



# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

### SPECfp®\_rate2006 = 53.9

### PRIMERGY RX300 S4, Intel Xeon L5240, 3.0 GHz

### SPECfp\_rate\_base2006 = 48.1

CPU2006 license: 22

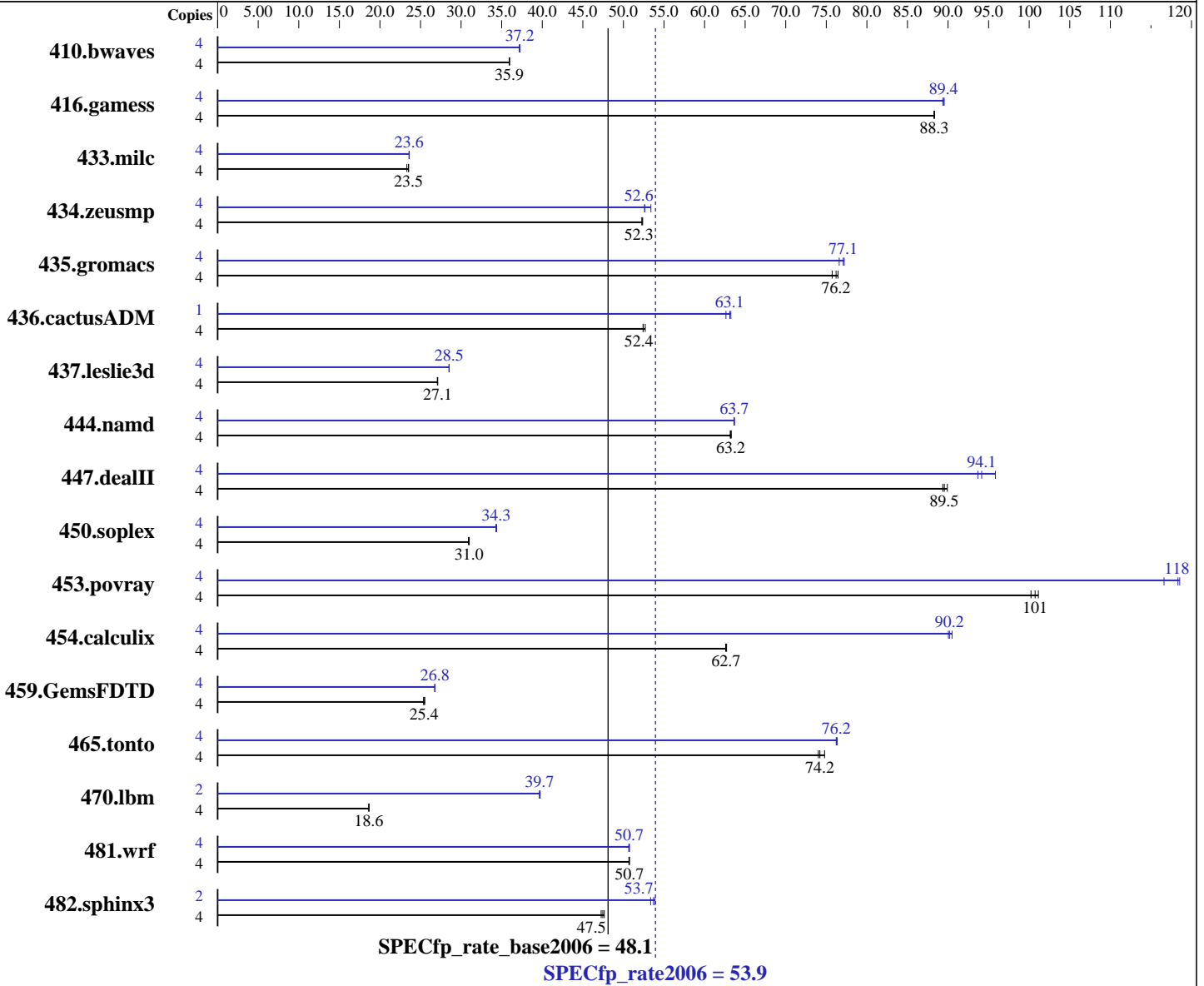
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Feb-2008

Hardware Availability: May-2008

Software Availability: Nov-2007



#### Hardware

CPU Name: Intel Xeon L5240  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip

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#### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 Version 10.1 - Build 20070725  
 Auto Parallel: Yes  
 File System: ext2  
 System State: Multi-User Run Level 3  
 Base Pointers: 64-bit

