



# SPEC® CFP2006 Result

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## Itautec

### SPECfp®\_rate2006 = 76.5

### Servidor Itautec MX221 (Intel Xeon X5450)

### SPECfp\_rate\_base2006 = 69.0

CPU2006 license: 9001

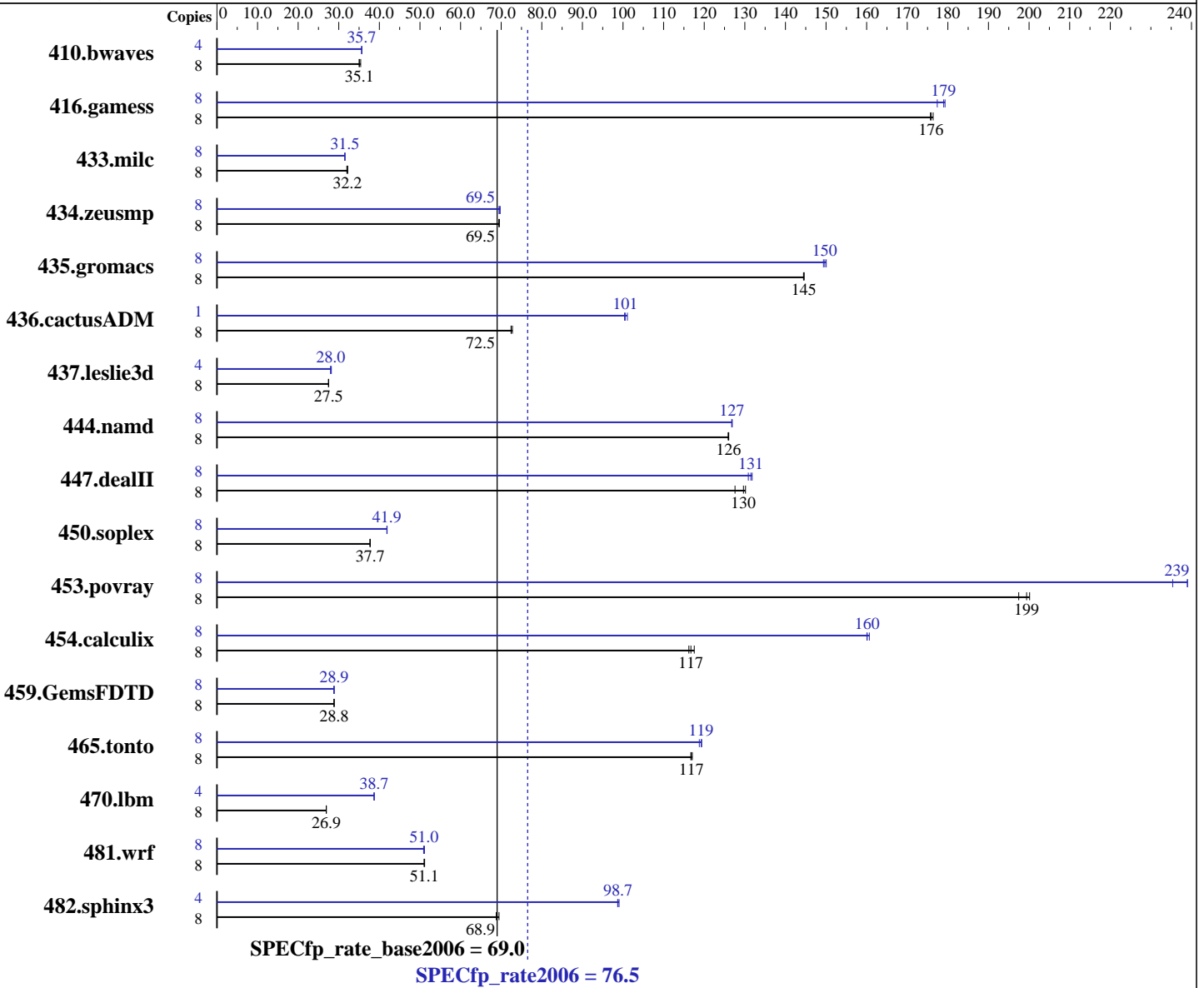
Test date: May-2008

Test sponsor: Itautec

Hardware Availability: Dec-2007

Tested by: Itautec

Software Availability: Jan-2008



### Hardware

CPU Name: Intel Xeon X5450  
 CPU Characteristics: 3000  
 CPU MHz: 3000  
 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 for Linux version 10.1  
 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)

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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

Base Pointers: 64-bit  
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	3071	35.4	<b>3100</b>	<b>35.1</b>	3105	35.0	4	<b>1525</b>	<b>35.7</b>	1525	35.6	1524	35.7
416.gamess	8	<b>891</b>	<b>176</b>	888	176	891	176	8	883	177	<b>875</b>	<b>179</b>	874	179
433.milc	8	2282	32.2	<b>2283</b>	<b>32.2</b>	2296	32.0	8	2332	31.5	<b>2331</b>	<b>31.5</b>	2330	31.5
434.zeusmp	8	<b>1048</b>	<b>69.5</b>	1048	69.4	1047	69.5	8	1048	69.5	<b>1047</b>	<b>69.5</b>	1044	69.8
435.gromacs	8	<b>395</b>	<b>145</b>	395	144	395	145	8	381	150	382	149	<b>382</b>	<b>150</b>
436.cactusADM	8	1320	72.4	1314	72.8	<b>1320</b>	<b>72.5</b>	1	119	100	<b>119</b>	<b>101</b>	118	101
437.leslie3d	8	2732	27.5	2739	27.5	<b>2734</b>	<b>27.5</b>	4	1343	28.0	<b>1343</b>	<b>28.0</b>	1334	28.2
444.namd	8	509	126	<b>509</b>	<b>126</b>	510	126	8	<b>506</b>	<b>127</b>	506	127	506	127
447.dealII	8	<b>706</b>	<b>130</b>	717	128	703	130	8	699	131	694	132	<b>696</b>	<b>131</b>
450.soplex	8	1767	37.8	1771	37.7	<b>1769</b>	<b>37.7</b>	8	1594	41.8	1592	41.9	<b>1593</b>	<b>41.9</b>
453.povray	8	<b>213</b>	<b>199</b>	213	200	216	197	8	178	239	<b>178</b>	<b>239</b>	181	235
454.calculix	8	561	118	568	116	<b>565</b>	<b>117</b>	8	412	160	411	161	<b>412</b>	<b>160</b>
459.GemsFDTD	8	2941	28.9	<b>2943</b>	<b>28.8</b>	2943	28.8	8	2951	28.8	<b>2941</b>	<b>28.9</b>	2939	28.9
465.tonto	8	672	117	675	117	<b>674</b>	<b>117</b>	8	659	119	<b>660</b>	<b>119</b>	663	119
470.lbm	8	4085	26.9	<b>4082</b>	<b>26.9</b>	4081	26.9	4	1419	38.7	<b>1420</b>	<b>38.7</b>	1420	38.7
481.wrf	8	<b>1750</b>	<b>51.1</b>	1751	51.0	1747	51.1	8	1748	51.1	<b>1752</b>	<b>51.0</b>	1756	50.9
482.sphinx3	8	<b>2262</b>	<b>68.9</b>	2267	68.8	2245	69.5	4	790	98.7	<b>789</b>	<b>98.7</b>	787	99.0

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, except for 436.cactuADM at peak.



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CPU2006 license: 9001  
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Test date: May-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.20090714.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.20090714.xml>

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