



SPEC® CFP2006 Result

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Itaotec

SPECfp®_rate2006 = 43.0

Servidor Itaotec MX201 (Intel Xeon X5460)

SPECfp_rate_base2006 = 41.7

CPU2006 license: 9001

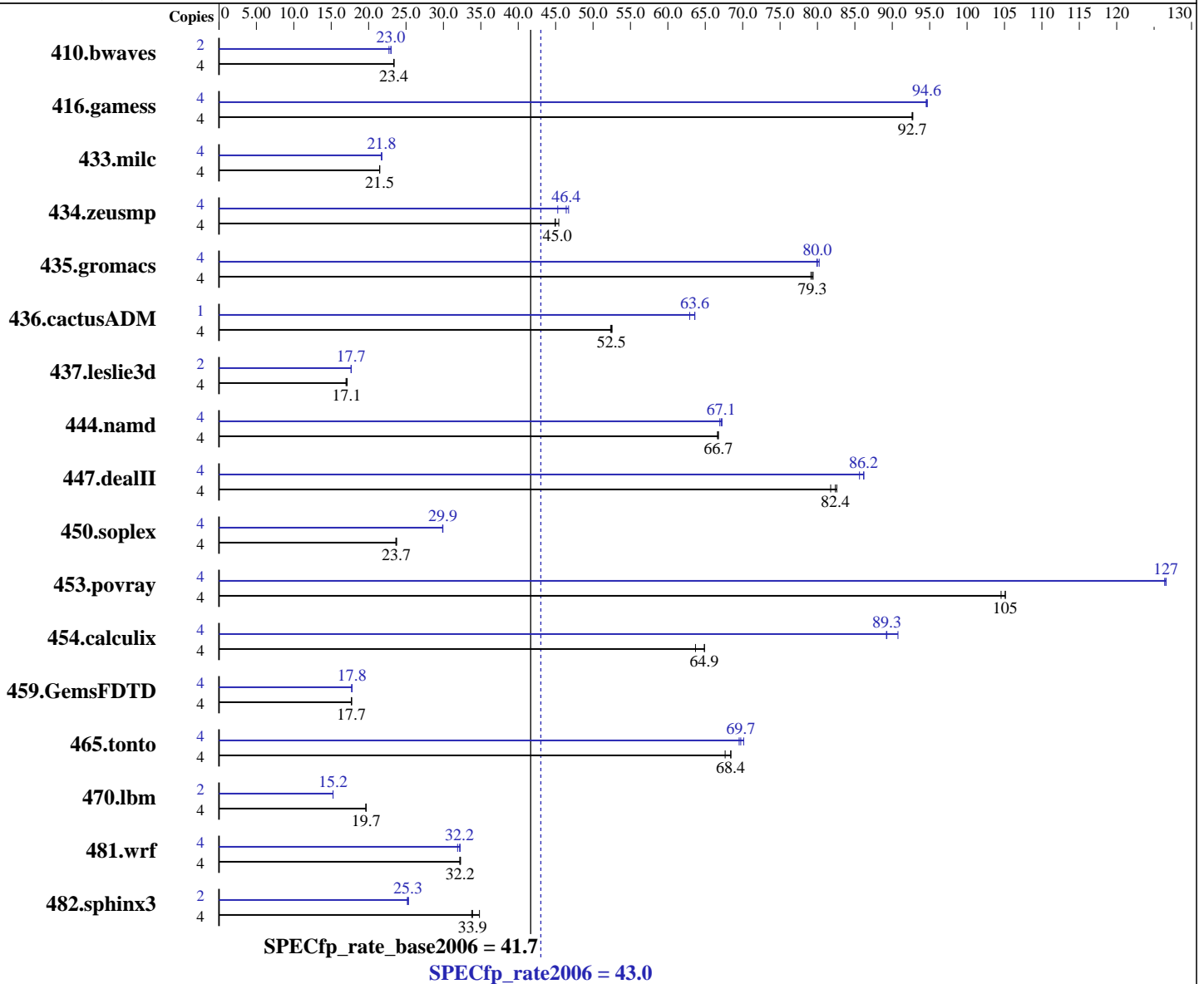
Test date: Mar-2008

Test sponsor: Itaotec

Hardware Availability: Dec-2007

Tested by: Itaotec

Software Availability: Jan-2008



Hardware

CPU Name: Intel Xeon X5460
 CPU Characteristics: 3160
 CPU MHz: 3160
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 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	4	2327	23.4	2323	23.4	<u>2325</u>	<u>23.4</u>	2	1182	23.0	1196	22.7	<u>1183</u>	<u>23.0</u>
416.gamess	4	844	92.7	<u>845</u>	<u>92.7</u>	845	92.7	4	829	94.5	<u>828</u>	<u>94.6</u>	827	94.7
433.milc	4	<u>1710</u>	<u>21.5</u>	1710	21.5	1709	21.5	4	1692	21.7	<u>1688</u>	<u>21.8</u>	1688	21.8
434.zeusmp	4	810	44.9	801	45.4	<u>809</u>	<u>45.0</u>	4	<u>784</u>	<u>46.4</u>	804	45.3	779	46.7
435.gromacs	4	<u>360</u>	<u>79.3</u>	361	79.1	360	79.4	4	356	80.2	<u>357</u>	<u>80.0</u>	357	79.9
436.cactusADM	4	<u>911</u>	<u>52.5</u>	913	52.3	910	52.5	1	188	63.6	<u>188</u>	<u>63.6</u>	190	62.9
437.leslie3d	4	2196	17.1	<u>2203</u>	<u>17.1</u>	2215	17.0	2	1064	17.7	<u>1064</u>	<u>17.7</u>	1063	17.7
444.namd	4	<u>481</u>	<u>66.7</u>	481	66.6	481	66.8	4	<u>478</u>	<u>67.1</u>	479	67.0	477	67.2
447.dealII	4	560	81.8	<u>555</u>	<u>82.4</u>	554	82.6	4	531	86.2	<u>531</u>	<u>86.2</u>	534	85.6
450.soplex	4	<u>1408</u>	<u>23.7</u>	1405	23.7	1411	23.6	4	1114	29.9	1116	29.9	<u>1115</u>	<u>29.9</u>
453.povray	4	<u>202</u>	<u>105</u>	204	105	202	105	4	<u>168</u>	<u>127</u>	168	126	168	127
454.calculix	4	509	64.9	518	63.7	<u>509</u>	<u>64.9</u>	4	364	90.8	370	89.2	<u>370</u>	<u>89.3</u>
459.GemsFDTD	4	<u>2396</u>	<u>17.7</u>	2398	17.7	2394	17.7	4	2387	17.8	<u>2387</u>	<u>17.8</u>	2394	17.7
465.tonto	4	<u>575</u>	<u>68.4</u>	575	68.4	582	67.7	4	561	70.1	<u>564</u>	<u>69.7</u>	566	69.5
470.lbm	4	2798	19.6	<u>2797</u>	<u>19.7</u>	2796	19.7	2	1803	15.2	<u>1803</u>	<u>15.2</u>	1802	15.2
481.wrf	4	<u>1386</u>	<u>32.2</u>	1384	32.3	1388	32.2	4	1386	32.2	<u>1389</u>	<u>32.2</u>	1401	31.9
482.sphinx3	4	2308	33.8	2239	34.8	<u>2300</u>	<u>33.9</u>	2	<u>1543</u>	<u>25.3</u>	1548	25.2	1539	25.3

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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Hardware Availability: Dec-2007
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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 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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Itautec

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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.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.

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