SPEC® CFP2006 Result
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Itautec

Servidor Itautec LX201 (Intel Xeon E5410)

$SPECfp®\_rate2006 =$ 38.5

$SPECfp\_rate\_base2006 =$ 35.5

Copies 0 3.00 7.00 11.0 15.0 19.0 23.0 27.0 31.0 35.0 39.0 43.0 47.0 51.0 55.0 59.0 63.0 67.0 71.0 75.0 79.0 83.0 87.0 93.0

Benchmark	Copies	Value
410.bwaves	2	22.8
	4	23.6
416.gamess	4	69.6
	4	68.3
433.milc	4	20.7
	4	20.5
434.zeusmp	4	36.0
	4	36.2
435.gromacs	4	58.7
	4	56.7
436.cactusADM	1	50.7
	4	39.4
437.leslie3d	2	15.6
	4	17.9
444.namd	4	49.2
	4	49.0
447.dealII	4	65.0
	4	62.1
450.soplex	4	25.1
	4	23.0
453.povray	4	92.5
	4	77.6
454.calculix	4	66.6
	4	47.3
459.GemsFDTD	4	18.7
	4	18.7
465.tonto	4	53.8
	4	52.6
470.lbm	2	24.8
	4	14.8
481.wrf	4	31.7
	4	31.6
482.sphinx3	2	42.3
	4	39.3

SPECfp_rate_base2006 = 35.5

SPECfp_rate2006 = 38.5

Hardware

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

Continued on next page

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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CPU2006 license: 9001　　　　　　　　**Test date:**　Apr-2008
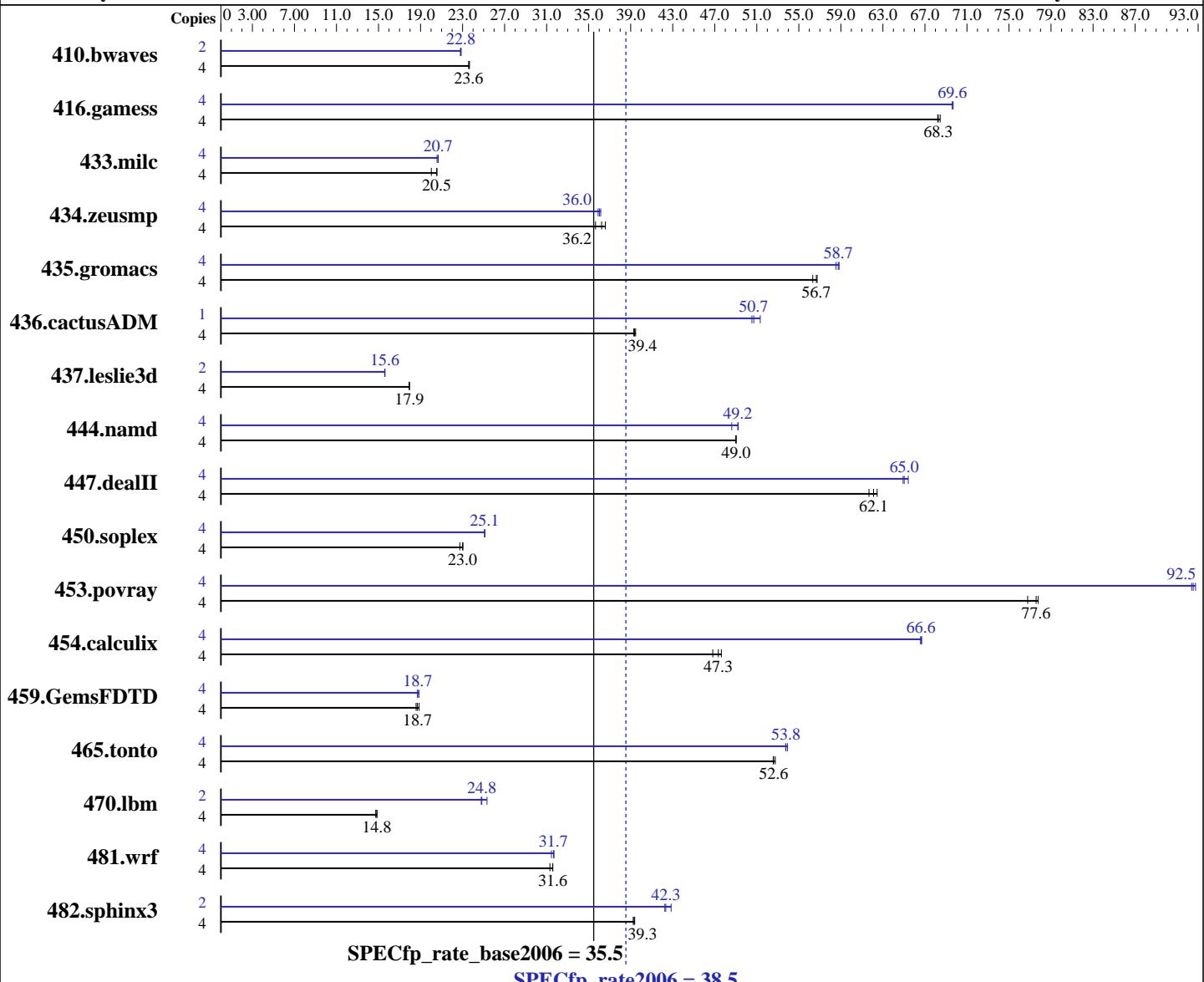**Test sponsor:**　Itautec　　　　　　　　**Hardware Availability:**　Dec-2007
Tested by:　Itautec　　　　　　　　**Software Availability:**　Jan-2008

