SPEC® CFP2006 Result

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Itautec

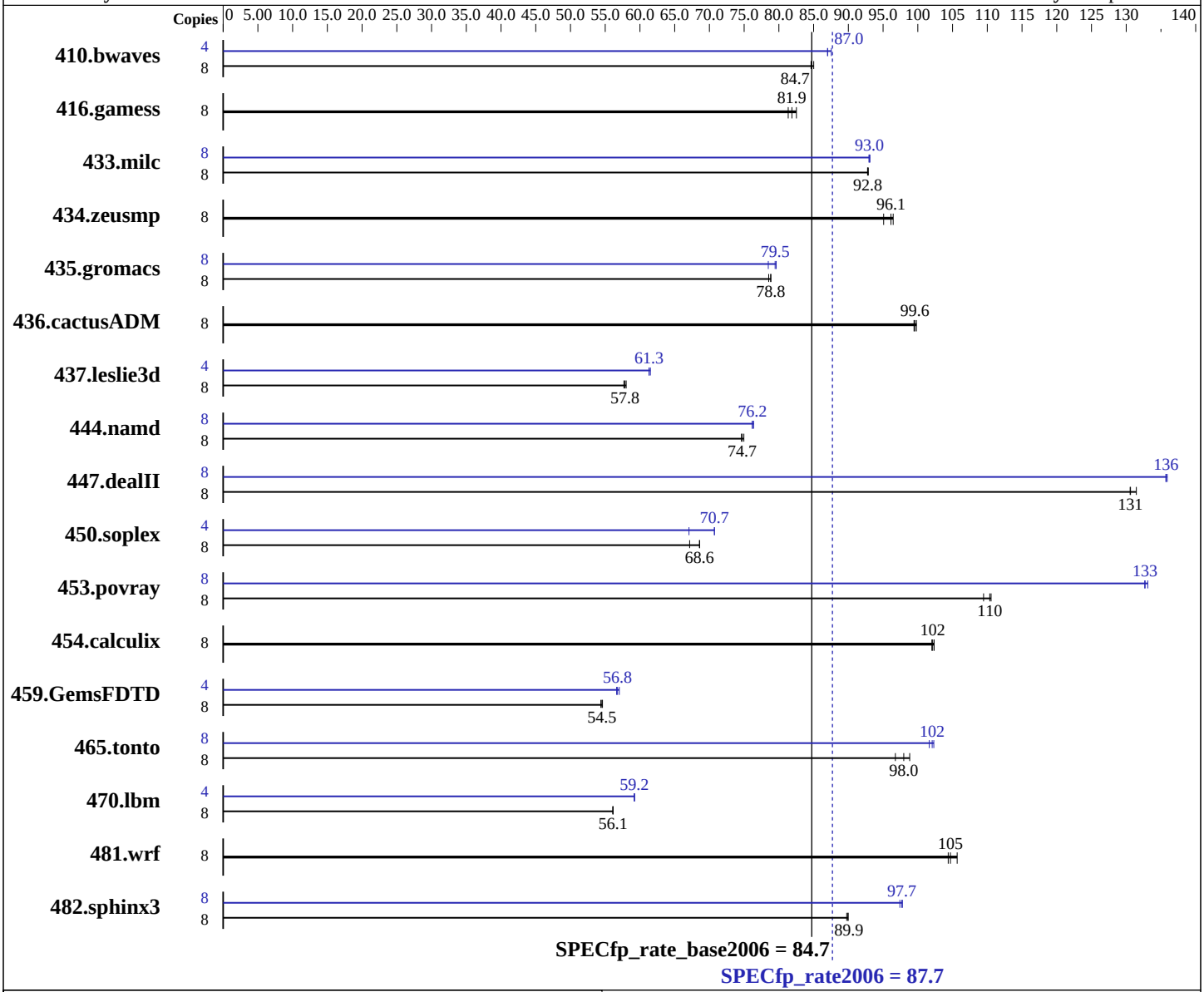
Servidor Itautec MX203 (Intel Xeon E5620)

SPECfp®_rate2006 = 87.7

SPECfp_rate_base2006 = 84.7

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

Test date: Jun-2010
Hardware Availability: Apr-2010
Software Availability: Apr-2010



Hardware

CPU Name:	Intel Xeon E5620
CPU Characteristics:	Intel Turbo Boost Technology up to 2.66 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 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

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-smp
Compiler:	Intel C++ and Fortran Professional Compiler 11.1 for Linux Build 20100414 Package ID: l_cproc_p_11.1.072, l_cprof_p_11.1.072
Auto Parallel:	No
File System:	ReiserFS
System State:	Run level 3 (multi-user)

Continued on next page

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6 x 4GB, DDR3-1066, Dual Rank, CL 7, ECC)
Disk Subsystem: 1 x 160 GB SATA-2, 7200 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	1279	85.0	**1283**	**84.7**	1285	84.6	4	625	87.0	621	87.5	**625**	**87.0**
416.gamess	8	**1913**	**81.9**	1898	82.5	1926	81.3	8	**1913**	**81.9**	1898	82.5	1926	81.3
433.milc	8	792	92.8	791	92.9	**791**	**92.8**	8	**789**	**93.0**	789	93.1	790	93.0
434.zeusmp	8	**757**	**96.1**	755	96.5	766	95.1	8	**757**	**96.1**	755	96.5	766	95.1
435.gromacs	8	724	78.8	**725**	**78.8**	727	78.5	8	**719**	**79.5**	728	78.5	717	79.6
436.cactusADM	8	**960**	**99.6**	958	99.8	961	99.5	8	**960**	**99.6**	958	99.8	961	99.5
437.leslie3d	8	1304	57.7	1296	58.0	**1300**	**57.8**	4	611	61.5	**613**	**61.3**	613	61.3
444.namd	8	**859**	**74.7**	860	74.6	856	75.0	8	840	76.4	**842**	**76.2**	842	76.2
447.dealII	8	**701**	**131**	696	131	701	131	8	674	136	673	136	**674**	**136**
450.soplex	8	994	67.2	973	68.6	**973**	**68.6**	4	497	67.1	**472**	**70.7**	472	70.7
453.povray	8	385	111	**386**	**110**	389	109	8	**321**	**133**	320	133	321	133
454.calculix	8	**646**	**102**	647	102	645	102	8	**646**	**102**	647	102	645	102
459.GemsFDTD	8	**1557**	**54.5**	1554	54.6	1561	54.4	4	**748**	**56.8**	744	57.0	749	56.6
465.tonto	8	**803**	**98.0**	813	96.8	797	98.8	8	769	102	**771**	**102**	774	102
470.lbm	8	1958	56.1	**1959**	**56.1**	1960	56.1	4	929	59.2	928	59.2	**928**	**59.2**
481.wrf	8	846	106	856	104	**854**	**105**	8	846	106	856	104	**854**	**105**
482.sphinx3	8	1737	89.8	1733	90.0	**1734**	**89.9**	8	1600	97.4	**1596**	**97.7**	1595	97.8

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
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.
```

General Notes

```
This result was measured on the Servidor Itautec MX223.
The Servidor Itautec MX223 and the Servidor Itautec MX203 are electronically equivalent.
```

Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

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 -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):
icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

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
437.leslie3d: -DSPEC_CPU_LP64
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: -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 -opt-prefetch

470.lbm: -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 -ansi-alias -auto-ilp32

Continued on next page

Peak Optimization Flags (Continued)

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

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 -ipo -O3 -no-prec-div -static

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

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 -inline-calloc -opt-malloc-options=3

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: basepeak = yes

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-linux64-revE.html

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

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