



# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

**SPECfp®2006 = 13.2**

### CELSIUS V830, Opteron 256, Linux 64-bit

**SPECfp\_base2006 = 12.7**

CPU2006 license: 22

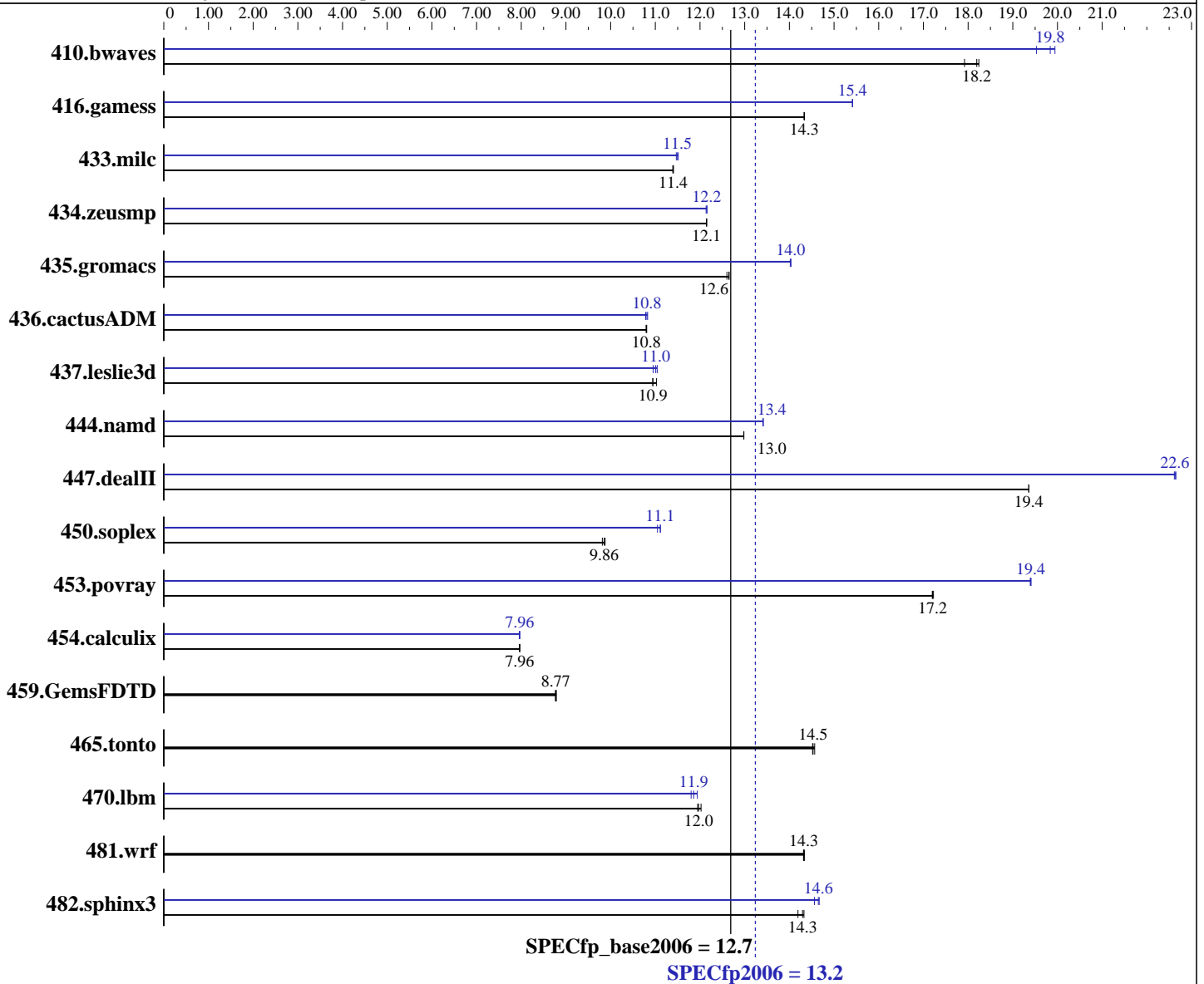
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Apr-2006

Hardware Availability: Sep-2005

Software Availability: Mar-2006



### Hardware

CPU Name: AMD Opteron 256  
 CPU Characteristics: Opteron 256  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 64 KB I + 64 KB D on chip per chip  
 Secondary Cache: 1 MB I+D on chip per chip

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### Software

Operating System: SuSE Linux Enterprise Server 9 (x86\_64) + SP3  
 Compiler: QLogic Pathscale Compiler Suite 2.4  
 Auto Parallel: No  
 File System: ReiserFS  
 System State: Multi-User SuSE Run Level 3  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: --



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L3 Cache: None  
Other Cache: None  
Memory: 2 GB (4 x 512 MB PC3200 CL3-3-3 DDR SDRAM)  
Disk Subsystem: SCSI U320  
Other Hardware: None

### Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	758	17.9	745	18.2	<b><u>747</u></b>	<b><u>18.2</u></b>	<b><u>685</u></b>	<b><u>19.8</u></b>	681	19.9	696	19.5
416.gamess	1366	14.3	1366	14.3	<b><u>1366</u></b>	<b><u>14.3</u></b>	1270	15.4	<b><u>1270</u></b>	<b><u>15.4</u></b>	1270	15.4
433.milc	806	11.4	805	11.4	<b><u>805</u></b>	<b><u>11.4</u></b>	800	11.5	<b><u>799</u></b>	<b><u>11.5</u></b>	797	11.5
434.zeusmp	<b><u>749</u></b>	<b><u>12.1</u></b>	749	12.1	749	12.1	749	12.2	<b><u>749</u></b>	<b><u>12.2</u></b>	750	12.1
435.gromacs	564	12.7	567	12.6	<b><u>565</u></b>	<b><u>12.6</u></b>	509	14.0	<b><u>509</u></b>	<b><u>14.0</u></b>	509	14.0
436.cactusADM	1106	10.8	<b><u>1107</u></b>	<b><u>10.8</u></b>	1107	10.8	1108	10.8	1104	10.8	<b><u>1105</u></b>	<b><u>10.8</u></b>
437.leslie3d	<b><u>859</u></b>	<b><u>10.9</u></b>	852	11.0	859	10.9	851	11.0	<b><u>854</u></b>	<b><u>11.0</u></b>	858	11.0
444.namd	<b><u>618</u></b>	<b><u>13.0</u></b>	618	13.0	618	13.0	598	13.4	<b><u>598</u></b>	<b><u>13.4</u></b>	598	13.4
447.dealII	591	19.4	591	19.4	<b><u>591</u></b>	<b><u>19.4</u></b>	506	22.6	<b><u>505</u></b>	<b><u>22.6</u></b>	505	22.7
450.soplex	844	9.88	<b><u>846</u></b>	<b><u>9.86</u></b>	850	9.81	<b><u>751</u></b>	<b><u>11.1</u></b>	751	11.1	755	11.0
453.povray	<b><u>309</u></b>	<b><u>17.2</u></b>	309	17.2	309	17.2	<b><u>274</u></b>	<b><u>19.4</u></b>	274	19.4	274	19.4
454.calculix	1035	7.97	<b><u>1036</u></b>	<b><u>7.96</u></b>	1036	7.96	1035	7.97	1037	7.96	<b><u>1036</u></b>	<b><u>7.96</u></b>
459.GemsFDTD	1211	8.76	1208	8.79	<b><u>1209</u></b>	<b><u>8.77</u></b>	1211	8.76	1208	8.79	<b><u>1209</u></b>	<b><u>8.77</u></b>
465.tonto	676	14.6	<b><u>677</u></b>	<b><u>14.5</u></b>	678	14.5	676	14.6	<b><u>677</u></b>	<b><u>14.5</u></b>	678	14.5
470.lbm	1143	12.0	1150	11.9	<b><u>1148</u></b>	<b><u>12.0</u></b>	1151	11.9	1164	11.8	<b><u>1158</u></b>	<b><u>11.9</u></b>
481.wrf	<b><u>780</u></b>	<b><u>14.3</u></b>	780	14.3	779	14.3	<b><u>780</u></b>	<b><u>14.3</u></b>	780	14.3	779	14.3
482.sphinx3	1360	14.3	<b><u>1363</u></b>	<b><u>14.3</u></b>	1373	14.2	<b><u>1331</u></b>	<b><u>14.6</u></b>	1329	14.7	1338	14.6

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

### General Notes

BIOS default settings with  
Node memory interleave disabled, SRAT enabled

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### Base Compiler Invocation

C benchmarks:  
pathcc

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## Base Compiler Invocation (Continued)

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



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## 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: Same as 433.milc

482.sphinx3: -fb\_create fbdata(pass 1) -fb\_opt fbdata(pass 2) -O3  
-LNO:sclrze=off -LNO:prefetch=1

C++ benchmarks:

444.namd: -fb\_create fbdata(pass 1) -fb\_opt fbdata(pass 2) -Ofast

447.dealII: -Ofast -m32 -fno-exceptions

450.soplex: -m32 -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: -fb\_create fbdata(pass 1) -fb\_opt fbdata(pass 2) -O3  
-OPT:Ofast -OPT:IEEE\_arith=3 -LNO:blocking=off  
-LNO:ignore\_feedback=off

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## Peak Optimization Flags (Continued)

416.gamess: -fb\_create fbdata(pass 1) -fb\_opt fbdata(pass 2) -Ofast

434.zeusmp: -O3 -CG:load\_exe=0

437.leslie3d: -O3 -OPT:Ofast

459.GemsFDTD: basepeak = yes

465.tonto: basepeak = yes

Benchmarks using both Fortran and C:

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

436.cactusADM: -fb\_create fbdata(pass 1) -fb\_opt fbdata(pass 2) -O3  
-LNO:prefetch\_ahead=5 -LNO:ou\_prod\_max=10 -LNO:full\_unroll=5  
-ipa

454.calculix: -Ofast

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.20090715.03.html](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.03.html)

You can also download the XML flags source by saving the following link:

[http://www.spec.org/cpu2006/flags/CPU2006\\_flags.20090715.03.xml](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.03.xml)

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v91.  
Report generated on Tue Sep 13 11:16:41 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 24 August 2006.