



# SPEC® CFP2006 Result

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## Itaotec

SPECfp®\_rate2006 = 68.6

Servidor Itaotec MX221 (Intel Xeon E5410)

SPECfp\_rate\_base2006 = 62.6

CPU2006 license: 9001

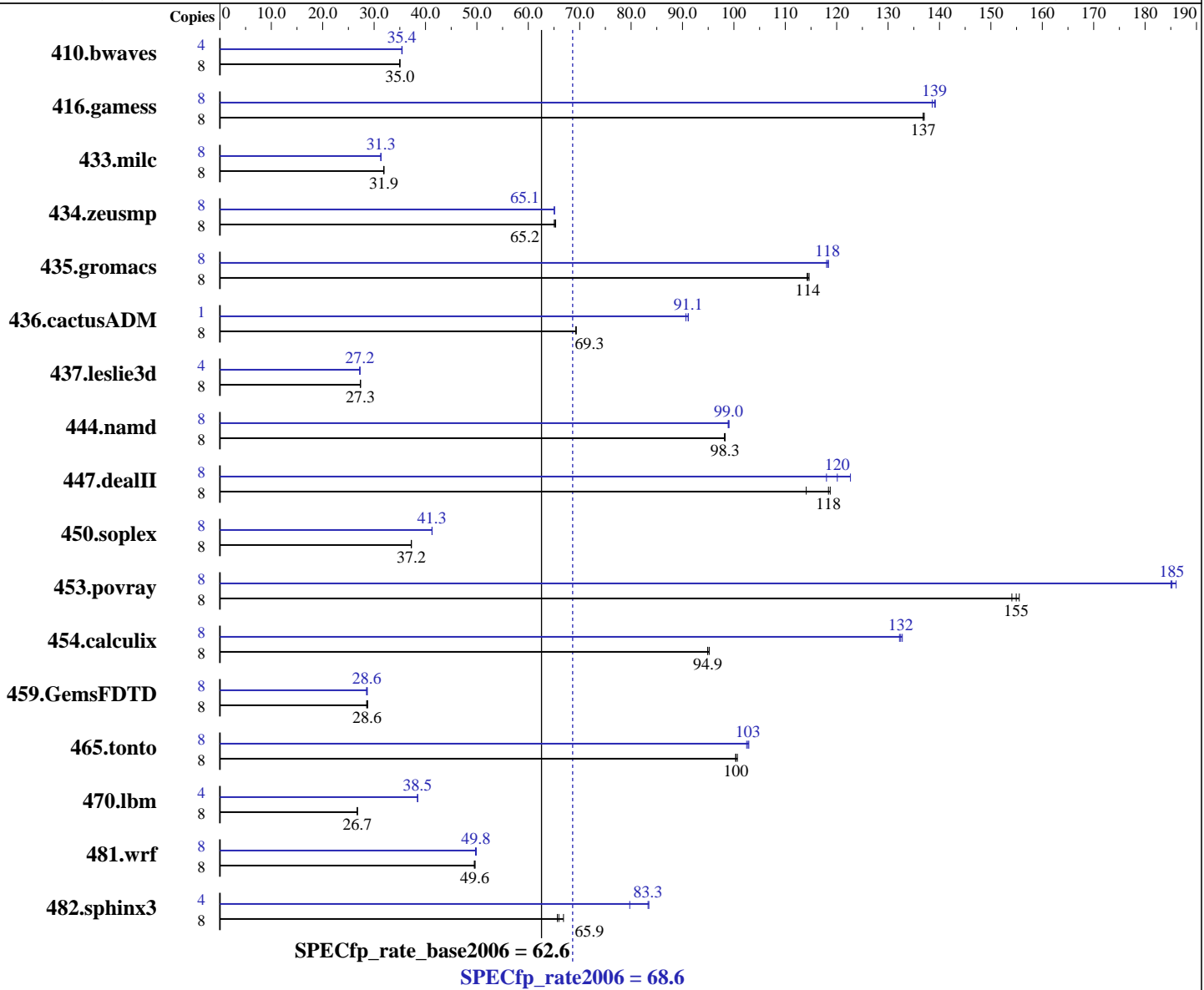
Test date: Mar-2008

Test sponsor: Itaotec

Hardware Availability: Dec-2007

Tested by: Itaotec

Software Availability: Jan-2008



### Hardware

CPU Name: Intel Xeon E5410  
 CPU Characteristics:  
 CPU MHz: 2330  
 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

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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	3106	35.0	3105	35.0	<b>3106</b>	<b>35.0</b>	4	<b>1535</b>	<b>35.4</b>	1536	35.4	1533	35.5
416.gamess	8	<b>1145</b>	<b>137</b>	1143	137	1145	137	8	<b>1127</b>	<b>139</b>	1125	139	1130	139
433.milc	8	2304	31.9	2300	31.9	<b>2303</b>	<b>31.9</b>	8	<b>2344</b>	<b>31.3</b>	2343	31.3	2345	31.3
434.zeusmp	8	1114	65.3	1119	65.0	<b>1116</b>	<b>65.2</b>	8	1119	65.0	<b>1119</b>	<b>65.1</b>	1118	65.1
435.gromacs	8	500	114	498	115	<b>499</b>	<b>114</b>	8	482	118	484	118	<b>483</b>	<b>118</b>
436.cactusADM	8	1381	69.2	<b>1380</b>	<b>69.3</b>	1379	69.3	1	131	91.1	132	90.7	<b>131</b>	<b>91.1</b>
437.leslie3d	8	2748	27.4	2753	27.3	<b>2751</b>	<b>27.3</b>	4	1380	27.3	<b>1381</b>	<b>27.2</b>	1382	27.2
444.namd	8	654	98.2	653	98.3	<b>653</b>	<b>98.3</b>	8	649	98.9	648	99.1	<b>648</b>	<b>99.0</b>
447.dealII	8	<b>773</b>	<b>118</b>	771	119	802	114	8	<b>762</b>	<b>120</b>	776	118	746	123
450.soplex	8	1791	37.3	<b>1791</b>	<b>37.2</b>	1792	37.2	8	<b>1617</b>	<b>41.3</b>	1616	41.3	1617	41.3
453.povray	8	276	154	<b>275</b>	<b>155</b>	274	156	8	230	185	<b>230</b>	<b>185</b>	229	186
454.calculix	8	696	94.9	<b>695</b>	<b>94.9</b>	693	95.2	8	<b>498</b>	<b>132</b>	499	132	497	133
459.GemsFDTD	8	2951	28.8	<b>2965</b>	<b>28.6</b>	2973	28.5	8	2976	28.5	<b>2967</b>	<b>28.6</b>	2959	28.7
465.tonto	8	<b>784</b>	<b>100</b>	782	101	784	100	8	768	102	<b>766</b>	<b>103</b>	765	103
470.lbm	8	4111	26.7	<b>4111</b>	<b>26.7</b>	4110	26.7	4	1429	38.5	<b>1429</b>	<b>38.5</b>	1428	38.5
481.wrf	8	<b>1801</b>	<b>49.6</b>	1806	49.5	1800	49.6	8	1791	49.9	<b>1795</b>	<b>49.8</b>	1797	49.7
482.sphinx3	8	2332	66.8	<b>2365</b>	<b>65.9</b>	2375	65.6	4	934	83.5	978	79.7	<b>936</b>	<b>83.3</b>

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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Test date: Mar-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 MX221 and the Servidor Itaotec MX201 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 (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

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

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