SPEC® CFP2006 Result

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Itautec

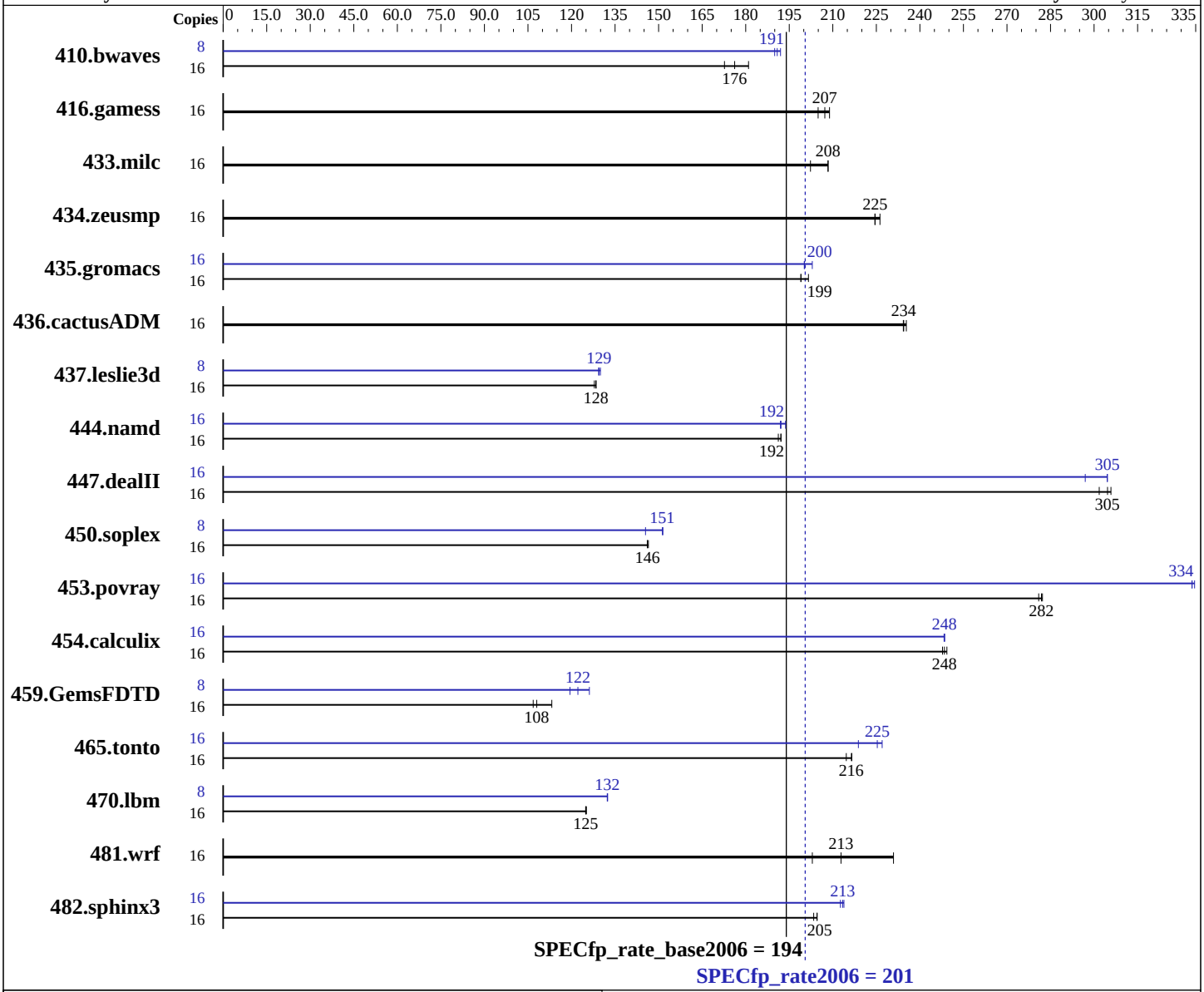
Servidor Itautec MX223 (Intel Xeon X5570)

SPECfp®_rate2006 = 201

SPECfp_rate_base2006 = 194

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

Test date: Oct-2009
Hardware Availability: Mar-2009
Software Availability: May-2009



Hardware

CPU Name:	Intel Xeon X5570
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1, 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp
Compiler:	Intel C++ and Fortran Compiler 11.1 for Linux Build 20090511 Package ID: l_cproc_p_11.1.038, l_cprof_p_11.1.038
Auto Parallel:	No
File System:	ReiserFS
System State:	Run level 3 (multi-user)

Continued on next page

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6 x 4GB DDR3-1333, CL 9, ECC)
Disk Subsystem: 1 x 160 GB SATA-2, 7200RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	1201	181	**1234**	**176**	1259	173	8	**570**	**191**	566	192	572	190
416.gamess	16	1500	209	**1512**	**207**	1529	205	16	1500	209	**1512**	**207**	1529	205
433.milc	16	705	208	**705**	**208**	726	202	16	705	208	**705**	**208**	726	202
434.zeusmp	16	649	224	**648**	**225**	644	226	16	649	224	**648**	**225**	644	226
435.gromacs	16	**574**	**199**	567	202	574	199	16	563	203	**571**	**200**	571	200
436.cactusADM	16	**816**	**234**	816	234	812	235	16	**816**	**234**	816	234	812	235
437.leslie3d	16	**1171**	**128**	1171	128	1176	128	8	581	129	579	130	**581**	**129**
444.namd	16	671	191	668	192	**668**	**192**	16	662	194	668	192	**668**	**192**
447.dealII	16	607	302	**601**	**305**	599	306	16	**601**	**305**	616	297	601	305
450.soplex	16	911	146	913	146	**913**	**146**	8	459	145	**441**	**151**	440	151
453.povray	16	302	282	303	281	**302**	**282**	16	255	334	254	335	**255**	**334**
454.calculix	16	529	249	**531**	**248**	533	248	16	**531**	**248**	532	248	531	249
459.GemsFDTD	16	1499	113	1590	107	**1571**	**108**	8	**695**	**122**	710	119	673	126
465.tonto	16	733	215	727	217	**728**	**216**	16	694	227	**699**	**225**	720	219
470.lbm	16	1757	125	**1760**	**125**	1761	125	8	831	132	**830**	**132**	830	132
481.wrf	16	774	231	881	203	**840**	**213**	16	774	231	881	203	**840**	**213**
482.sphinx3	16	1524	205	1533	203	**1525**	**205**	16	1458	214	1467	213	**1461**	**213**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

General Notes

```
This result was measured on the Servidor Itautec MX223.
The Servidor Itautec MX223 and the Servidor Itautec MX203 are electronically equivalent.
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.
```

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:
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Peak Compiler Invocation

C benchmarks (except as noted below):
icc

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):
icpc

450.soplex: icpc -m32

Fortran benchmarks (except as noted below):
ifort

437.leslie3d: ifort -m32

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
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

Continued on next page

Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -Ob0 -opt-prefetch

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Itautec-Intel-ic11.1-fp-linux64-revI.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Itautec-Intel-ic11.1-fp-linux64-revI.xml

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For other inquiries, please contact webmaster@spec.org.

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