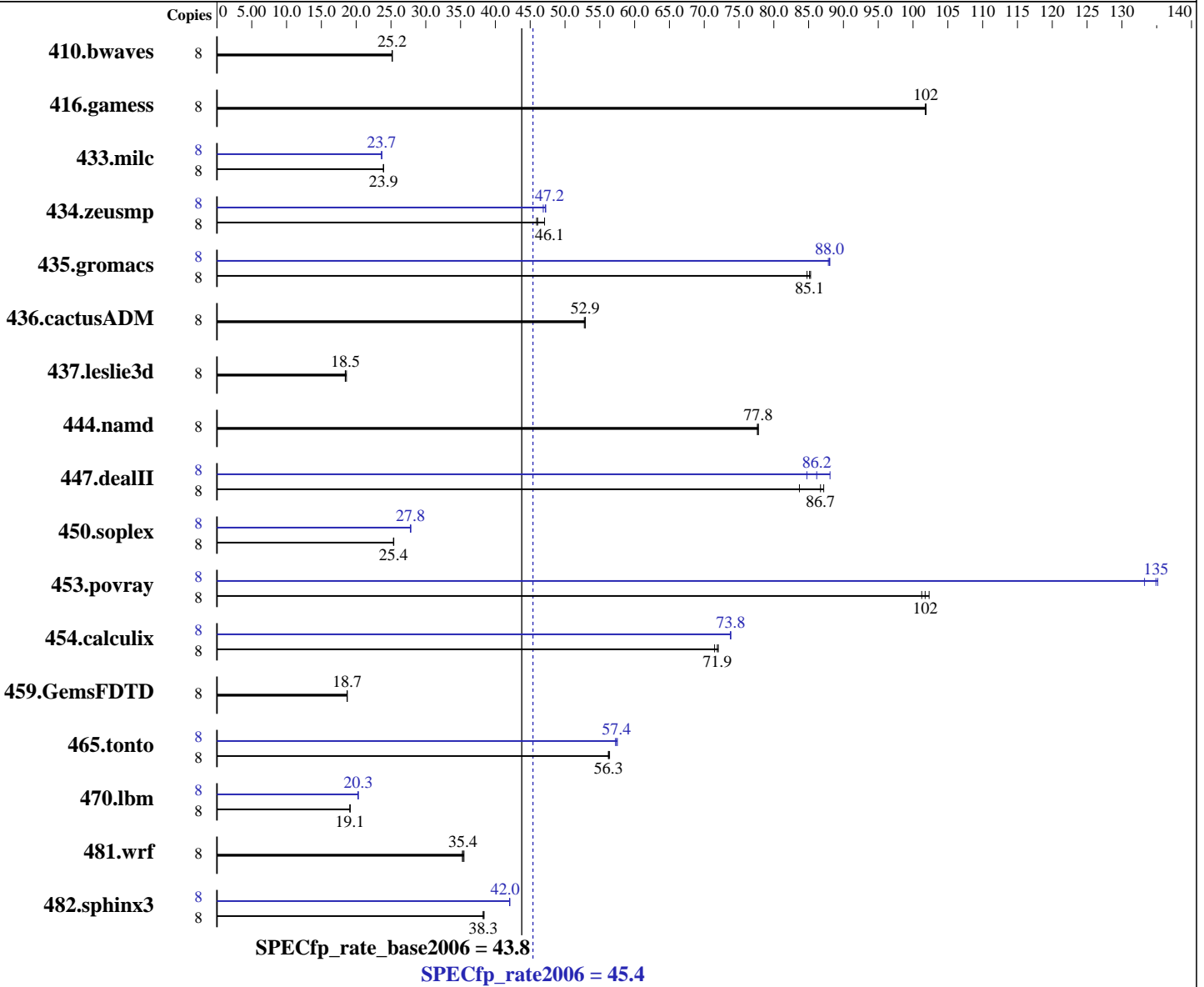SPECfp_rate_base2006 = 43.8

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

Copies

Benchmark	Copies	Result
410.bwaves	8	25.2
416.gamess	8	102
433.milc	8 / 8	23.7 / 23.9
434.zeusmp	8 / 8	47.2 / 46.1
435.gromacs	8 / 8	88.0 / 85.1
436.cactusADM	8	52.9
437.leslie3d	8	18.5
444.namd	8	77.8
447.dealII	8 / 8	86.2 / 86.7
450.soplex	8 / 8	27.8 / 25.4
453.povray	8 / 8	135 / 102
454.calculix	8 / 8	73.8 / 71.9
459.GemsFDTD	8	18.7
465.tonto	8 / 8	57.4 / 56.3
470.lbm	8 / 8	20.3 / 19.1
481.wrf	8	35.4
482.sphinx3	8 / 8	42.0 / 38.3

SPECfp_rate_base2006 = 43.8

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Hardware

CPU Name: Intel Xeon E5320
CPU Characteristics: 1067 MHz system bus
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

Continued on next page

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	System State:	Multiuser, Runlevel 3
Other Cache:	None	Base Pointers:	64-bit
Memory:	16 GB (8x2 GB DDR2 PC2-5300F, 2 rank, CAS 5-5-5, with ECC)	Peak Pointers:	32/64-bit
		Other Software:	None
Disk Subsystem:	SAS (36GB 10000 rpm)		
Other Hardware:	None		

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	4319	25.2	**4318**	**25.2**	4318	25.2		8	4319	25.2	**4318**	**25.2**	4318	25.2
416.gamess	8	**1538**	**102**	1539	102	1538	102		8	**1538**	**102**	1539	102	1538	102
433.milc	8	3071	23.9	3067	23.9	**3069**	**23.9**		8	3106	23.6	**3103**	**23.7**	3103	23.7
434.zeusmp	8	1547	47.1	1585	45.9	**1580**	**46.1**		8	**1543**	**47.2**	1542	47.2	1553	46.9
435.gromacs	8	670	85.3	**671**	**85.1**	674	84.8		8	649	88.0	**649**	**88.0**	650	87.8
436.cactusADM	8	1812	52.8	1807	52.9	**1807**	**52.9**		8	1812	52.8	1807	52.9	**1807**	**52.9**