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L3 Cache: None  
Other Cache: None  
Memory: 16 GB (8x2 GB PC2-5300F, 2 rank, CL 5-5-5, ECC)  
Disk Subsystem: 1x SAS, 73 GB, 15000 rpm  
Other Hardware: None

Peak Pointers: 32/64-bit  
Other Software: binutils-2.17.50.0.5-0.1.x86\_64

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1511	36.0	<u>1512</u>	<u>35.9</u>	1512	35.9	4	<u>1460</u>	<u>37.2</u>	1460	37.2	1462	37.2
416.gamess	4	887	88.3	887	88.3	<u>887</u>	<u>88.3</u>	4	875	89.5	<u>876</u>	<u>89.4</u>	877	89.4
433.milc	4	1560	23.5	<u>1562</u>	<u>23.5</u>	1575	23.3	4	1557	23.6	1555	23.6	<u>1556</u>	<u>23.6</u>
434.zeusmp	4	695	52.4	696	52.3	<u>696</u>	<u>52.3</u>	4	682	53.4	692	52.6	<u>692</u>	<u>52.6</u>
435.gromacs	4	374	76.4	<u>375</u>	<u>76.2</u>	377	75.7	4	370	77.2	373	76.6	<u>370</u>	<u>77.1</u>
436.cactusADM	4	912	52.4	<u>912</u>	<u>52.4</u>	907	52.7	1	<u>189</u>	<u>63.1</u>	191	62.6	189	63.2
437.leslie3d	4	1386	27.1	<u>1387</u>	<u>27.1</u>	1389	27.1	4	1319	28.5	<u>1318</u>	<u>28.5</u>	1318	28.5
444.namd	4	508	63.2	<u>507</u>	<u>63.2</u>	507	63.3	4	<u>504</u>	<u>63.7</u>	504	63.7	504	63.7
447.dealII	4	<u>511</u>	<u>89.5</u>	512	89.4	509	89.9	4	488	93.7	<u>486</u>	<u>94.1</u>	477	95.8
450.soplex	4	1076	31.0	1080	30.9	<u>1076</u>	<u>31.0</u>	4	971	34.4	<u>971</u>	<u>34.3</u>	973	34.3
453.povray	4	212	100	<u>211</u>	<u>101</u>	210	101	4	<u>180</u>	<u>118</u>	180	119	182	117
454.calculix	4	<u>527</u>	<u>62.7</u>	526	62.7	527	62.6	4	365	90.5	366	90.0	<u>366</u>	<u>90.2</u>
459.GemsFDTD	4	<u>1669</u>	<u>25.4</u>	1662	25.5	1673	25.4	4	<u>1586</u>	<u>26.8</u>	1586	26.8	1585	26.8
465.tonto	4	526	74.8	<u>530</u>	<u>74.2</u>	532	74.0	4	516	76.4	516	76.2	<u>516</u>	<u>76.2</u>
470.lbm	4	2950	18.6	<u>2949</u>	<u>18.6</u>	2949	18.6	2	691	39.8	<u>693</u>	<u>39.7</u>	693	39.7
481.wrf	4	881	50.7	<u>881</u>	<u>50.7</u>	882	50.7	4	882	50.7	<u>881</u>	<u>50.7</u>	880	50.8
482.sphinx3	4	1636	47.6	<u>1643</u>	<u>47.5</u>	1650	47.3	2	731	53.3	723	53.9	<u>726</u>	<u>53.7</u>

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run  
OMP\_NUM\_THREADS set to number of cores (default)

## General Notes

All binaries were built with 64-bit Intel compiler except:  
437.leslie3d, 450.soplex, 470.lbm, and 482.sphinx3 in peak  
were built with 32-bit Intel compiler by changing  
the path for include and library files.

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



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## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icc ifort

## 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 -nofor\_main  
436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
437.leslie3d: -DSPEC\_CPU\_LP64  
444.namd: -DSPEC\_CPU\_LP64  
447.dealII: -DSPEC\_CPU\_LP64  
450.soplex: -DSPEC\_CPU\_LP64  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX  
482.sphinx3: -DSPEC\_CPU\_LP64

## Base Optimization Flags

C benchmarks:

-fast

C++ benchmarks:

-fast

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast



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## Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib
-I/opt/intel/fc/10.1.008/include
```

Benchmarks using both Fortran and C:

icc ifort

## Peak 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 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
444.namd: -DSPEC_CPU_LP64
447.deallI: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

## Peak Optimization Flags

C benchmarks:

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3
```

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## Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

447.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast  
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4  
-ansi-alias

### Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

### Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.20090714.00.html>



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

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.20090714.00.xml>

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