



# SPEC® CFP2006 Result

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## Itaotec

### SPECfp®\_rate2006 = 78.4

### Servidor Itaotec MX201 (Intel Xeon X5460)

### SPECfp\_rate\_base2006 = 71.0

CPU2006 license: 9001

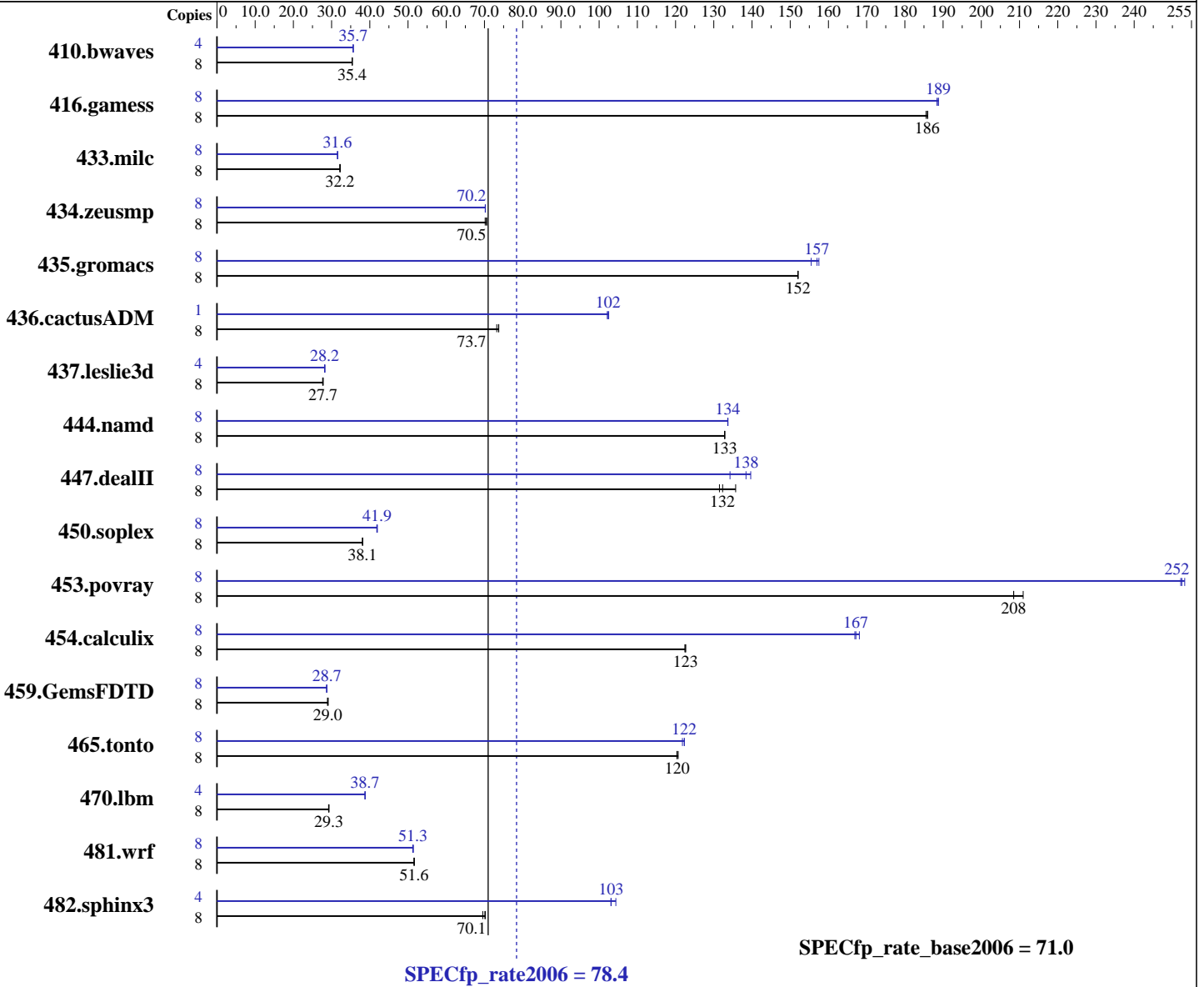
Test sponsor: Itaotec

Tested by: Itaotec

Test date: Mar-2008

Hardware Availability: Dec-2007

Software Availability: Jan-2008



#### Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics: 3160  
 CPU MHz: Integrated  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 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 10.1 for Linux 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)  
 Base Pointers: 64-bit

Continued on next page



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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

