SPEC® CFP2006 Result

Fujitsu Siemens Computers

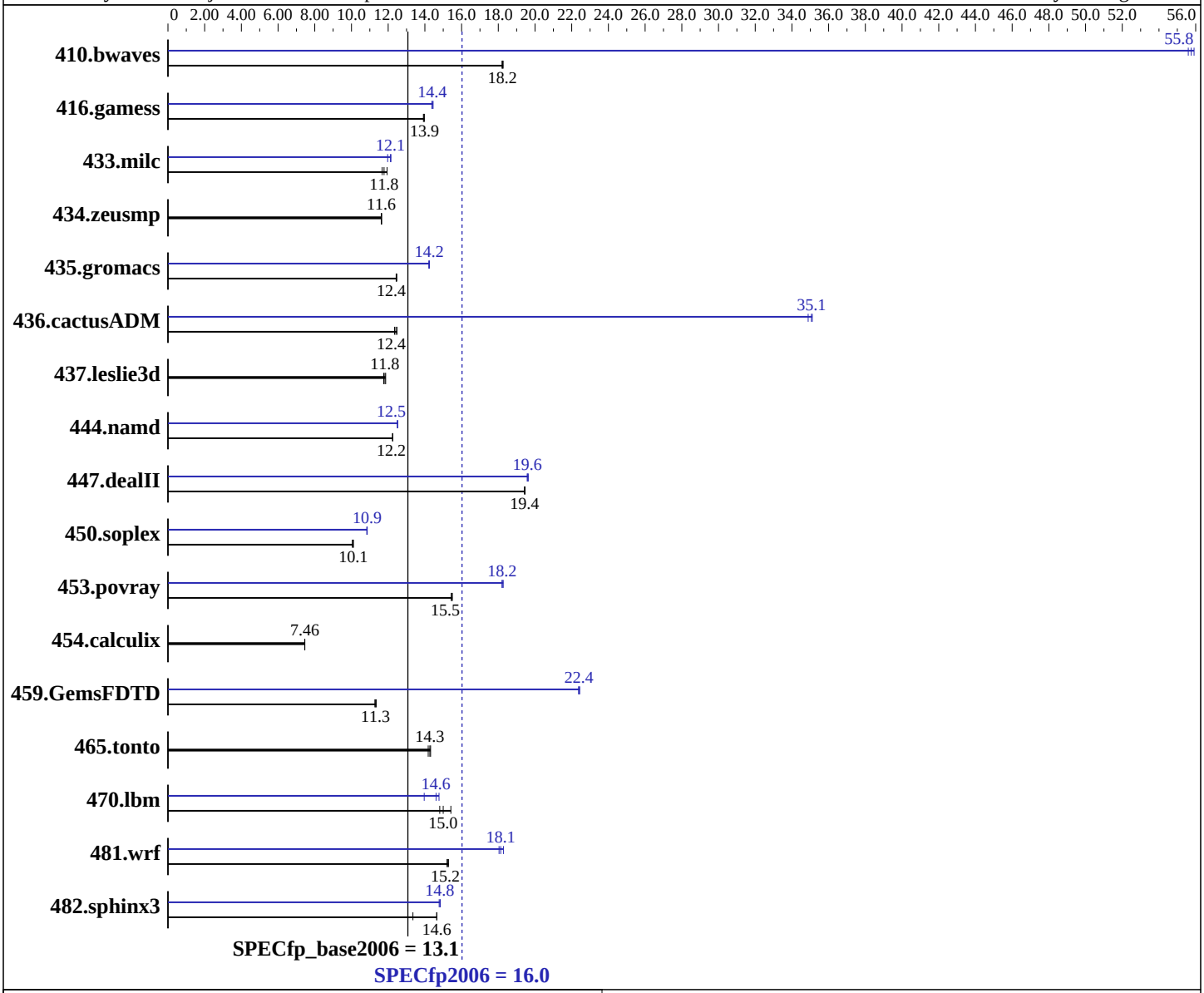
CELSIUS V840, AMD Opteron 2220

SPECfp®2006 = 16.0

SPECfp_base2006 = 13.1

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

Test date: Feb-2007
Hardware Availability: Feb-2007
Software Availability: Aug-2006



Hardware

CPU Name:	AMD Opteron 2220
CPU Characteristics:	Dual Core, 2.8 GHz, 2 MB L2-cache
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core

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Software

Operating System:	SLES 10 for AMD64/EM64T
Compiler:	QLogic Pathscale Compiler Suite 2.5
Auto Parallel:	Yes
File System:	ext3
System State:	Multi-User SuSE Run Level 3
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	None

