SPEC® CFP2006 Result

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Itautec

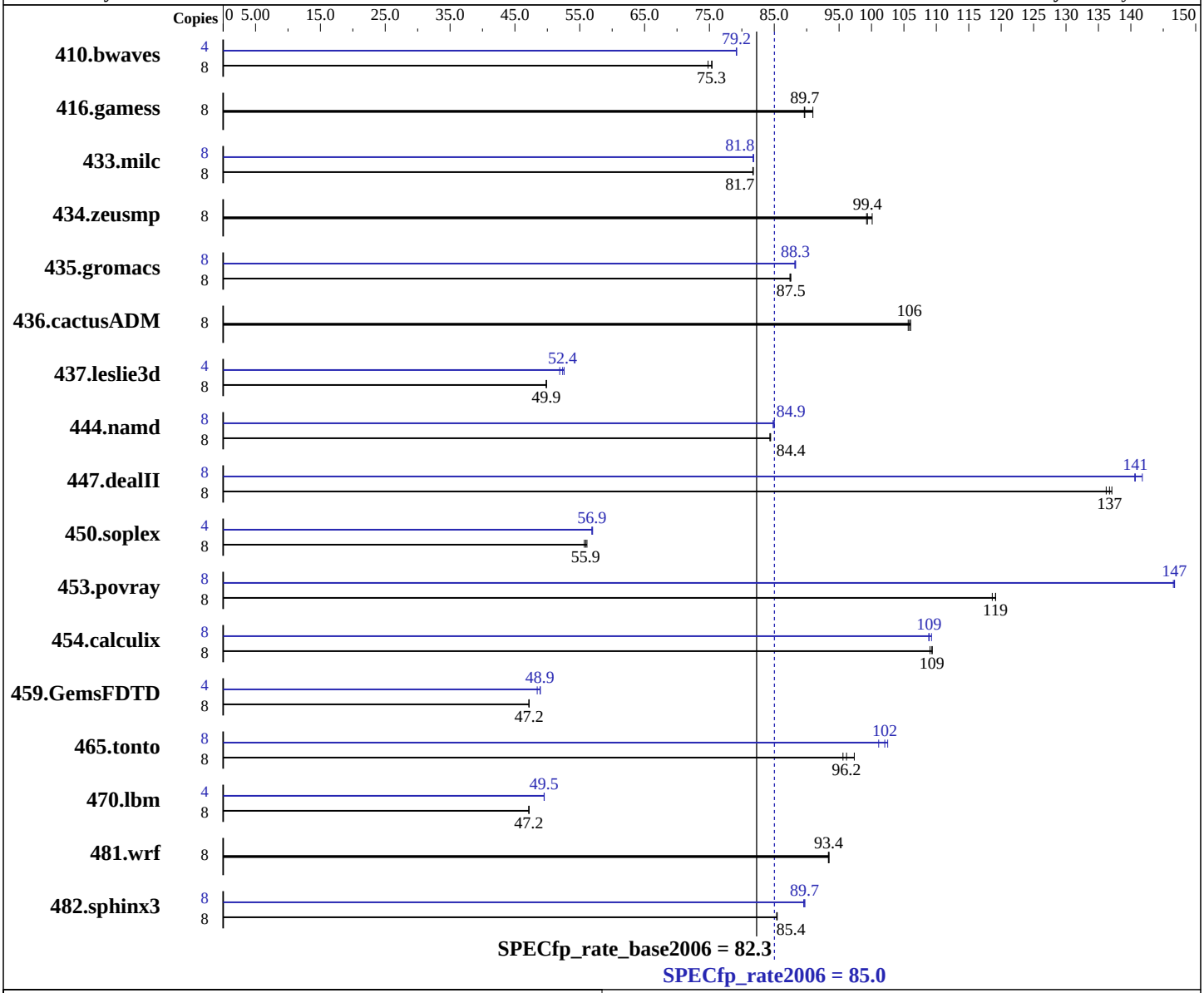
Servidor Itautec LX114 (Intel Xeon X3450)

SPECfp®_rate2006 = 85.0

SPECfp_rate_base2006 = 82.3

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

Test date: Jan-2010
Hardware Availability: Feb-2011
Software Availability: May-2009



Hardware

CPU Name:	Intel Xeon X3450
CPU Characteristics:	Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
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 11 (x86_64), Kernel 2.6.27.19-5-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)
Base Pointers:	64-bit

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (4 x 2 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 160 GB SATA-2, 7200RPM
Other Hardware: None

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	8	1454	74.8	**1443**	**75.3**	1442	75.4	4	686	79.2	**687**	**79.2**	687	79.2
416.gamess	8	1722	91.0	**1746**	**89.7**	1748	89.6	8	1722	91.0	**1746**	**89.7**	1748	89.6
433.milc	8	898	81.8	899	81.7	**899**	**81.7**	8	898	81.8	898	81.8	**898**	**81.8**
434.zeusmp	8	727	100	734	99.2	**733**	**99.4**	8	727	100	734	99.2	**733**	**99.4**
435.gromacs	8	653	87.4	652	87.6	**653**	**87.5**	8	**647**	**88.3**	647	88.3	648	88.2
436.cactusADM	8	**903**	**106**	902	106	905	106	8	**903**	**106**	902	106	905	106
437.leslie3d	8	1509	49.8	**1509**	**49.9**	1508	49.9	4	**718**	**52.4**	724	51.9	715	52.6
444.namd	8	760	84.4	**760**	**84.4**	761	84.3	8	755	85.0	**756**	**84.9**	756	84.8
447.dealII	8	**669**	**137**	672	136	668	137	8	646	142	**650**	**141**	651	141
450.soplex	8	**1193**	**55.9**	1189	56.1	1198	55.7	4	587	56.9	585	57.0	**586**	**56.9**
453.povray	8	359	119	357	119	**357**	**119**	8	**290**	**147**	290	147	290	147
454.calculix	8	603	109	**604**	**109**	605	109	8	604	109	606	109	**606**	**109**
459.GemsFDTD	8	1800	47.2	1799	47.2	**1799**	**47.2**	4	867	48.9	876	48.4	**868**	**48.9**
465.tonto	8	823	95.6	**819**	**96.2**	809	97.3	8	779	101	768	103	**771**	**102**
470.lbm	8	2330	47.2	**2331**	**47.2**	2331	47.2	4	1110	49.5	1110	49.5	**1110**	**49.5**
481.wrf	8	957	93.3	**957**	**93.4**	956	93.5	8	957	93.3	**957**	**93.4**	956	93.5
482.sphinx3	8	1824	85.5	1826	85.4	**1825**	**85.4**	8	1741	89.5	**1738**	**89.7**	1738	89.7

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 LX103.
The Servidor Itautec LX103, the Servidor Itautec LX113 and the Servidor Itautec LX114 are electronically equivalent.
```

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 -m64`

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: `-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`

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

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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(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

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Peak Optimization Flags (Continued)

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.20100202.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.20100202.xml`

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