



# SPEC<sup>®</sup> CFP2006 Result

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## Itaotec

### SPECfp<sup>®</sup>\_rate2006 = 274

### Servidor Itaotec MX214 (Intel Xeon X5690)

### SPECfp\_rate\_base2006 = 267

CPU2006 license: 9001

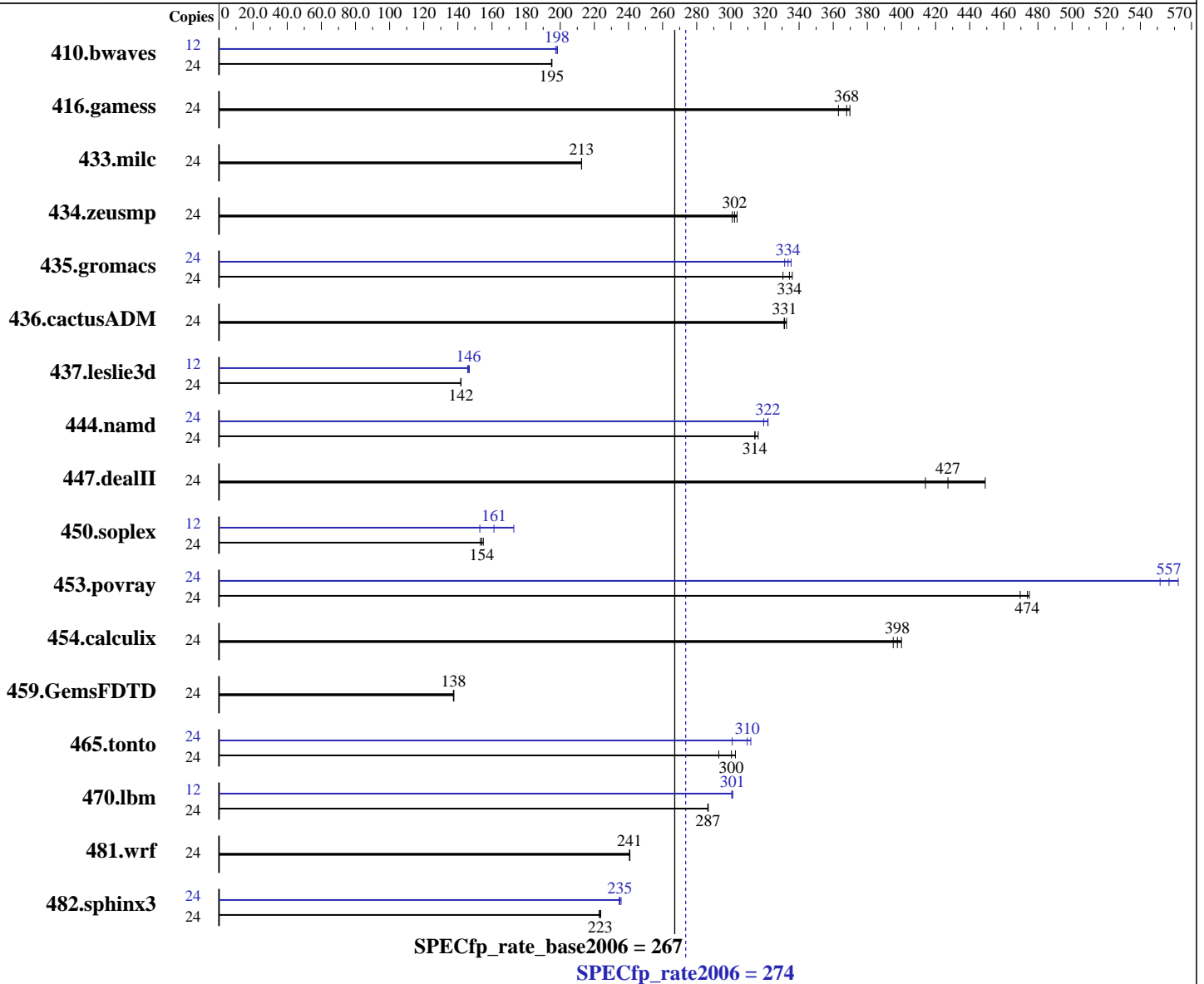
Test date: Aug-2011

Test sponsor: Itaotec

Hardware Availability: Jul-2011

Tested by: Itaotec

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: 12 cores, 2 chips, 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: 48 GB (12 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	24	1671	195	<b>1673</b>	<b>195</b>	1674	195	12	822	198	<b>823</b>	<b>198</b>	826	197
416.gamess	24	<b>1278</b>	<b>368</b>	1271	370	1294	363	24	<b>1278</b>	<b>368</b>	1271	370	1294	363
433.milc	24	1036	213	<b>1037</b>	<b>213</b>	1037	212	24	1036	213	<b>1037</b>	<b>213</b>	1037	212
434.zeusmp	24	719	304	<b>723</b>	<b>302</b>	726	301	24	719	304	<b>723</b>	<b>302</b>	726	301
435.gromacs	24	518	331	<b>513</b>	<b>334</b>	510	336	24	<b>514</b>	<b>334</b>	511	335	517	332
436.cactusADM	24	862	333	<b>865</b>	<b>331</b>	866	331	24	862	333	<b>865</b>	<b>331</b>	866	331
437.leslie3d	24	1592	142	<b>1591</b>	<b>142</b>	1590	142	12	<b>772</b>	<b>146</b>	774	146	769	147
444.namd	24	609	316	613	314	<b>613</b>	<b>314</b>	24	603	319	598	322	<b>598</b>	<b>322</b>
447.dealII	24	611	449	<b>643</b>	<b>427</b>	663	414	24	611	449	<b>643</b>	<b>427</b>	663	414
450.soplex	24	1292	155	1307	153	<b>1300</b>	<b>154</b>	12	655	153	<b>621</b>	<b>161</b>	579	173
453.povray	24	<b>269</b>	<b>474</b>	269	475	272	470	24	231	552	<b>229</b>	<b>557</b>	227	562
454.calculix	24	495	400	<b>498</b>	<b>398</b>	501	395	24	495	400	<b>498</b>	<b>398</b>	501	395
459.GemsFDTD	24	1849	138	1854	137	<b>1852</b>	<b>138</b>	24	1849	138	1854	137	<b>1852</b>	<b>138</b>
465.tonto	24	780	303	806	293	<b>786</b>	<b>300</b>	24	785	301	758	312	<b>763</b>	<b>310</b>
470.lbm	24	1150	287	<b>1150</b>	<b>287</b>	1151	286	12	548	301	<b>548</b>	<b>301</b>	549	301
481.wrf	24	<b>1114</b>	<b>241</b>	1114	241	1113	241	24	<b>1114</b>	<b>241</b>	1114	241	1113	241
482.sphinx3	24	2091	224	2099	223	<b>2094</b>	<b>223</b>	24	1994	235	<b>1991</b>	<b>235</b>	1985	236

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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## 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: basepeak = yes

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

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## Peak Optimization Flags (Continued)

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.dealIII: 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: -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

481.wrf: basepeak = yes



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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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