SPEC® CFP2006 Result

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Itautec

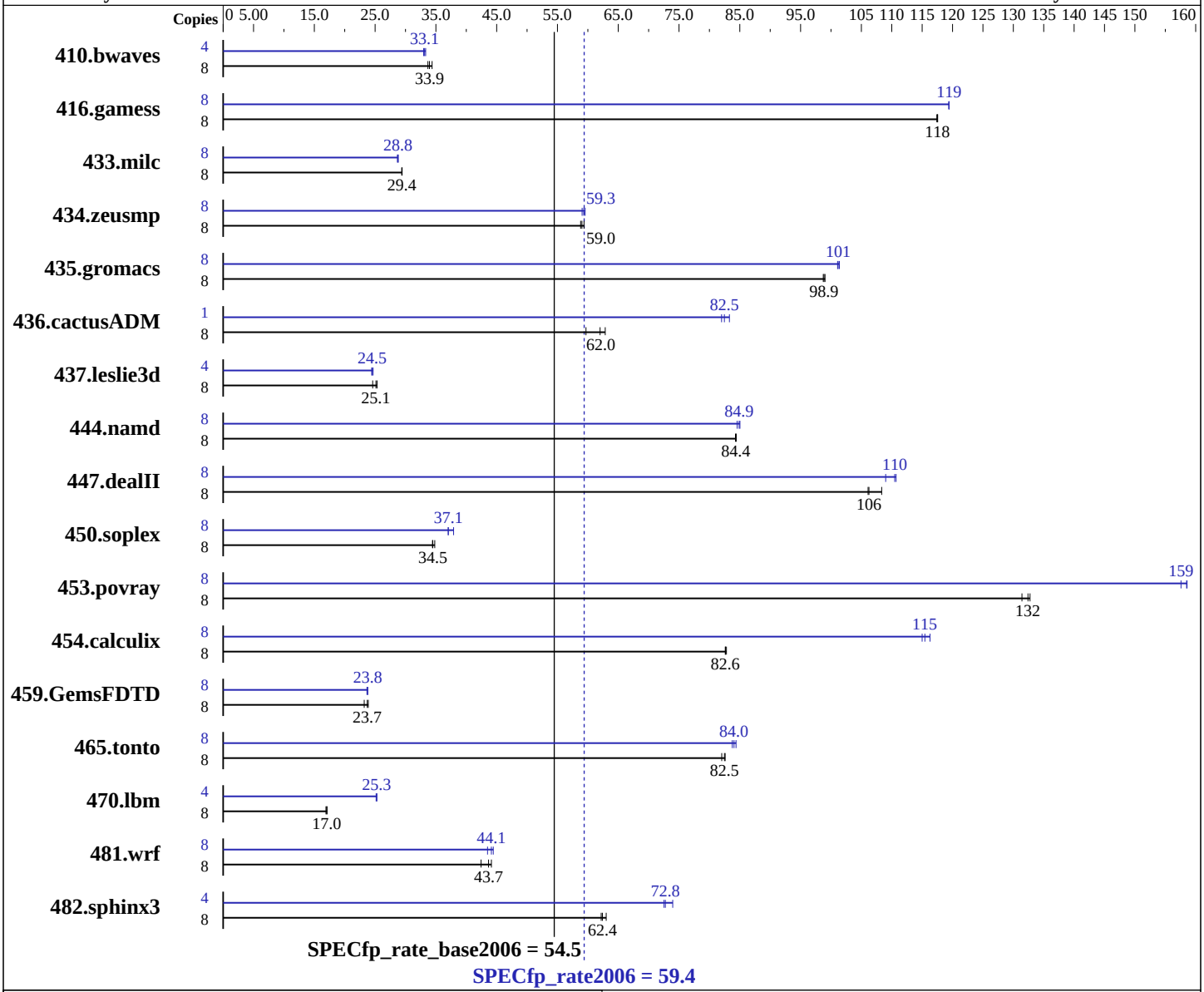
Servidor Itautec LX211 (Intel Xeon E5405)

SPECfp®_rate2006 = 59.4

SPECfp_rate_base2006 = 54.5

CPU2006 license: 9001
Test sponsor: Itautec
Tested by: Itautec

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



Hardware

CPU Name:	Intel Xeon E5405
CPU Characteristics:	
CPU MHz:	2000
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 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: 12 GB (6 * 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	8	3227	33.7	3163	34.4	**3203**	**33.9**	4	1648	33.0	**1640**	**33.1**	1632	33.3
416.gamess	8	**1333**	**118**	1332	118	1334	117	8	**1312**	**119**	1312	119	1311	119
433.milc	8	2494	29.4	**2498**	**29.4**	2498	29.4	8	**2553**	**28.8**	2562	28.7	2549	28.8
434.zeusmp	8	1238	58.8	1226	59.4	**1233**	**59.0**	8	**1227**	**59.3**	1222	59.6	1233	59.1
435.gromacs	8	577	99.0	579	98.7	**578**	**98.9**	8	563	101	565	101	**565**	**101**
436.cactusADM	8	1601	59.7	**1542**	**62.0**	1521	62.9	1	143	83.3	**145**	**82.5**	146	82.0
437.leslie3d	8	**2992**	**25.1**	2970	25.3	3057	24.6	4	1539	24.4	1524	24.7	**1533**	**24.5**
444.namd	8	**761**	**84.4**	761	84.3	760	84.4	8	759	84.6	**756**	**84.9**	755	85.0
447.dealII	8	863	106	**861**	**106**	845	108	8	827	111	**828**	**110**	840	109
450.soplex	8	1937	34.4	1916	34.8	**1934**	**34.5**	8	1802	37.0	**1801**	**37.1**	1760	37.9
453.povray	8	324	131	**321**	**132**	321	133	8	**269**	**159**	268	159	270	158
454.calculix	8	**799**	**82.6**	799	82.6	797	82.8	8	568	116	574	115	**572**	**115**
459.GemsFDTD	8	3658	23.2	**3581**	**23.7**	3555	23.9	8	**3570**	**23.8**	3569	23.8	3588	23.7
465.tonto	8	953	82.6	960	82.0	**955**	**82.5**	8	940	83.8	**937**	**84.0**	933	84.4
470.lbm	8	6431	17.1	**6453**	**17.0**	6500	16.9	4	**2175**	**25.3**	2184	25.2	2174	25.3
481.wrf	8	2106	42.4	**2047**	**43.7**	2025	44.1	8	2054	43.5	2011	44.4	**2025**	**44.1**
482.sphinx3	8	2507	62.2	2474	63.0	**2499**	**62.4**	4	1075	72.5	**1072**	**72.8**	1054	74.0

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.
```

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`

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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