



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

### SPECfp<sup>®</sup>\_rate2006 = 119

PRIMERGY TX300 S5, Intel Xeon L5506, 2.13 GHz

### SPECfp\_rate\_base2006 = 115

CPU2006 license: 19

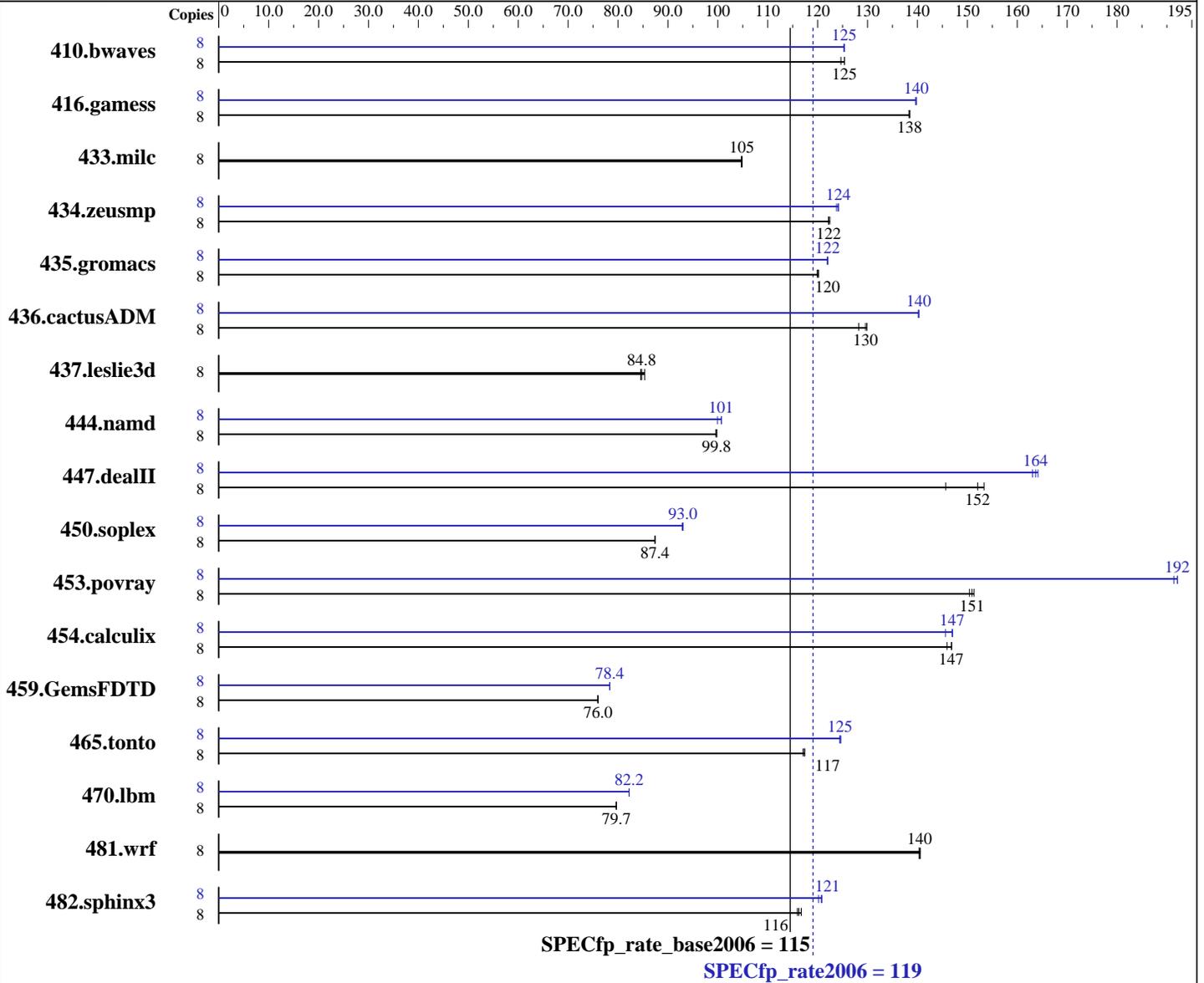
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon L5506  
 CPU Characteristics:  
 CPU MHz: 2133  
 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: 256 KB I+D on chip per core

