SPEC® CFP2006 Result

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Fujitsu Siemens Computers

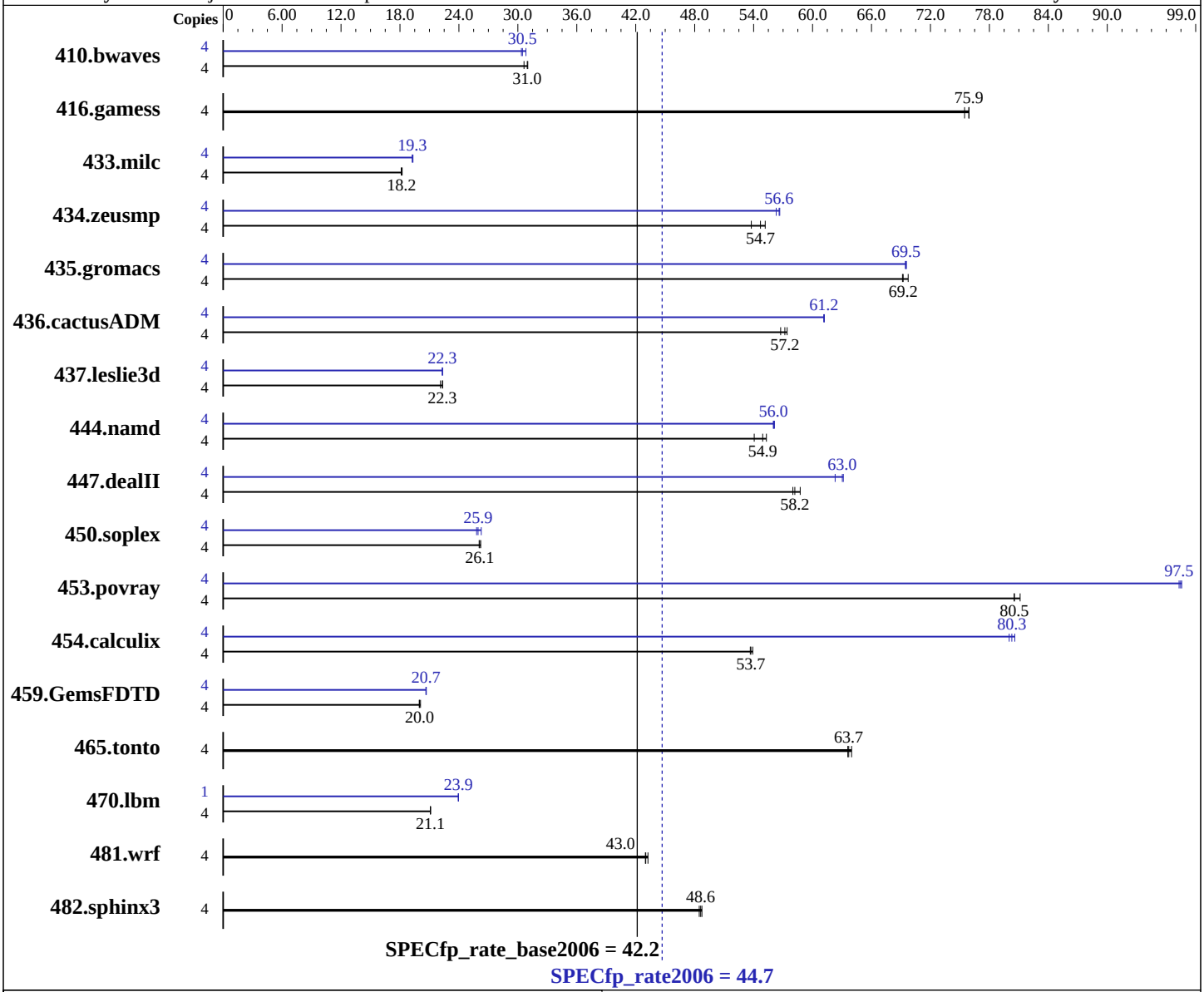
CELSIUS M460, Intel Core 2 Quad Q9450

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



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.
```

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`

Continued on next page

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

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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 17:49:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 April 2008.