



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

### SPECfp<sup>®</sup>\_rate2006 = 90.0

PRIMERGY BX620 S6, Intel Xeon E5630, 2.53 GHz

### SPECfp\_rate\_base2006 = 86.8

CPU2006 license: 19

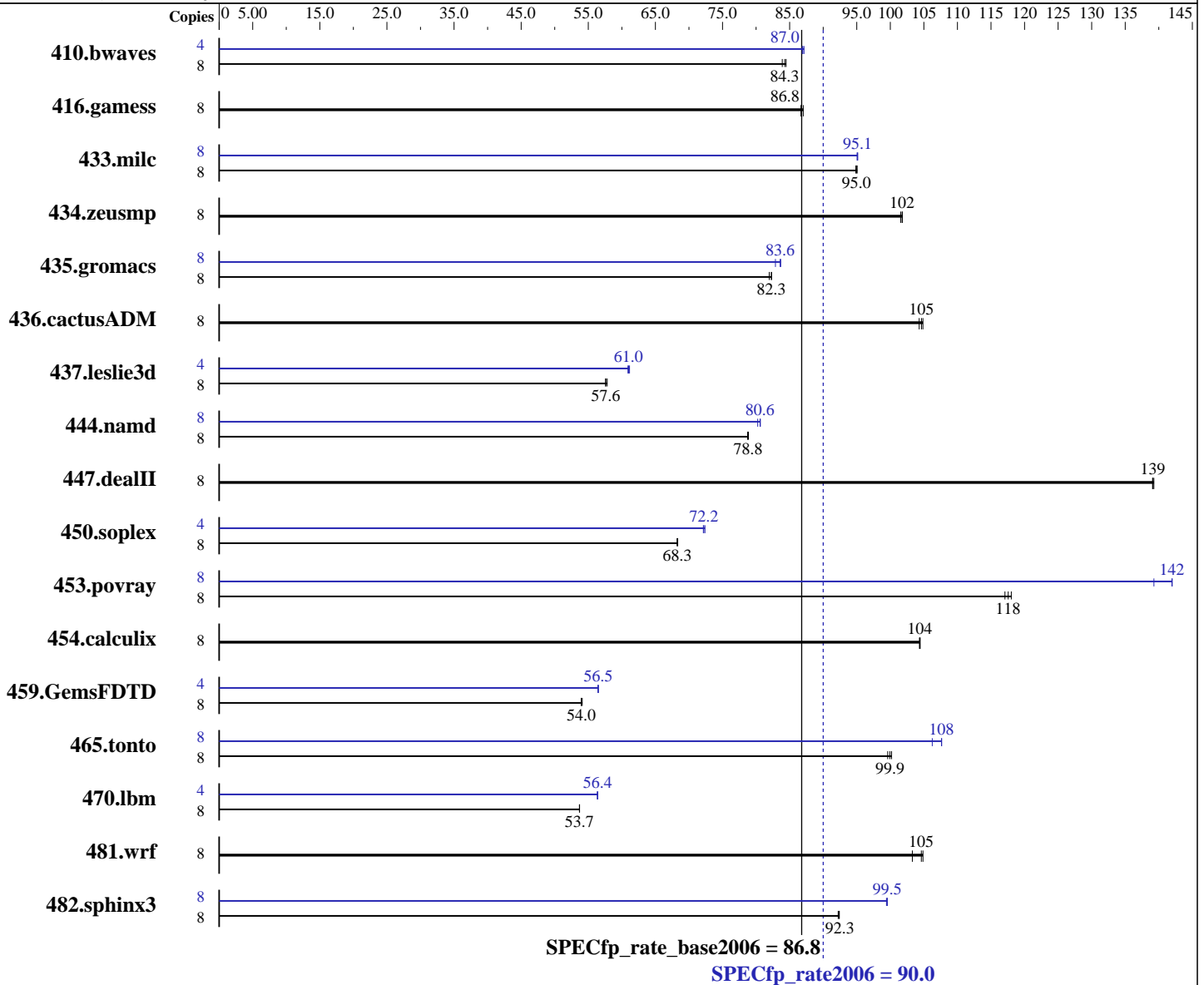
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2010

Hardware Availability: Jul-2010

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon E5630  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
 CPU MHz: 2533  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 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 11 (x86\_64), Kernel 2.6.27.19-5-default  
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l\_cproc\_p\_11.1.064, l\_cprof\_p\_11.1.064  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)

