



# SPEC® CFP2006 Result

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## Itaotec

### SPECfp®\_rate2006 = 141

### Servidor Itaotec MX203 (Intel Xeon X5690)

### SPECfp\_rate\_base2006 = 137

CPU2006 license: 9001

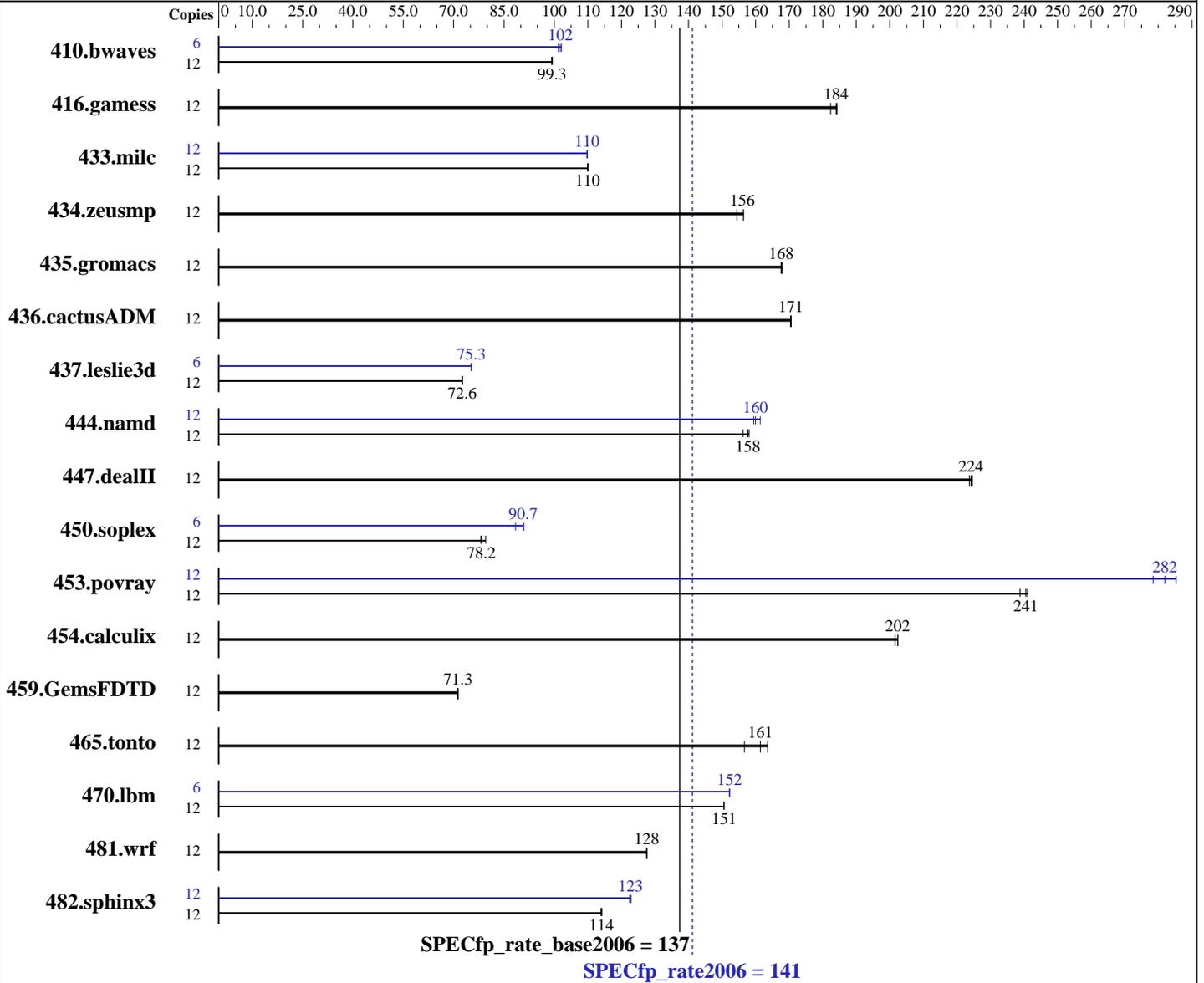
Test sponsor: Itaotec

Tested by: Itaotec

Test date: Aug-2011

Hardware Availability: Jul-2011

Software Availability: Jan-2011



#### Hardware

CPU Name: Intel Xeon X5690  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.73 GHz  
 CPU MHz: 3467  
 FPU: Integrated  
 CPU(s) enabled: 6 cores, 1 chip, 6 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 SP1 (x86\_64), Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.2 Build 20110112  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit

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L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC)  
Disk Subsystem: 1 x 500 GB SATA-2, 7200 RPM  
Other Hardware: None

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	12	1641	99.4	<b>1642</b>	<b>99.3</b>	1644	99.2	6	798	102	<b>801</b>	<b>102</b>	805	101
416.gamess	12	<b>1277</b>	<b>184</b>	1288	182	1275	184	12	<b>1277</b>	<b>184</b>	1288	182	1275	184
433.milc	12	1002	110	1001	110	<b>1002</b>	<b>110</b>	12	1004	110	<b>1003</b>	<b>110</b>	1003	110
434.zeusmp	12	707	154	698	156	<b>700</b>	<b>156</b>	12	707	154	698	156	<b>700</b>	<b>156</b>
435.gromacs	12	510	168	<b>511</b>	<b>168</b>	511	168	12	510	168	<b>511</b>	<b>168</b>	511	168
436.cactusADM	12	<b>841</b>	<b>171</b>	841	170	841	171	12	<b>841</b>	<b>171</b>	841	170	841	171
437.leslie3d	12	1553	72.6	1555	72.6	<b>1554</b>	<b>72.6</b>	6	748	75.4	<b>749</b>	<b>75.3</b>	749	75.3
444.namd	12	609	158	616	156	<b>610</b>	<b>158</b>	12	604	159	<b>602</b>	<b>160</b>	596	161
447.dealII	12	611	225	<b>612</b>	<b>224</b>	614	224	12	611	225	<b>612</b>	<b>224</b>	614	224
450.soplex	12	1282	78.1	<b>1279</b>	<b>78.2</b>	1259	79.5	6	566	88.4	<b>552</b>	<b>90.7</b>	550	90.9
453.povray	12	267	239	<b>265</b>	<b>241</b>	265	241	12	<b>226</b>	<b>282</b>	224	285	229	278
454.calculix	12	<b>489</b>	<b>202</b>	491	202	489	202	12	<b>489</b>	<b>202</b>	491	202	489	202
459.GemsFDTD	12	1790	71.1	<b>1786</b>	<b>71.3</b>	1786	71.3	12	1790	71.1	<b>1786</b>	<b>71.3</b>	1786	71.3
465.tonto	12	754	157	722	164	<b>732</b>	<b>161</b>	12	754	157	722	164	<b>732</b>	<b>161</b>
470.lbm	12	1095	151	<b>1095</b>	<b>151</b>	1095	151	6	541	152	<b>542</b>	<b>152</b>	542	152
481.wrf	12	1052	127	1050	128	<b>1051</b>	<b>128</b>	12	1052	127	1050	128	<b>1051</b>	<b>128</b>
482.sphinx3	12	2048	114	<b>2050</b>	<b>114</b>	2053	114	12	1911	122	<b>1905</b>	<b>123</b>	1903	123

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.  
Large pages were not enabled for this run

## Platform Notes

Data Reuse disabled in BIOS.



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Tested by: Itautec

Test date: Aug-2011  
Hardware Availability: Jul-2011  
Software Availability: Jan-2011

## General Notes

This result was measured on the Servidor Itautec MX203  
The Servidor Itautec MX203 and the Servidor Itautec MX223  
are electronically equivalent.

## 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 -ansi-alias

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

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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 -ansi-alias`

## 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) -prof-use(pass 2) -static -auto-ilp32

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-ansi-alias -opt-prefetch -static -auto-ilp32

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

### C++ benchmarks:

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

447.dealII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

### Fortran benchmarks:

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

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: basepeak = yes

### Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

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## Peak Optimization Flags (Continued)

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/Itaotec-Intel-Linux64-Platform.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/Itaotec-Intel-Linux64-Platform.xml>

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