



# SPEC® CFP2006 Result

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Itaotec

SPECfp®\_rate2006 = 41.3

Servidor Itaotec MX201 (Intel Xeon E5430)

SPECfp\_rate\_base2006 = 38.6

CPU2006 license: 9001

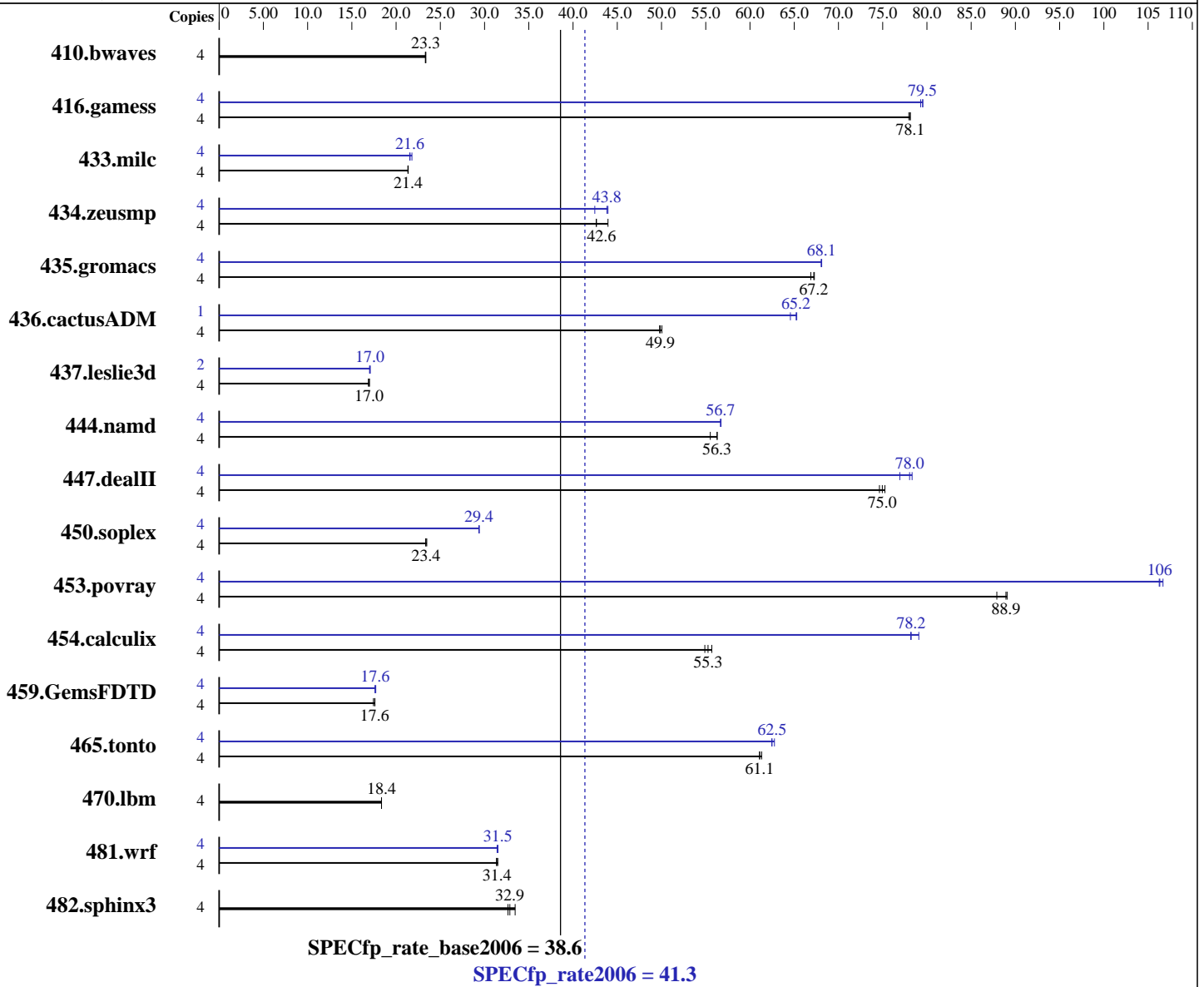
Test date: Apr-2008

Test sponsor: Itaotec

Hardware Availability: Dec-2007

Tested by: Itaotec

Software Availability: Jan-2008



## Hardware

CPU Name: Intel Xeon E5430  
 CPU Characteristics:  
 CPU MHz: 2660  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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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 Linux version 10.1 Build 20080112 Package ID: l\_cc\_p\_10.1.012, l\_fc\_p\_10.1.012  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run Level 3 (multi-user)

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L3 Cache: None  
Other Cache: None  
Memory: 16 GB (8 \* 2 GB PC2-5300 FBDIMM, CL-5-5-5, ECC)  
Disk Subsystem: 1 x SCSI, 73GB, 15000 RPM  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: Binutils 2.17.10.50