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	8	3070	35.4	<b><u>3071</u></b>	<b><u>35.4</u></b>	3073	35.4	4	1524	35.7	<b><u>1524</u></b>	<b><u>35.7</u></b>	1526	35.6
416.gamess	8	844	186	842	186	<b><u>843</u></b>	<b><u>186</u></b>	8	<b><u>830</u></b>	<b><u>189</u></b>	831	188	830	189
433.milc	8	2276	32.3	<b><u>2281</u></b>	<b><u>32.2</u></b>	2284	32.1	8	<b><u>2328</u></b>	<b><u>31.6</u></b>	2324	31.6	2328	31.5
434.zeusmp	8	1037	70.2	1032	70.6	<b><u>1033</u></b>	<b><u>70.5</u></b>	8	<b><u>1037</u></b>	<b><u>70.2</u></b>	1037	70.2	1036	70.3
435.gromacs	8	<b><u>376</u></b>	<b><u>152</u></b>	376	152	376	152	8	367	155	<b><u>364</u></b>	<b><u>157</u></b>	363	158
436.cactusADM	8	1296	73.7	1306	73.2	<b><u>1298</u></b>	<b><u>73.7</u></b>	1	117	102	117	103	<b><u>117</u></b>	<b><u>102</u></b>
437.leslie3d	8	2719	27.7	<b><u>2711</u></b>	<b><u>27.7</u></b>	2705	27.8	4	1336	28.1	<b><u>1333</u></b>	<b><u>28.2</u></b>	1330	28.3
444.namd	8	483	133	483	133	<b><u>483</u></b>	<b><u>133</u></b>	8	<b><u>480</u></b>	<b><u>134</u></b>	480	134	480	134
447.dealII	8	<b><u>692</u></b>	<b><u>132</u></b>	674	136	696	131	8	655	140	682	134	<b><u>661</u></b>	<b><u>138</u></b>
450.soplex	8	1750	38.1	1752	38.1	<b><u>1751</u></b>	<b><u>38.1</u></b>	8	1595	41.8	<b><u>1592</u></b>	<b><u>41.9</u></b>	1590	42.0
453.povray	8	202	211	<b><u>204</u></b>	<b><u>208</u></b>	204	208	8	169	252	<b><u>169</u></b>	<b><u>252</u></b>	168	253
454.calculix	8	539	122	<b><u>538</u></b>	<b><u>123</u></b>	538	123	8	395	167	<b><u>395</u></b>	<b><u>167</u></b>	393	168
459.GemsFDTD	8	2915	29.1	2932	29.0	<b><u>2930</u></b>	<b><u>29.0</u></b>	8	2959	28.7	2952	28.8	<b><u>2954</u></b>	<b><u>28.7</u></b>
465.tonto	8	652	121	<b><u>654</u></b>	<b><u>120</u></b>	654	120	8	644	122	646	122	<b><u>644</u></b>	<b><u>122</u></b>
470.lbm	8	<b><u>3753</u></b>	<b><u>29.3</u></b>	3751	29.3	3763	29.2	4	<b><u>1418</u></b>	<b><u>38.7</u></b>	1417	38.8	1419	38.7
481.wrf	8	1730	51.7	<b><u>1733</u></b>	<b><u>51.6</u></b>	1733	51.6	8	<b><u>1742</u></b>	<b><u>51.3</u></b>	1744	51.2	1739	51.4
482.sphinx3	8	2241	69.6	<b><u>2224</u></b>	<b><u>70.1</u></b>	2220	70.2	4	747	104	<b><u>756</u></b>	<b><u>103</u></b>	756	103

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.



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

Test date: Mar-2008  
Hardware Availability: Dec-2007  
Software Availability: Jan-2008

## 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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Tested by: Itautec

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Software Availability: Jan-2008

## Base Optimization Flags

C benchmarks:  
-fast

C++ benchmarks:  
-fast

Fortran benchmarks:  
-fast

Benchmarks using both Fortran and C:  
-fast

## Peak Compiler Invocation

C benchmarks (except as noted below):  
/opt/intel/cc/10.1.012/bin/icc -L/opt/intel/cc/10.1.012/lib  
-I/opt/intel/cc/10.1.012/include

433.milc: 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

Continued on next page



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## Peak Portability Flags (Continued)

453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

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: -fast -prefetch

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

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Tested by: Itautec

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Software Availability: Jan-2008

## Peak Optimization Flags (Continued)

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

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.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.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.1.  
Report generated on Tue Jul 22 16:41:58 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 2 April 2008.