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2GB DDR2-667 CL5 dual rank ECC DIMMs registered)
Disk Subsystem: SATA II, 80 GB
Other Hardware: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	747	18.2	**745**	**18.2**	744	18.3	**244**	**55.8**	243	55.9	244	55.6
416.gamess	1407	13.9	1401	14.0	**1404**	**13.9**	1361	14.4	**1359**	**14.4**	1355	14.4
433.milc	787	11.7	**780**	**11.8**	769	11.9	**757**	**12.1**	756	12.2	767	12.0
434.zeusmp	**782**	**11.6**	782	11.6	783	11.6	**782**	**11.6**	782	11.6	783	11.6
435.gromacs	573	12.5	574	12.4	**574**	**12.4**	501	14.2	**502**	**14.2**	502	14.2
436.cactusADM	**962**	**12.4**	968	12.3	958	12.5	340	35.1	**341**	**35.1**	343	34.9
437.leslie3d	792	11.9	**795**	**11.8**	799	11.8	792	11.9	**795**	**11.8**	799	11.8
444.namd	654	12.3	**655**	**12.2**	655	12.2	641	12.5	641	12.5	**641**	**12.5**
447.dealII	**589**	**19.4**	589	19.4	588	19.5	584	19.6	**584**	**19.6**	583	19.6
450.soplex	**826**	**10.1**	826	10.1	830	10.0	768	10.9	**769**	**10.9**	770	10.8
453.povray	343	15.5	**344**	**15.5**	345	15.4	**292**	**18.2**	291	18.3	292	18.2
454.calculix	**1107**	**7.46**	1106	7.46	1107	7.45	**1107**	**7.46**	1106	7.46	1107	7.45
459.GemsFDTD	**938**	**11.3**	935	11.3	941	11.3	473	22.4	474	22.4	**474**	**22.4**
465.tonto	688	14.3	**690**	**14.3**	694	14.2	688	14.3	**690**	**14.3**	694	14.2
470.lbm	891	15.4	**916**	**15.0**	928	14.8	930	14.8	984	14.0	**941**	**14.6**
481.wrf	**733**	**15.2**	735	15.2	731	15.3	619	18.0	611	18.3	**616**	**18.1**
482.sphinx3	1331	14.6	**1331**	**14.6**	1460	13.3	1313	14.8	**1315**	**14.8**	1319	14.8

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

Operating System Notes

```
powersave -f is applied to set CPU to maximum frequency prior to run
stacksize is set to unlimited prior to run
```

General Notes

```
Binaries are generated on an Opteron-based system running Suse 9.3.

BIOS default settings with
Node memory interleave disabled, SRAT enabled

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

Base Compiler Invocation

C benchmarks:
`pathcc`

C++ benchmarks:
`pathCC`

Fortran benchmarks:
`pathf95`

Benchmarks using both Fortran and C:
`pathcc pathf95`

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`
436.cactusADM: `-DSPEC_CPU_LP64 -fno-second-underscore`
437.leslie3d: `-DSPEC_CPU_LP64`
444.namd: `-DSPEC_CPU_LP64`
447.dealII: `-DSPEC_CPU_LP64 -DSPEC_CPU_TABLE_WORKAROUND`
450.soplex: `-DSPEC_CPU_LP64`
453.povray: `-DSPEC_CPU_LP64`
454.calculix: `-DSPEC_CPU_LP64`
459.GemsFDTD: `-DSPEC_CPU_LP64`
465.tonto: `-DSPEC_CPU_LP64`
470.lbm: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -fno-second-underscore`
482.sphinx3: `-DSPEC_CPU_LP64`

Base Optimization Flags

C benchmarks:
`-Ofast`

C++ benchmarks:
`-Ofast`

Fortran benchmarks:
`-Ofast`

Benchmarks using both Fortran and C:
`-Ofast`

Peak Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

470.lbm: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2)

482.sphinx3: -Ofast -apo

C++ benchmarks:

444.namd: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

447.dealII: -Ofast -fno-exceptions

450.soplex: -O3 -OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1
-LNO:minvariant=off -fno-exceptions

453.povray: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
-fno-fast-math

Fortran benchmarks:

410.bwaves: -Ofast -apo

416.gamess: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

434.zeusmp: basepeak = yes

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Peak Optimization Flags (Continued)

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `Same as 410.bwaves`

465.tonto: `basepeak = yes`

Benchmarks using both Fortran and C:

435.gromacs: `-O3 -OPT:rsqrt=2 -OPT:ro=3`

436.cactusADM: `-Ofast -apo`

454.calculix: `basepeak = yes`

481.wrf: `Same as 436.cactusADM`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.17.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.17.xml`

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

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