



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

SPECfp<sup>®</sup>2006 = **33.0**

PRIMERGY RX100 S6, Intel Core i3-560, 3.33 GHz

SPECfp\_base2006 = **31.5**

CPU2006 license: 19

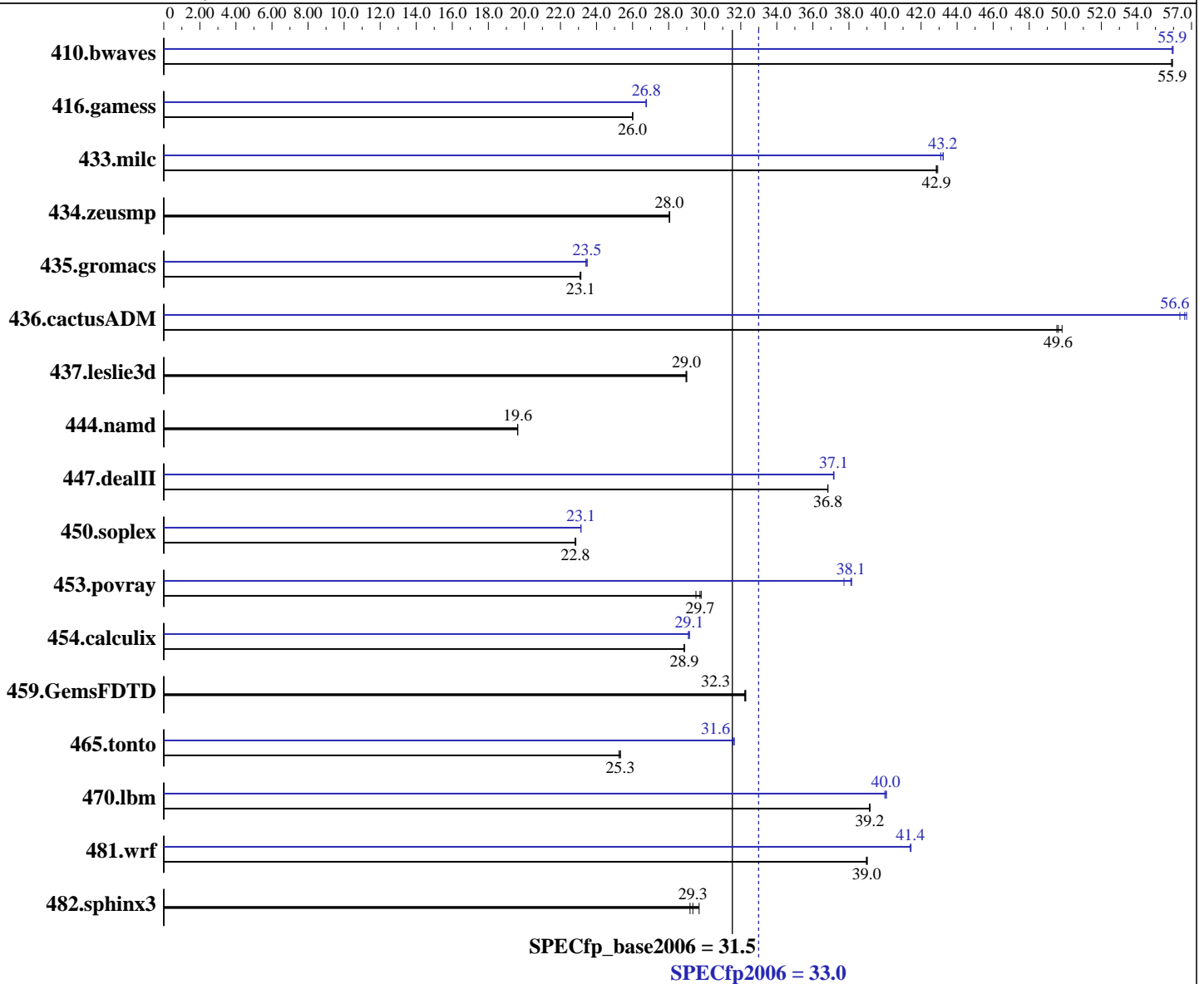
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2010

