



# SPEC® CFP2006 Result

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## Fujitsu

SPECfp®2006 = 48.8

PRIMERGY BX922 S2, Intel Xeon X5677, 3.46 GHz

SPECfp\_base2006 = 45.3

CPU2006 license: 19

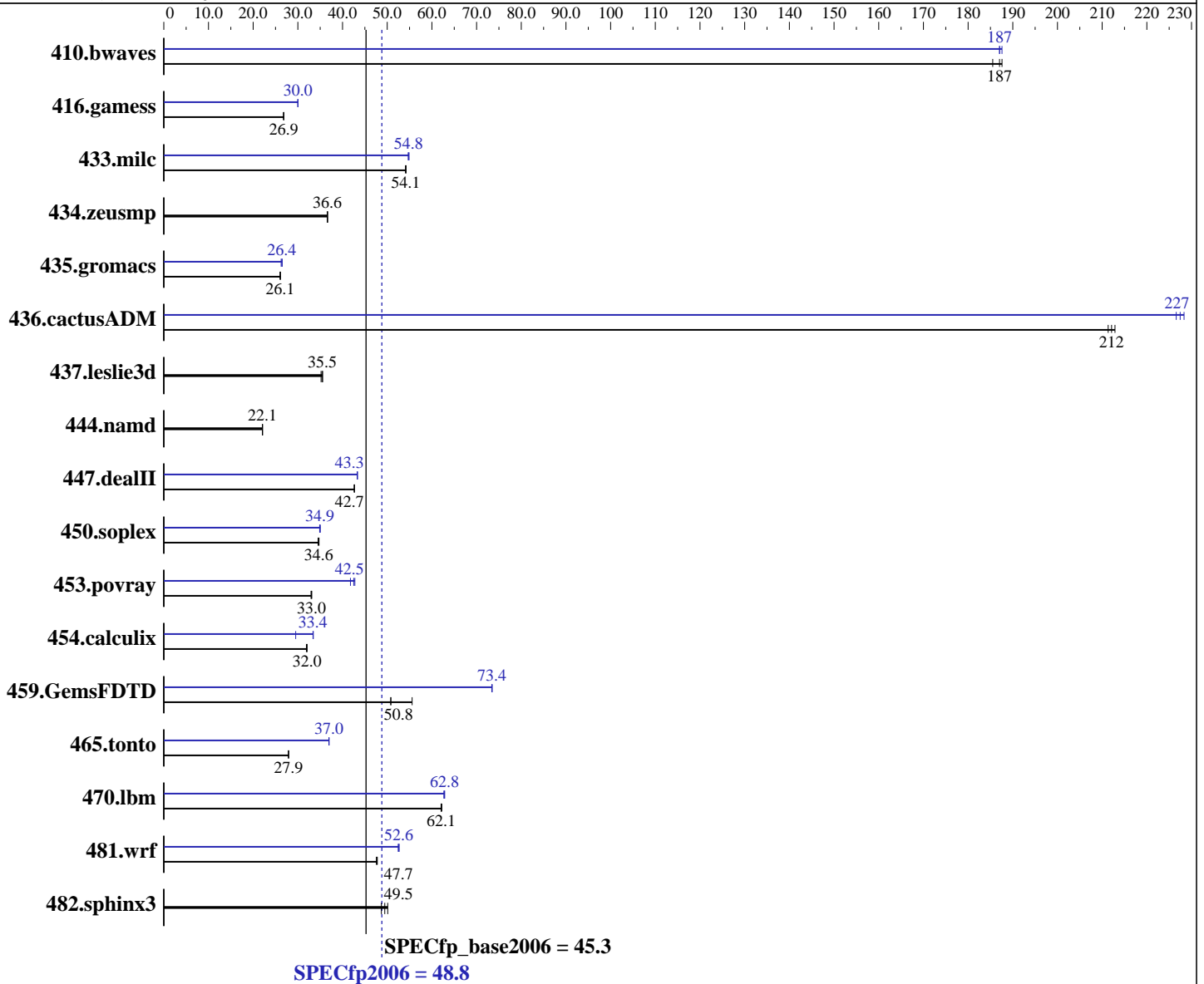
Test date: May-2010

Test sponsor: Fujitsu

Hardware Availability: Oct-2010

Tested by: Fujitsu

Software Availability: Jan-2010



**Hardware**

CPU Name: Intel Xeon X5677  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.73 GHz  
 CPU MHz: 3467  
 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 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: Yes  
 File System: ext3  
 System State: Multi-User Run Level 3

