



# SPEC® CFP2006 Result

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## Itaotec

### SPECfp®\_rate2006 = 186

### Servidor Itaotec MX203+ (Intel Xeon E5640)

### SPECfp\_rate\_base2006 = 180

CPU2006 license: 9001

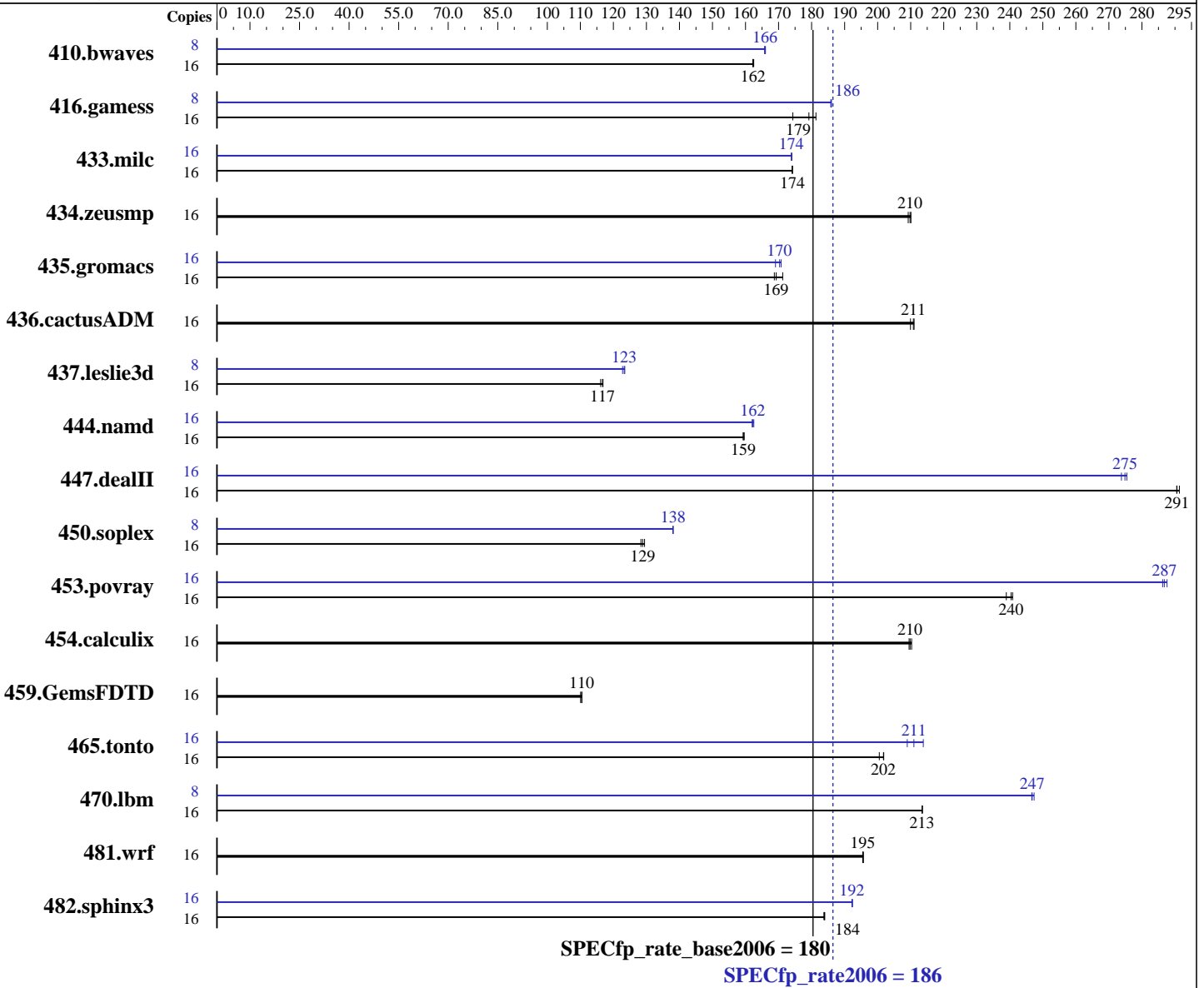
Test sponsor: Itaotec

Tested by: Itaotec

Test date: Jun-2011

Hardware Availability: Apr-2010

Software Availability: Jan-2011



#### Hardware

CPU Name: Intel Xeon E5640  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz  
 CPU MHz: 2667  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 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 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: 48 GB (12 x 4 GB 2Rx4 PC3-8500R-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	16	1338	162	1341	162	<b>1340</b>	<b>162</b>	8	655	166	<b>655</b>	<b>166</b>	656	166
416.gamess	16	1728	181	<b>1748</b>	<b>179</b>	1797	174	8	843	186	842	186	<b>843</b>	<b>186</b>
433.milc	16	843	174	843	174	<b>843</b>	<b>174</b>	16	<b>845</b>	<b>174</b>	845	174	844	174
434.zeusmp	16	<b>694</b>	<b>210</b>	696	209	693	210	16	<b>694</b>	<b>210</b>	696	209	693	210
435.gromacs	16	667	171	<b>675</b>	<b>169</b>	677	169	16	669	171	<b>671</b>	<b>170</b>	676	169
436.cactusADM	16	911	210	<b>907</b>	<b>211</b>	906	211	16	911	210	<b>907</b>	<b>211</b>	906	211
437.leslie3d	16	1295	116	<b>1289</b>	<b>117</b>	1287	117	8	<b>610</b>	<b>123</b>	612	123	609	123
444.namd	16	<b>805</b>	<b>159</b>	806	159	804	160	16	792	162	790	163	<b>791</b>	<b>162</b>
447.dealII	16	628	291	<b>630</b>	<b>291</b>	630	291	16	665	275	669	274	<b>666</b>	<b>275</b>
450.soplex	16	<b>1035</b>	<b>129</b>	1040	128	1031	129	8	483	138	<b>483</b>	<b>138</b>	483	138
453.povray	16	356	239	353	241	<b>354</b>	<b>240</b>	16	297	286	296	288	<b>297</b>	<b>287</b>
454.calculix	16	<b>629</b>	<b>210</b>	630	210	628	210	16	<b>629</b>	<b>210</b>	630	210	628	210
459.GemsFDTD	16	1537	110	1542	110	<b>1538</b>	<b>110</b>	16	1537	110	1542	110	<b>1538</b>	<b>110</b>
465.tonto	16	785	200	780	202	<b>780</b>	<b>202</b>	16	736	214	<b>746</b>	<b>211</b>	753	209
470.lbm	16	1029	214	1030	213	<b>1030</b>	<b>213</b>	8	444	247	<b>445</b>	<b>247</b>	446	247
