SPEC® CFP2006 Result
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Fujitsu Siemens Computers

CELSIUS M460, Intel Core 2 Quad Q9450

SPECfp®_rate2006 =   44.7

SPECfp_rate_base2006 =   42.2
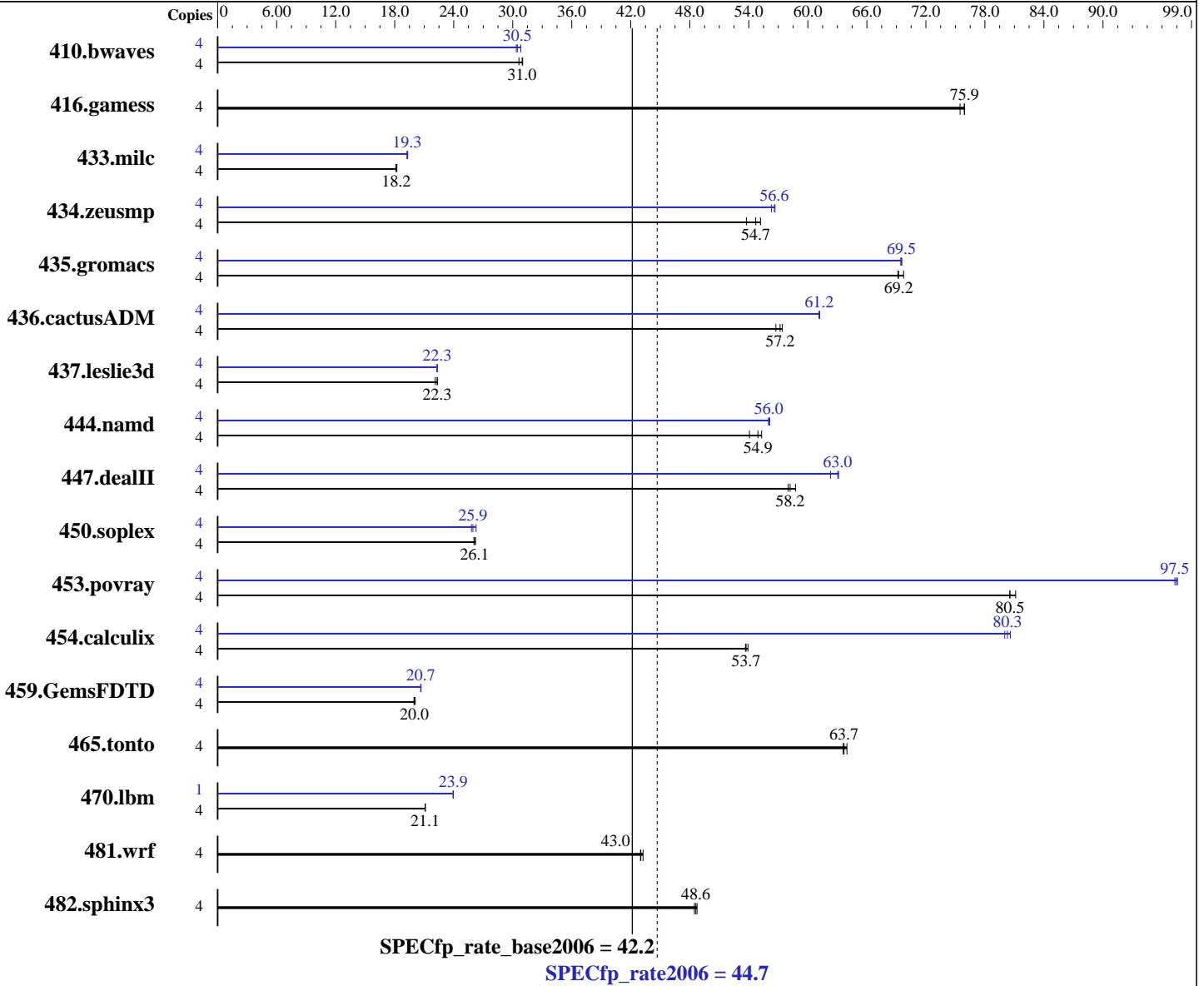
CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Mar-2008
Hardware Availability: Mar-2008
Software Availability: Nov-2007

Benchmark	Copies	Result
410.bwaves	4	30.5
410.bwaves	4	31.0
416.gamess	4	75.9
433.milc	4	19.3
433.milc	4	18.2
434.zeusmp	4	56.6
434.zeusmp	4	54.7
435.gromacs	4	69.5
435.gromacs	4	69.2
436.cactusADM	4	61.2
436.cactusADM	4	57.2
437.leslie3d	4	22.3
437.leslie3d	4	22.3
444.namd	4	56.0
444.namd	4	54.9
447.dealII	4	63.0
447.dealII	4	58.2
450.soplex	4	25.9
450.soplex	4	26.1
453.povray	4	97.5
453.povray	4	80.5
454.calculix	4	80.3
454.calculix	4	53.7
459.GemsFDTD	4	20.7
459.GemsFDTD	4	20.0
465.tonto	4	63.7
470.lbm	1	23.9
470.lbm	4	21.1
481.wrf	4	43.0
482.sphinx3	4	48.6

SPECfp_rate_base2006 = 42.2
SPECfp_rate2006 = 44.7

Hardware

CPU Name:	Intel Core 2 Quad Q9450
CPU Characteristics:	
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System:	Windows Vista Ultimate, 64 bit Version

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L3 Cache:	None
Other Cache:	None
Memory:	4 GB (4x1 GB PC2-6400 CL6 SDRAM)
Disk Subsystem:	1 x 400 GB SATA 7200 RPM
Other Hardware:	None

