



SPEC® CFP2006 Result

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Itautec

SPECfp®_rate2006 = 42.3

Servidor Itautec MX201 (Intel Xeon E5440)

SPECfp_rate_base2006 = 39.5

CPU2006 license: 9001

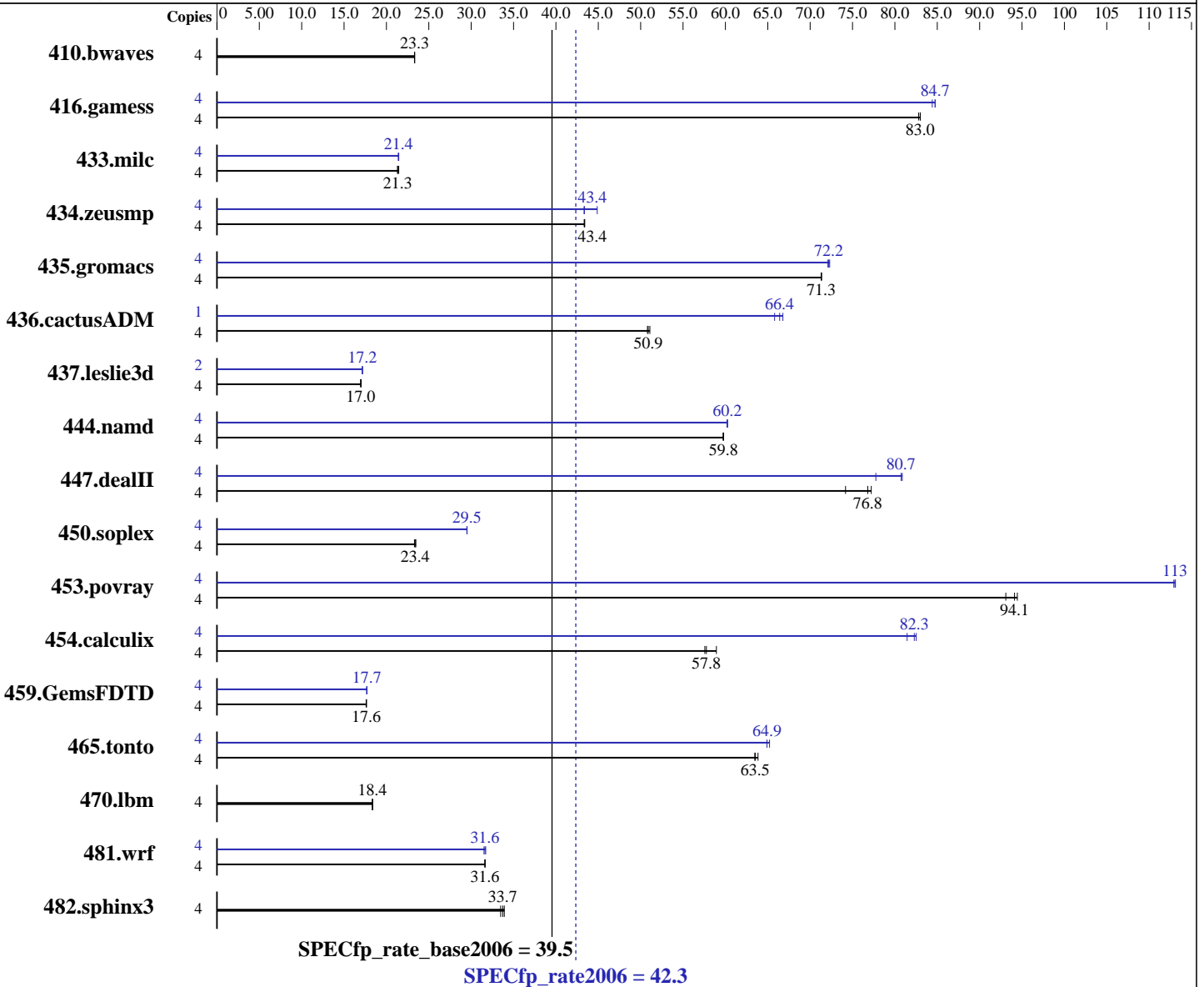
Test sponsor: Itautec

Tested by: Itautec

Test date: Apr-2008

Hardware Availability: Dec-2007

Software Availability: Jan-2008



Hardware

CPU Name: Intel Xeon E5440
 CPU Characteristics:
 CPU MHz: 2830
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 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	4	2329	23.3	<u>2331</u>	<u>23.3</u>	2332	23.3	4	2329	23.3	<u>2331</u>	<u>23.3</u>	2332	23.3
416.gamess	4	<u>944</u>	<u>83.0</u>	944	83.0	946	82.8	4	924	84.8	928	84.4	<u>924</u>	<u>84.7</u>
433.milc	4	1723	21.3	1712	21.5	<u>1722</u>	<u>21.3</u>	4	1715	21.4	1711	21.5	<u>1715</u>	<u>21.4</u>
434.zeusmp	4	839	43.4	840	43.3	<u>839</u>	<u>43.4</u>	4	<u>839</u>	<u>43.4</u>	811	44.9	840	43.3
435.gromacs	4	<u>400</u>	<u>71.3</u>	400	71.3	400	71.3	4	<u>396</u>	<u>72.2</u>	396	72.1	395	72.3
436.cactusADM	4	936	51.1	941	50.8	<u>939</u>	<u>50.9</u>	1	182	65.8	<u>180</u>	<u>66.4</u>	179	66.8
437.leslie3d	4	2209	17.0	2217	17.0	<u>2215</u>	<u>17.0</u>	2	<u>1095</u>	<u>17.2</u>	1096	17.2	1095	17.2
444.namd	4	<u>537</u>	<u>59.8</u>	537	59.7	537	59.8	4	533	60.2	<u>533</u>	<u>60.2</u>	533	60.2
447.dealII	4	617	74.2	593	77.2	<u>596</u>	<u>76.8</u>	4	566	80.9	<u>567</u>	<u>80.7</u>	589	77.8
450.soplex	4	1431	23.3	1421	23.5	<u>1426</u>	<u>23.4</u>	4	1131	29.5	<u>1131</u>	<u>29.5</u>	1130	29.5
453.povray	4	<u>226</u>	<u>94.1</u>	225	94.5	229	93.1	4	188	113	<u>188</u>	<u>113</u>	188	113
454.calculix	4	573	57.6	560	58.9	<u>571</u>	<u>57.8</u>	4	405	81.4	400	82.5	<u>401</u>	<u>82.3</u>