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L3 Cache: 12 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (6 x 8 GB 2Rx4 PC3L-10600R, ECC, running at 1067 MHz and CL7)  
 Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM  
 Other Hardware: --

Base Pointers: 64-bit  
 Peak Pointers: 32/64-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	1287	84.5	<b><u>1290</u></b>	<b><u>84.3</u></b>	1296	83.9	4	626	86.9	624	87.1	<b><u>625</u></b>	<b><u>87.0</u></b>
416.gamess	8	<b><u>1805</u></b>	<b><u>86.8</u></b>	1800	87.0	1807	86.7	8	<b><u>1805</u></b>	<b><u>86.8</u></b>	1800	87.0	1807	86.7
433.milc	8	773	95.1	<b><u>773</u></b>	<b><u>95.0</u></b>	774	94.9	8	772	95.1	<b><u>772</u></b>	<b><u>95.1</u></b>	773	95.0
434.zeusmp	8	717	102	715	102	<b><u>715</u></b>	<b><u>102</u></b>	8	717	102	715	102	<b><u>715</u></b>	<b><u>102</u></b>
435.gromacs	8	697	82.0	694	82.3	<b><u>694</u></b>	<b><u>82.3</u></b>	8	<b><u>683</u></b>	<b><u>83.6</u></b>	683	83.7	689	82.9
436.cactusADM	8	<b><u>914</u></b>	<b><u>105</u></b>	912	105	917	104	8	<b><u>914</u></b>	<b><u>105</u></b>	912	105	917	104
437.leslie3d	8	1301	57.8	<b><u>1305</u></b>	<b><u>57.6</u></b>	1306	57.6	4	615	61.1	<b><u>616</u></b>	<b><u>61.0</u></b>	617	60.9
444.namd	8	815	78.7	814	78.9	<b><u>814</u></b>	<b><u>78.8</u></b>	8	<b><u>796</u></b>	<b><u>80.6</u></b>	800	80.2	796	80.6
447.dealII	8	<b><u>658</u></b>	<b><u>139</u></b>	658	139	657	139	8	<b><u>658</u></b>	<b><u>139</u></b>	658	139	657	139
450.soplex	8	976	68.3	978	68.2	<b><u>978</u></b>	<b><u>68.3</u></b>	4	461	72.4	462	72.1	<b><u>462</u></b>	<b><u>72.2</u></b>
453.povray	8	<b><u>362</u></b>	<b><u>118</u></b>	364	117	361	118	8	306	139	<b><u>300</u></b>	<b><u>142</u></b>	300	142
454.calculix	8	632	104	633	104	<b><u>632</u></b>	<b><u>104</u></b>	8	632	104	633	104	<b><u>632</u></b>	<b><u>104</u></b>
459.GemsFDTD	8	<b><u>1573</u></b>	<b><u>54.0</u></b>	1569	54.1	1573	54.0	4	752	56.4	751	56.5	<b><u>752</u></b>	<b><u>56.5</u></b>
465.tonto	8	<b><u>788</u></b>	<b><u>99.9</u></b>	790	99.6	786	100	8	741	106	731	108	<b><u>731</u></b>	<b><u>108</u></b>
470.lbm	8	2048	53.7	<b><u>2047</u></b>	<b><u>53.7</u></b>	2047	53.7	4	975	56.4	<b><u>975</u></b>	<b><u>56.4</u></b>	975	56.4
481.wrf	8	<b><u>854</u></b>	<b><u>105</u></b>	865	103	852	105	8	<b><u>854</u></b>	<b><u>105</u></b>	865	103	852	105
482.sphinx3	8	1691	92.2	1687	92.4	<b><u>1689</u></b>	<b><u>92.3</u></b>	8	1566	99.5	1568	99.4	<b><u>1566</u></b>	<b><u>99.5</u></b>

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

BIOS configuration:  
Data Reuse Optimization = Disable  
Performance/Power Setting = Traditional



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**SPECfp\_rate\_base2006 = 86.8**

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu

**Test date:** Sep-2010  
**Hardware Availability:** Jul-2010  
**Software Availability:** Jan-2010

## General Notes

For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

## Base Compiler Invocation

C benchmarks:  
icc -m64

C++ benchmarks:  
icpc -m64

Fortran benchmarks:  
ifort -m64

Benchmarks using both Fortran and C:  
icc -m64 ifort -m64

## 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 -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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: -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 -opt-prefetch

470.lbm: -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 -ansi-alias -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.dealIII: basepeak = yes

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: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static

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

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 -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

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

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## Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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-ic11.1-linux64-revE.20100708.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.xml>

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

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