



SPEC[®] CFP2006 Result

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Itautec

SPECfp[®]_rate2006 = 31.6

Servidor Itautec LX211 (Intel Xeon E5405)

SPECfp_rate_base2006 = 31.0

CPU2006 license: 9001

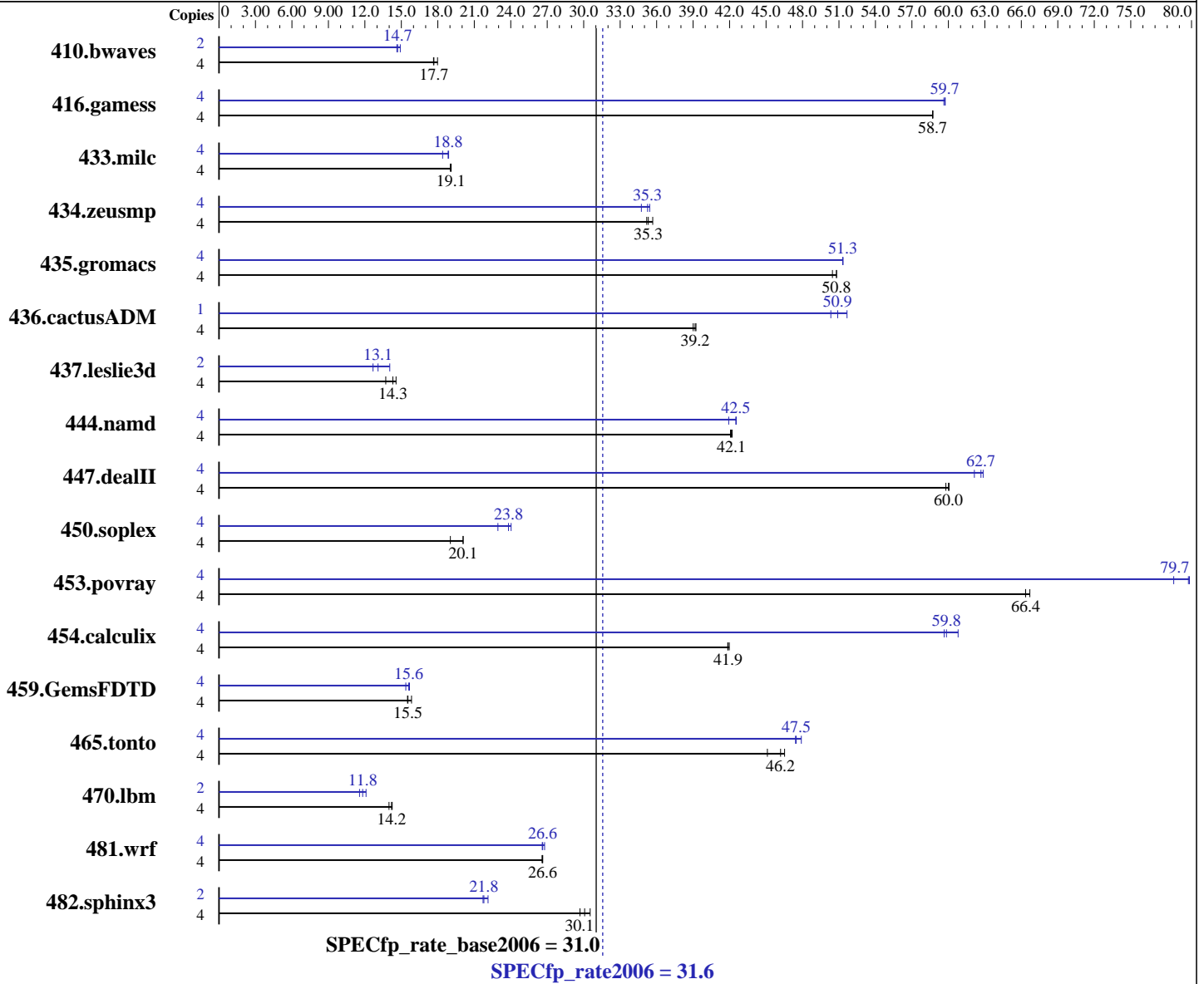
Test date: Mar-2008

Test sponsor: Itautec

Hardware Availability: Dec-2007

Tested by: Itautec

Software Availability: Jan-2008



Hardware

CPU Name: Intel Xeon E5405
 CPU Characteristics:
 CPU MHz: 2000
 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 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: 6 GB (6 * 1 GB PC2-5300 FBDIMM, CL-5-5-5, ECC)
Disk Subsystem: 1 x SCSI, 73GB, 10000 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	3075	17.7	3081	17.6	3024	18.0	2	1823	14.9	1858	14.6	1850	14.7
416.gamess	4	1334	58.7	1334	58.7	1334	58.7	4	1314	59.6	1311	59.7	1311	59.7
433.milc	4	1925	19.1	1930	19.0	1923	19.1	4	1996	18.4	1948	18.8	1944	18.9
434.zeusmp	4	1020	35.7	1035	35.2	1031	35.3	4	1048	34.7	1032	35.3	1027	35.4
435.gromacs	4	566	50.5	562	50.8	562	50.8	4	556	51.3	557	51.3	557	51.3
436.cactusADM	4	1225	39.0	1218	39.2	1221	39.2	1	231	51.7	237	50.3	235	50.9
437.leslie3d	4	2629	14.3	2582	14.6	2741	13.7	2	1338	14.0	1437	13.1	1484	12.7
444.namd	4	761	42.1	762	42.1	760	42.2	4	754	42.6	765	41.9	755	42.5
447.dealII	4	765	59.8	762	60.1	763	60.0	4	736	62.1	728	62.9	730	62.7
450.soplex	4	1753	19.0	1662	20.1	1661	20.1	4	1401	23.8	1388	24.0	1454	22.9
453.povray	4	319	66.7	321	66.4	321	66.3	4	267	79.7	271	78.5	267	79.8
454.calculix	4	788	41.9	786	42.0	789	41.9	4	551	59.8	543	60.8	553	59.7
459.GemsFDTD	4	2680	15.8	2730	15.5	2737	15.5	4	2708	15.7	2719	15.6	2762	15.4
465.tonto	4	873	45.1	852	46.2	846	46.5	4	822	47.9	830	47.4	829	47.5
470.lbm	4	3930	14.0	3857	14.2	3873	14.2	2	2377	11.6	2325	11.8	2272	12.1
481.wrf	4	1682	26.6	1678	26.6	1678	26.6	4	1678	26.6	1668	26.8	1680	26.6
482.sphinx3	4	2625	29.7	2592	30.1	2553	30.5	2	1795	21.7	1761	22.1	1789	21.8

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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Platform Notes

BIOS configuration:
Hardware Prefetch Disabled

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.deallI: -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

Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-fast

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Base Optimization Flags (Continued)

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  
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
```



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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

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

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Peak Optimization Flags (Continued)

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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