Hardware Availability: Aug-2010

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Core i3-560  
 CPU Characteristics: 3333  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 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) with SP1, Kernel 2.6.32.12-0.7-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: Run Level 3 (multi user)

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L3 Cache: 4 MB I+D on chip per chip  
Other Cache: None  
Memory: 16 GB (4x4 GB PC3-10600E, 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	243	55.9	243	55.9	<b><u>243</u></b>	<b><u>55.9</u></b>	243	56.0	243	55.9	<b><u>243</u></b>	<b><u>55.9</u></b>
416.gamess	753	26.0	753	26.0	<b><u>753</u></b>	<b><u>26.0</u></b>	732	26.7	<b><u>732</u></b>	<b><u>26.8</u></b>	731	26.8
433.milc	214	42.8	<b><u>214</u></b>	<b><u>42.9</u></b>	214	42.9	<b><u>212</u></b>	<b><u>43.2</u></b>	212	43.2	213	43.1
434.zeusmp	324	28.1	<b><u>325</u></b>	<b><u>28.0</u></b>	325	28.0	324	28.1	<b><u>325</u></b>	<b><u>28.0</u></b>	325	28.0
435.gromacs	<b><u>309</u></b>	<b><u>23.1</u></b>	309	23.1	309	23.1	<b><u>304</u></b>	<b><u>23.5</u></b>	305	23.4	304	23.5
436.cactusADM	240	49.8	241	49.5	<b><u>241</u></b>	<b><u>49.6</u></b>	211	56.7	<b><u>211</u></b>	<b><u>56.6</u></b>	212	56.4
437.leslie3d	324	29.0	325	29.0	<b><u>324</u></b>	<b><u>29.0</u></b>	324	29.0	325	29.0	<b><u>324</u></b>	<b><u>29.0</u></b>
444.namd	<b><u>409</u></b>	<b><u>19.6</u></b>	409	19.6	408	19.6	<b><u>409</u></b>	<b><u>19.6</u></b>	409	19.6	408	19.6
447.dealII	<b><u>311</u></b>	<b><u>36.8</u></b>	311	36.8	311	36.8	308	37.2	<b><u>308</u></b>	<b><u>37.1</u></b>	308	37.1
450.soplex	365	22.9	<b><u>365</u></b>	<b><u>22.8</u></b>	366	22.8	360	23.1	361	23.1	<b><u>361</u></b>	<b><u>23.1</u></b>
453.povray	178	29.8	<b><u>179</u></b>	<b><u>29.7</u></b>	180	29.5	141	37.7	139	38.2	<b><u>140</u></b>	<b><u>38.1</u></b>
454.calculix	<b><u>286</u></b>	<b><u>28.9</u></b>	286	28.9	286	28.9	283	29.2	284	29.1	<b><u>283</u></b>	<b><u>29.1</u></b>
459.GemsFDTD	329	32.3	329	32.2	<b><u>329</u></b>	<b><u>32.3</u></b>	329	32.3	329	32.2	<b><u>329</u></b>	<b><u>32.3</u></b>
465.tonto	<b><u>389</u></b>	<b><u>25.3</u></b>	389	25.3	390	25.2	311	31.6	<b><u>311</u></b>	<b><u>31.6</u></b>	312	31.6
470.lbm	<b><u>351</u></b>	<b><u>39.2</u></b>	351	39.1	351	39.2	344	40.0	<b><u>343</u></b>	<b><u>40.0</u></b>	343	40.1
481.wrf	287	39.0	286	39.0	<b><u>286</u></b>	<b><u>39.0</u></b>	<b><u>270</u></b>	<b><u>41.4</u></b>	270	41.4	270	41.4
482.sphinx3	656	29.7	<b><u>664</u></b>	<b><u>29.3</u></b>	668	29.2	<b><u>656</u></b>	<b><u>29.7</u></b>	<b><u>664</u></b>	<b><u>29.3</u></b>	668	29.2

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:  
Intel HT Technology = Disable

## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter  
KMP\_STACKSIZE set to 200M  
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## General Notes (Continued)

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

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

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## Base Optimization Flags (Continued)

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: basepeak = yes

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.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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