Compiler:	Intel C++ Compiler for applications running on Intel 64, Version 10.1, Build 20070913 Intel Visual Fortran Compiler for applications running on Intel 64, Version 10.1, Build 20070913 Microsoft Visual Studio 2005 with SP1 (for libraries)
Auto Parallel:	No
File System:	NTFS
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	SmartHeap Library Version 8.0 (64 bit) from http://www.microquill.com/

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	**1756**	**31.0**	1753	31.0	1775	30.6	4	1764	30.8	1790	30.4	**1784**	**30.5**
416.gamess	4	**1032**	**75.9**	1032	75.9	1038	75.5	4	**1032**	**75.9**	1032	75.9	1038	75.5
433.milc	4	2015	18.2	**2021**	**18.2**	2026	18.1	4	**1905**	**19.3**	1908	19.3	1900	19.3
434.zeusmp	4	660	55.2	677	53.8	**665**	**54.7**	4	647	56.3	642	56.7	**643**	**56.6**
435.gromacs	4	410	69.7	413	69.2	**413**	**69.2**	4	411	69.4	411	69.6	**411**	**69.5**
436.cactusADM	4	**836**	**57.2**	842	56.8	833	57.4	4	781	61.2	782	61.1	**781**	**61.2**
437.leslie3d	4	1683	22.3	1700	22.1	**1685**	**22.3**	4	1683	22.3	**1685**	**22.3**	1686	22.3
444.namd	4	580	55.3	593	54.1	**584**	**54.9**	4	**572**	**56.0**	573	56.0	572	56.1
447.dealII	4	**786**	**58.2**	779	58.7	789	58.0	4	725	63.1	735	62.3	**726**	**63.0**
450.soplex	4	1280	26.1	1272	26.2	**1277**	**26.1**	4	1293	25.8	1270	26.3	**1286**	**25.9**
453.povray	4	262	81.1	**264**	**80.5**	264	80.5	4	**218**	**97.5**	218	97.6	219	97.3
454.calculix	4	612	53.9	615	53.7	**614**	**53.7**	4	**411**	**80.3**	410	80.6	412	80.0
459.GemsFDTD	4	2112	20.1	**2123**	**20.0**	2126	20.0	4	2056	20.6	2052	20.7	**2054**	**20.7**
465.tonto	4	**618**	**63.7**	615	64.0	619	63.6	4	**618**	**63.7**	615	64.0	619	63.6
470.lbm	4	2602	21.1	**2605**	**21.1**	2606	21.1	1	574	23.9	573	24.0	**574**	**23.9**
481.wrf	4	1033	43.2	**1039**	**43.0**	1040	43.0	4	1033	43.2	**1039**	**43.0**	1040	43.0
482.sphinx3	4	1600	48.7	**1604**	**48.6**	1609	48.5	4	1600	48.7	**1604**	**48.6**	1609	48.5

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

```
BIOS default settings have been used.
```

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General Notes

```
For information about Fujitsu Siemens Computers please see:
http://www.fujitsu-siemens.com/
```

Base Compiler Invocation

C benchmarks:
    icl -Qvc8 -Qc99

C++ benchmarks:
    icl -Qvc8

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    icl -Qvc8 -Qc99 ifort

Base Portability Flags

```
    410.bwaves: -DSPEC_CPU_P64
    416.gamess: -DSPEC_CPU_P64
      433.milc: -DSPEC_CPU_P64
    434.zeusmp: -DSPEC_CPU_P64
   435.gromacs: -DSPEC_CPU_P64
  436.cactusADM: -DSPEC_CPU_P64 -Qlowercase -assume:underscore
   437.leslie3d: -DSPEC_CPU_P64
      444.namd: -DSPEC_CPU_P64 -TP
     447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
    450.soplex: -DSPEC_CPU_P64
    453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
   454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
  459.GemsFDTD: -DSPEC_CPU_P64
     465.tonto: -DSPEC_CPU_P64
      470.lbm: -DSPEC_CPU_P64
       481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
    482.sphinx3: -DSPEC_CPU_P64
```

Base Optimization Flags

C benchmarks:
    -fast -F950000000 shlW64M.lib

C++ benchmarks:
    -fast -Qcxx-features -F950000000 shlW64M.lib

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Base Optimization Flags (Continued)

Fortran benchmarks:
```
-fast -F950000000
```

Benchmarks using both Fortran and C:
```
-fast -F950000000
```

Peak Compiler Invocation

C benchmarks:
```
icl -Qvc8 -Qc99
```

C++ benchmarks:
```
icl -Qvc8
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc8 -Qc99 ifort
```

Peak Portability Flags

```
Same as Base Portability Flags
```

Peak Optimization Flags

C benchmarks:

433.milc: `-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -F950000000`

470.lbm: `-fast -Qunroll2 -Qscalar-rep- -Qprefetch -F950000000`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `-fast -Oa -F950000000 shlW64M.lib`

447.dealII: `-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features -F950000000`

450.soplex: `Same as 447.dealII`

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Peak Optimization Flags (Continued)

453.povray: `Same as 447.dealII`

Fortran benchmarks:

410.bwaves: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -F950000000`

416.gamess: `basepeak = yes`

434.zeusmp: `-QxT -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- -F950000000`

437.leslie3d: `Same as 410.bwaves`

459.GemsFDTD: `-fast -Qunroll2 -Ob0 -Qprefetch -F950000000`

465.tonto: `basepeak = yes`

Benchmarks using both Fortran and C:

435.gromacs: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -F950000000`

436.cactusADM: `-fast -Qunroll2 -Qprefetch -F950000000`

454.calculix: `-fast -Qunroll-aggressive -F950000000`

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.20090713.03.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090713.03.xml`

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

Tested with SPEC CPU2006 v1.0.
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