459.GemsFDTD	4	2411	17.6	2405	17.6	<u>2408</u>	<u>17.6</u>	4	2398	17.7	<u>2400</u>	<u>17.7</u>	2401	17.7
465.tonto	4	620	63.5	616	63.8	<u>620</u>	<u>63.5</u>	4	604	65.2	606	64.9	<u>606</u>	<u>64.9</u>
470.lbm	4	2996	18.3	<u>2995</u>	<u>18.4</u>	2994	18.4	4	2996	18.3	<u>2995</u>	<u>18.4</u>	2994	18.4
481.wrf	4	1413	31.6	1412	31.7	<u>1413</u>	<u>31.6</u>	4	<u>1413</u>	<u>31.6</u>	1418	31.5	1409	31.7
482.sphinx3	4	<u>2312</u>	<u>33.7</u>	2299	33.9	2329	33.5	4	<u>2312</u>	<u>33.7</u>	2299	33.9	2329	33.5

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.cactusADM at peak.



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Test date: Apr-2008
Hardware Availability: Dec-2007
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Platform Notes

BIOS configuration:
Hardware Prefetch Enabled

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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Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

C benchmarks:
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
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

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

Peak Optimization Flags

C benchmarks:

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

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

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: basepeak = yes

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

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

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Peak Optimization Flags (Continued)

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.

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