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	<u>2328</u>	<u>23.3</u>	2332	23.3	2327	23.4	4	<u>2328</u>	<u>23.3</u>	2332	23.3	2327	23.4
416.gamess	4	1005	78.0	1003	78.1	<u>1003</u>	<u>78.1</u>	4	<u>985</u>	<u>79.5</u>	988	79.3	985	79.5
433.milc	4	1721	21.3	1718	21.4	<u>1719</u>	<u>21.4</u>	4	<u>1702</u>	<u>21.6</u>	1704	21.5	1685	21.8
434.zeusmp	4	<u>853</u>	<u>42.6</u>	854	42.6	828	44.0	4	<u>831</u>	<u>43.8</u>	828	43.9	857	42.5
435.gromacs	4	<u>425</u>	<u>67.2</u>	427	66.9	425	67.3	4	419	68.1	420	68.0	<u>419</u>	<u>68.1</u>
436.cactusADM	4	955	50.0	<u>959</u>	<u>49.9</u>	960	49.8	1	185	64.6	<u>183</u>	<u>65.2</u>	183	65.3
437.leslie3d	4	2213	17.0	2230	16.9	<u>2217</u>	<u>17.0</u>	2	<u>1103</u>	<u>17.0</u>	1106	17.0	1101	17.1
444.namd	4	578	55.5	570	56.3	<u>570</u>	<u>56.3</u>	4	566	56.7	<u>566</u>	<u>56.7</u>	566	56.7
447.dealII	4	613	74.6	<u>611</u>	<u>75.0</u>	608	75.3	4	595	76.9	584	78.3	<u>586</u>	<u>78.0</u>
450.soplex	4	<u>1427</u>	<u>23.4</u>	1429	23.3	1422	23.5	4	<u>1135</u>	<u>29.4</u>	1135	29.4	1136	29.4
453.povray	4	239	89.1	<u>239</u>	<u>88.9</u>	242	87.9	4	<u>200</u>	<u>106</u>	199	107	200	106
454.calculix	4	<u>597</u>	<u>55.3</u>	593	55.7	601	54.9	4	<u>422</u>	<u>78.2</u>	417	79.1	422	78.2
459.GemsFDTD	4	<u>2414</u>	<u>17.6</u>	2410	17.6	2434	17.4	4	2397	17.7	2408	17.6	<u>2406</u>	<u>17.6</u>
465.tonto	4	642	61.3	644	61.1	<u>644</u>	<u>61.1</u>	4	630	62.5	627	62.8	<u>630</u>	<u>62.5</u>
470.lbm	4	<u>2995</u>	<u>18.4</u>	2995	18.3	2994	18.4	4	<u>2995</u>	<u>18.4</u>	2995	18.3	2994	18.4
481.wrf	4	1426	31.3	<u>1423</u>	<u>31.4</u>	1419	31.5	4	1418	31.5	1422	31.4	<u>1418</u>	<u>31.5</u>
482.sphinx3	4	2388	32.6	<u>2373</u>	<u>32.9</u>	2330	33.5	4	2388	32.6	<u>2373</u>	<u>32.9</u>	2330	33.5

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

## Compiler Invocation Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_STACK\_SIZE set to 64M  
KMP\_AFFINITY set to physical,0

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.  
'/usr/bin/taskset' used to bind benchmark copies to processors, except for 436.cactusADM at peak.



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Test date: Apr-2008  
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## Platform Notes

BIOS configuration:  
Hardware Prefetch Disabled

## General Notes

This result was measured on the Servidor Itaotec MX201.  
The Servidor Itaotec MX201 and the Servidor Itaotec MX221 are electronically equivalent.

## 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



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## Base Optimization Flags

C benchmarks:  
-fast  
  
C++ benchmarks:  
-fast  
  
Fortran benchmarks:  
-fast  
  
Benchmarks using both Fortran and C:  
-fast

## Peak Compiler Invocation

C benchmarks:  
icc  
  
C++ benchmarks (except as noted below):  
icpc  
  
450.soplex: /opt/intel/cc/10.1.012/bin/icpc -L/opt/intel/cc/10.1.012/lib  
-I/opt/intel/cc/10.1.012/include  
  
Fortran benchmarks (except as noted below):  
ifort  
  
437.leslie3d: /opt/intel/fc/10.1.012/bin/ifort -L/opt/intel/fc/10.1.012/lib  
-I/opt/intel/fc/10.1.012/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.dealII: -DSPEC\_CPU\_LP64  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64

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Test date: Apr-2008

Test sponsor: Itautec

Hardware Availability: Dec-2007

Tested by: Itautec

Software Availability: Jan-2008

## Peak Portability Flags (Continued)

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

## Peak Optimization Flags

### C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
 -auto-ilp32  
 470.lbm: basepeak = yes  
 482.sphinx3: basepeak = yes

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
 -auto-ilp32  
 447.dealII: -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: basepeak = yes  
 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

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## Peak Optimization Flags (Continued)

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/Itautec-ic10.1-FP-intel64-linux-flags.20090713.00.html>

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

<http://www.spec.org/cpu2006/flags/Itautec-ic10.1-FP-intel64-linux-flags.20090713.00.xml>

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