SPEC® CFP2006 Result

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Fujitsu Siemens Computers

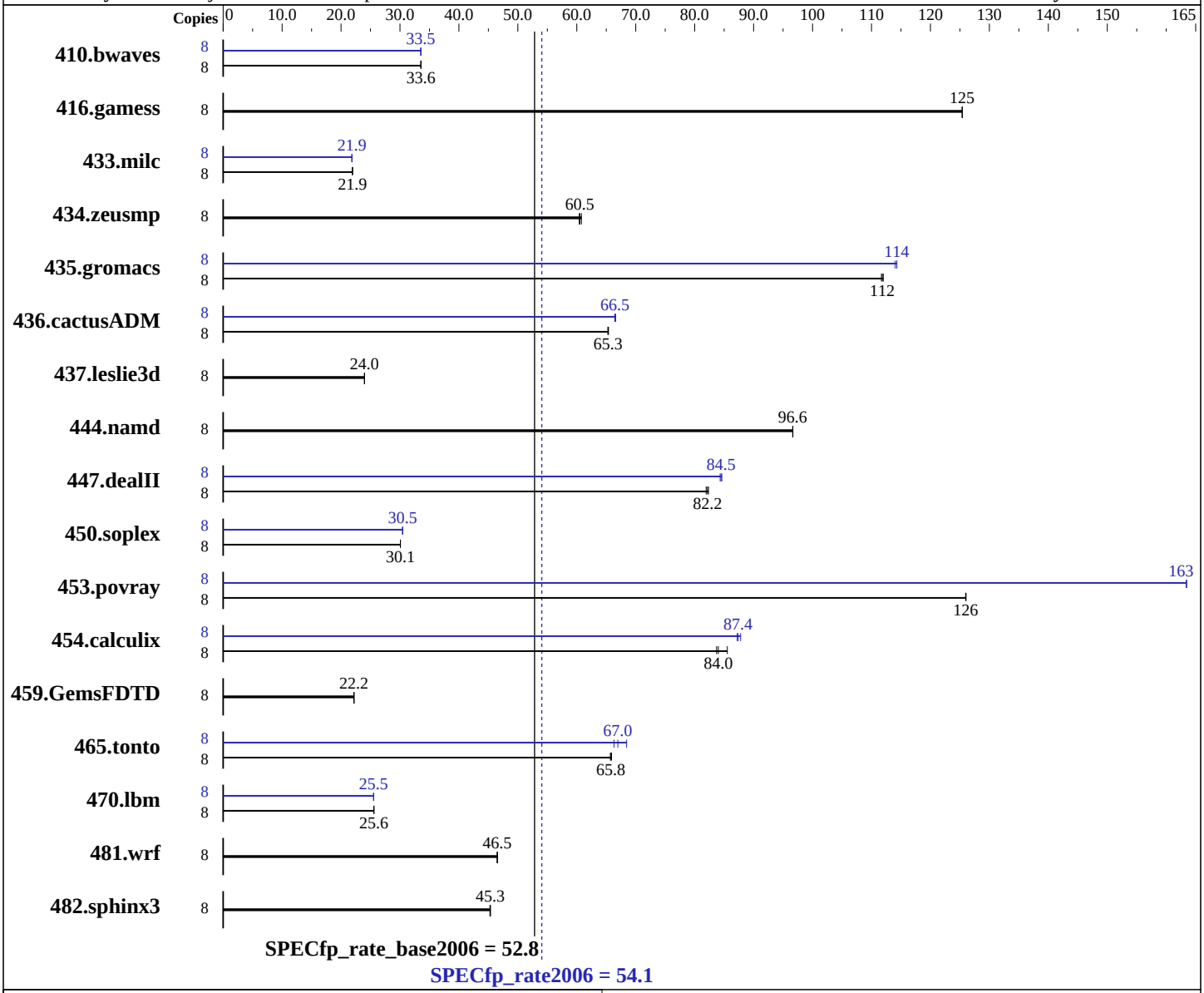
CELSIUS R640, Intel Xeon E5345 processor