L3 Cache:	None
Other Cache:	None
Memory:	8 GB (8 * 1 GB PC2-5300 FBDIMM, CL-5-5-5, ECC)
Disk Subsystem:	1 x SATA-2, 160GB, 7200 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	2304	23.6	**2304**	**23.6**	2298	23.7	2	1189	22.9	1193	22.8	**1191**	**22.8**
416.gamess	4	1148	68.2	1144	68.5	**1147**	**68.3**	4	1125	69.6	**1125**	**69.6**	1124	69.7
433.milc	4	1833	20.0	1786	20.6	**1787**	**20.5**	4	1785	20.6	1775	20.7	**1777**	**20.7**
434.zeusmp	4	1021	35.7	**1005**	**36.2**	995	36.6	4	**1010**	**36.0**	1007	36.2	1014	35.9
435.gromacs	4	503	56.7	**504**	**56.7**	507	56.3	4	485	58.8	**486**	**58.7**	488	58.5
436.cactusADM	4	1211	39.5	**1214**	**39.4**	1217	39.3	1	**236**	**50.7**	236	50.5	233	51.3
437.leslie3d	4	2099	17.9	**2096**	**17.9**	2095	17.9	2	**1205**	**15.6**	1206	15.6	1204	15.6
444.namd	4	654	49.0	655	49.0	**654**	**49.0**	4	**652**	**49.2**	660	48.6	652	49.2
447.dealII	4	733	62.5	**737**	**62.1**	742	61.7	4	700	65.4	**704**	**65.0**	705	64.9
450.soplex	4	1467	22.7	1448	23.0	**1450**	**23.0**	4	**1329**	**25.1**	1329	25.1	1327	25.1
453.povray	4	274	77.8	277	76.8	**274**	**77.6**	4	230	92.4	**230**	**92.5**	229	92.8
454.calculix	4	705	46.8	693	47.6	**697**	**47.3**	4	495	66.7	**495**	**66.6**	496	66.6
459.GemsFDTD	4	2250	18.9	**2270**	**18.7**	2285	18.6	4	2250	18.9	2269	18.7	**2265**	**18.7**
465.tonto	4	**748**	**52.6**	746	52.8	749	52.6	4	730	53.9	732	53.7	**732**	**53.8**
470.lbm	4	3730	14.7	**3703**	**14.8**	3702	14.8	2	1085	25.3	**1107**	**24.8**	1109	24.8
481.wrf	4	**1415**	**31.6**	1414	31.6	1427	31.3	4	**1411**	**31.7**	1420	31.5	1409	31.7
482.sphinx3	4	1980	39.4	**1983**	**39.3**	1987	39.2	2	**921**	**42.3**	923	42.2	910	42.8

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, except for 436.cactusADM at peak.
```

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Tested by: Itautec

Test date: Apr-2008
Hardware Availability: Dec-2007
Software Availability: Jan-2008

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.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
```

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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