437.leslie3d	8	4041	18.6	4080	18.4	**4076**	**18.5**		8	4041	18.6	4080	18.4	**4076**	**18.5**
444.namd	8	**825**	**77.8**	826	77.6	825	77.8		8	**825**	**77.8**	826	77.6	825	77.8
447.dealII	8	1050	87.2	**1056**	**86.7**	1094	83.7		8	1039	88.1	**1062**	**86.2**	1080	84.7
450.soplex	8	**2629**	**25.4**	2626	25.4	2631	25.4		8	2395	27.9	**2401**	**27.8**	2401	27.8
453.povray	8	**418**	**102**	416	102	420	101		8	**316**	**135**	315	135	319	133
454.calculix	8	**918**	**71.9**	923	71.5	916	72.0		8	894	73.8	**894**	**73.8**	895	73.8
459.GemsFDTD	8	4540	18.7	**4538**	**18.7**	4536	18.7		8	4540	18.7	**4538**	**18.7**	4536	18.7
465.tonto	8	1396	56.4	1400	56.2	**1399**	**56.3**		8	**1372**	**57.4**	1375	57.3	1369	57.5
470.lbm	8	**5749**	**19.1**	5750	19.1	5749	19.1		8	**5419**	**20.3**	5419	20.3	5418	20.3
481.wrf	8	**2527**	**35.4**	2518	35.5	2535	35.3		8	**2527**	**35.4**	2518	35.5	2535	35.3
482.sphinx3	8	4063	38.4	4077	38.2	**4074**	**38.3**		8	3706	42.1	3710	42.0	**3709**	**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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CPU2006 license: 22		**Test date:**	Apr-2007
Test sponsor: Fujitsu Siemens Computers		**Hardware Availability:**	Nov-2006
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General Notes (Continued)

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

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

C++ benchmarks:
      -fast

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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
```

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

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