SPECfp®_rate2006 = 54.1

SPECfp_rate_base2006 = 52.8

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

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



Hardware

CPU Name:	Intel Xeon E5345
CPU Characteristics:	E5345
CPU MHz:	2333
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:	Windows XP, 64 bit Edition
Compiler:	Intel C++ Compiler for EM64T version 9.1 - Build 20061104, Package-ID W_CC_C_9.1.033 Intel Fortran Compiler for EM64T version 9.1 - Build 20061104, Package-ID W_FC_C_9.1.033 Microsoft Visual Studio 2005 (libr. & linker)
Auto Parallel:	No
File System:	NTFS
System State:	Default

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Hardware (Continued)

L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: SATA II 7200 rpm
Other Hardware: None

Software (Continued)

Base Pointers: 64-bit
Peak Pointers: 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	3241	33.5	**3240**	**33.6**	3239	33.6	8	3243	33.5	**3241**	**33.5**	3238	33.6
416.gamess	8	1249	125	**1249**	**125**	1249	125	8	1249	125	**1249**	**125**	1249	125
433.milc	8	3349	21.9	3346	21.9	**3348**	**21.9**	8	3362	21.8	**3361**	**21.9**	3360	21.9
434.zeusmp	8	1205	60.4	**1203**	**60.5**	1198	60.8	8	1205	60.4	**1203**	**60.5**	1198	60.8
435.gromacs	8	510	112	511	112	**511**	**112**	8	500	114	**500**	**114**	501	114
436.cactusADM	8	**1464**	**65.3**	1464	65.3	1462	65.4	8	1439	66.4	**1438**	**66.5**	1435	66.6
437.leslie3d	8	**3136**	**24.0**	3136	24.0	3136	24.0	8	**3136**	**24.0**	3136	24.0	3136	24.0
444.namd	8	**664**	**96.6**	664	96.7	664	96.6	8	**664**	**96.6**	664	96.7	664	96.6
447.dealII	8	1117	81.9	**1114**	**82.2**	1111	82.3	8	1082	84.6	1085	84.3	**1083**	**84.5**
450.soplex	8	2218	30.1	**2219**	**30.1**	2219	30.1	8	**2191**	**30.5**	2191	30.5	2191	30.4
453.povray	8	**338**	**126**	338	126	338	126	8	**260**	**163**	260	163	260	163
454.calculix	8	788	83.7	**786**	**84.0**	772	85.5	8	**755**	**87.4**	752	87.8	757	87.2
459.GemsFDTD	8	3823	22.2	3826	22.2	**3823**	**22.2**	8	3823	22.2	3826	22.2	**3823**	**22.2**
465.tonto	8	1195	65.9	**1196**	**65.8**	1198	65.7	8	1187	66.3	**1176**	**67.0**	1150	68.5
470.lbm	8	**4298**	**25.6**	4298	25.6	4298	25.6	8	4305	25.5	**4305**	**25.5**	4306	25.5
481.wrf	8	**1921**	**46.5**	1922	46.5	1921	46.5	8	**1921**	**46.5**	1922	46.5	1921	46.5
482.sphinx3	8	3439	45.3	3445	45.3	**3440**	**45.3**	8	3439	45.3	3445	45.3	**3440**	**45.3**

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, except:
High Bandwith Option Enabled
  (To Optimize throughput of High Bandwidth FSB applications
  on multiprocessor configurations)
```

General Notes

```
'start /b /wait /affinity' command is used to bind CPU(s) to processors.
The Windows command "start /b /wait /affinity <hex_affinity_mask> application"
  starts the specified application without creating a new window (/b)
  and waits for its termination (/wait). Only the processors specified
  in <hex_affinity_mask> are allowed to execute the application.
```

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General Notes (Continued)

```
See the Windows documentation for the description of other parameters
of the start command.


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http://www.fujitsu-siemens.com/countries
```

Compiler Invocation

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

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

Fortran benchmarks:
```
ifort
```

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

Portability Flags

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

Base Optimization Flags

C benchmarks:
`-fast -F950000000`

C++ benchmarks:
`-fast -Qcxx-features -F950000000`

Fortran benchmarks:
`-fast -F950000000`

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

Peak Optimization Flags

C benchmarks:

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

470.lbm: `Same as 433.milc`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `basepeak = yes`

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

450.soplex: `Same as 447.dealII`

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: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `Same as 410.bwaves`

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

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

436.cactusADM: `Same as 435.gromacs`

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.20090714.20.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.20.xml`

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

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