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L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 48 GB (12x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC)  
Disk Subsystem: 1 x SSD SATA, 64 GB  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<b><u>72.7</u></b>	<b><u>187</u></b>	73.3	186	72.4	188	72.7	187	72.4	188	<b><u>72.6</u></b>	<b><u>187</u></b>
416.gamess	732	26.8	<b><u>729</u></b>	<b><u>26.9</u></b>	729	26.9	653	30.0	652	30.0	<b><u>652</u></b>	<b><u>30.0</u></b>
433.milc	169	54.2	<b><u>170</u></b>	<b><u>54.1</u></b>	170	54.1	168	54.7	167	54.9	<b><u>168</u></b>	<b><u>54.8</u></b>
434.zeusmp	249	36.6	248	36.7	<b><u>248</u></b>	<b><u>36.6</u></b>	249	36.6	248	36.7	<b><u>248</u></b>	<b><u>36.6</u></b>
435.gromacs	273	26.1	274	26.0	<b><u>274</u></b>	<b><u>26.1</u></b>	<b><u>270</u></b>	<b><u>26.4</u></b>	269	26.5	272	26.3
436.cactusADM	<b><u>56.3</u></b>	<b><u>212</u></b>	56.1	213	56.5	211	52.7	227	52.3	228	<b><u>52.5</u></b>	<b><u>227</u></b>
437.leslie3d	<b><u>265</u></b>	<b><u>35.5</u></b>	267	35.2	264	35.5	<b><u>265</u></b>	<b><u>35.5</u></b>	267	35.2	264	35.5
444.namd	363	22.1	<b><u>363</u></b>	<b><u>22.1</u></b>	364	22.1	363	22.1	<b><u>363</u></b>	<b><u>22.1</u></b>	364	22.1
447.dealII	268	42.7	268	42.6	<b><u>268</u></b>	<b><u>42.7</u></b>	264	43.3	264	43.3	<b><u>264</u></b>	<b><u>43.3</u></b>
450.soplex	242	34.5	240	34.7	<b><u>241</u></b>	<b><u>34.6</u></b>	239	34.9	<b><u>239</u></b>	<b><u>34.9</u></b>	238	35.0
453.povray	161	33.1	<b><u>161</u></b>	<b><u>33.0</u></b>	161	32.9	127	41.8	<b><u>125</u></b>	<b><u>42.5</u></b>	124	42.8
454.calculix	<b><u>257</u></b>	<b><u>32.0</u></b>	258	31.9	257	32.0	247	33.5	<b><u>247</u></b>	<b><u>33.4</u></b>	280	29.5
459.GemsFDTD	<b><u>209</u></b>	<b><u>50.8</u></b>	191	55.6	209	50.8	144	73.5	<b><u>145</u></b>	<b><u>73.4</u></b>	145	73.4
465.tonto	352	27.9	353	27.9	<b><u>352</u></b>	<b><u>27.9</u></b>	266	37.0	<b><u>266</u></b>	<b><u>37.0</u></b>	266	37.0
470.lbm	221	62.1	221	62.2	<b><u>221</u></b>	<b><u>62.1</u></b>	219	62.8	219	62.7	<b><u>219</u></b>	<b><u>62.8</u></b>
481.wrf	234	47.8	235	47.6	<b><u>234</u></b>	<b><u>47.7</u></b>	213	52.4	<b><u>212</u></b>	<b><u>52.6</u></b>	212	52.7
482.sphinx3	389	50.1	<b><u>394</u></b>	<b><u>49.5</u></b>	400	48.7	389	50.1	<b><u>394</u></b>	<b><u>49.5</u></b>	400	48.7

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

## Platform Notes

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



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**Test date:** May-2010  
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## 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 -parallel -opt-prefetch

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

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## Base Optimization Flags (Continued)

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

## Peak Compiler Invocation

C benchmarks:

`icc -m64`

C++ benchmarks:

`icpc -m64`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

## Peak Portability Flags

Same as Base Portability Flags

## 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)  
-ansi-alias`

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)  
-parallel -ansi-alias -auto-ilp32`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `basepeak = yes`

447.dealIII: `-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- -auto-ilp32`

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## Peak Optimization Flags (Continued)

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 -auto-ilp32

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  
-parallel

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: basepeak = yes

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 -parallel

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)  
-inline-calloc -opt-malloc-options=3 -auto -unroll4

### 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

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 -parallel -auto-ilp32

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

481.wrf: Same as 454.calculix

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.20100330.02.html>



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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.02.xml>

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

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