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### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2, Kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l\_cproc\_p\_11.0.080, l\_cprof\_p\_11.0.080  
 Auto Parallel: No  
 File System: ext3  
 System State: Multi-User Run Level 3  
 Base Pointers: 64-bit

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L3 Cache: 4 MB I+D on chip per chip  
Other Cache: None  
Memory: 48 GB (12x4 GB PC3-8500R, 2 rank, CL7-7-7, ECC, see add'l detail in notes)  
Disk Subsystem: 1 x SATA, 250 GB, 7200 RPM  
Other Hardware: None

Peak Pointers: 32/64-bit  
Other Software: Binutils 2.18.50.0.7.20080502

## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	8	872	125	867	125	<b>867</b>	<b>125</b>	8	868	125	867	125	<b>867</b>	<b>125</b>		
416.gamess	8	1132	138	1131	138	<b>1131</b>	<b>138</b>	8	<b>1121</b>	<b>140</b>	1121	140	1122	140		
433.milc	8	700	105	<b>701</b>	<b>105</b>	701	105	8	700	105	<b>701</b>	<b>105</b>	701	105		
434.zeusmp	8	<b>596</b>	<b>122</b>	596	122	594	122	8	588	124	586	124	<b>586</b>	<b>124</b>		
435.gromacs	8	475	120	<b>476</b>	<b>120</b>	476	120	8	<b>468</b>	<b>122</b>	468	122	468	122		
436.cactusADM	8	736	130	<b>738</b>	<b>130</b>	745	128	8	681	140	<b>681</b>	<b>140</b>	682	140		
437.leslie3d	8	881	85.3	889	84.6	<b>887</b>	<b>84.8</b>	8	881	85.3	889	84.6	<b>887</b>	<b>84.8</b>		
444.namd	8	643	99.8	644	99.6	<b>643</b>	<b>99.8</b>	8	637	101	<b>637</b>	<b>101</b>	642	100		
447.dealII	8	<b>602</b>	<b>152</b>	597	153	628	146	8	558	164	561	163	<b>559</b>	<b>164</b>		
450.soplex	8	<b>763</b>	<b>87.4</b>	763	87.5	764	87.4	8	719	92.8	717	93.0	<b>717</b>	<b>93.0</b>		
453.povray	8	283	150	<b>282</b>	<b>151</b>	281	151	8	222	191	222	192	<b>222</b>	<b>192</b>		
454.calculix	8	<b>450</b>	<b>147</b>	452	146	449	147	8	453	146	449	147	<b>449</b>	<b>147</b>		
459.GemsFDTD	8	1116	76.0	<b>1117</b>	<b>76.0</b>	1118	75.9	8	1084	78.3	1083	78.4	<b>1083</b>	<b>78.4</b>		
465.tonto	8	<b>671</b>	<b>117</b>	672	117	670	117	8	633	124	<b>632</b>	<b>125</b>	631	125		
470.lbm	8	1380	79.7	<b>1380</b>	<b>79.7</b>	1380	79.7	8	1337	82.2	<b>1337</b>	<b>82.2</b>	1336	82.2		
481.wrf	8	636	141	637	140	<b>636</b>	<b>140</b>	8	636	141	637	140	<b>636</b>	<b>140</b>		
482.sphinx3	8	1345	116	<b>1342</b>	<b>116</b>	1336	117	8	<b>1291</b>	<b>121</b>	1290	121	1298	120		

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

## Platform Notes

The system automatically configures the memory to run at 800 MHz.



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## General Notes

This result was measured on the PRIMERGY RX300 S5. The PRIMERGY RX300 S5 and the PRIMERGY TX300 S5 are electronically equivalent.

For information about Fujitsu please visit: <http://www.fujitsu.com>

## 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:  
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static

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## Base Optimization Flags (Continued)

Fortran benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:  
-xSSE4.2 -ipo -O3 -no-prec-div -static

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):  
icpc

450.soplex: icpc -m32

Fortran benchmarks:  
ifort

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  
437.leslie3d: -DSPEC\_CPU\_LP64  
444.namd: -DSPEC\_CPU\_LP64  
447.dealII: -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



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## Peak Optimization Flags

### C benchmarks:

433.milc: basepeak = yes

470.lbm: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

### C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)

437.leslie3d: basepeak = yes

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -opt-prefetch

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -auto

### Benchmarks using both Fortran and C:

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## Peak Optimization Flags (Continued)

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -opt-prefetch -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: basepeak = yes

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.xml>

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

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