481.wrf	16	<b>914</b>	<b>195</b>	914	195	913	196	16	<b>914</b>	<b>195</b>	914	195	913	196
482.sphinx3	16	1695	184	1697	184	<b>1696</b>	<b>184</b>	16	1621	192	1622	192	<b>1622</b>	<b>192</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.  
Large pages were not enabled for this run

## General Notes

This result was measured on the Servidor Itaotec MX224.  
The Servidor Itaotec MX203+, Servidor Itaotec MX223+ and the Servidor Itaotec MX224 are electronically equivalent.



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CPU2006 license: 9001  
Test sponsor: Itaotec  
Tested by: Itaotec

Test date: Jun-2011  
Hardware Availability: Apr-2010  
Software Availability: Jan-2011

## 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

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



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## 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

## 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

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Itautec

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Servidor Itautec MX203+ (Intel Xeon E5640)

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CPU2006 license: 9001  
Test sponsor: Itautec  
Tested by: Itautec

Test date: Jun-2011  
Hardware Availability: Apr-2010  
Software Availability: Jan-2011

## Peak Optimization Flags (Continued)

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: -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

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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep- -static

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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto  
-inline-calloc -opt-malloc-options=3  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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## Peak Optimization Flags (Continued)

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/Itautec-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/Itautec-Intel-Linux64-Platform.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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