SPEC® CFP2006 Result

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Itautec

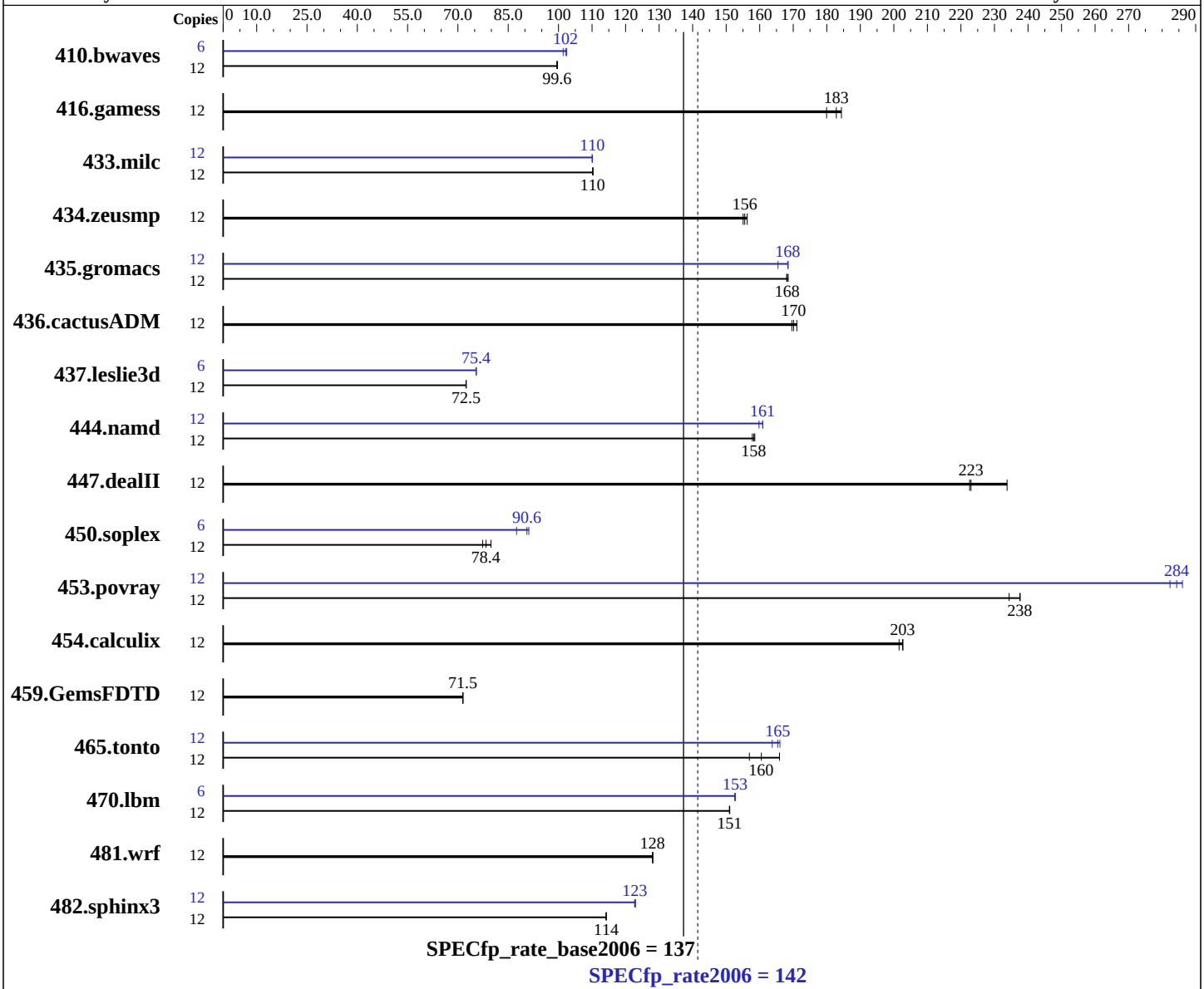
Servidor Itautec MX214 (Intel Xeon X5690)

SPECfp®_rate2006 = 142

SPECfp_rate_base2006 = 137

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

Test date: Aug-2011
Hardware Availability: Jul-2011
Software Availability: Jan-2011



Hardware

CPU Name:	Intel Xeon X5690
CPU Characteristics:	Intel Turbo Boost Technology up to 3.73 GHz
CPU MHz:	3467
FPU:	Integrated
CPU(s) enabled:	6 cores, 1 chip, 6 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 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.2 Build 20110112
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 500 GB SATA-2, 7200 RPM
Other Hardware: None

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	12	1635	99.7	**1637**	**99.6**	1639	99.5	6	796	102	**798**	**102**	804	101
416.gamess	12	**1285**	**183**	1274	184	1306	180	12	**1285**	**183**	1274	184	1306	180
433.milc	12	999	110	**999**	**110**	999	110	12	1000	110	**1000**	**110**	1001	110
434.zeusmp	12	699	156	**702**	**156**	704	155	12	699	156	**702**	**156**	704	155
435.gromacs	12	**509**	**168**	508	168	510	168	12	509	168	**509**	**168**	518	165
436.cactusADM	12	846	170	**843**	**170**	838	171	12	846	170	**843**	**170**	838	171
437.leslie3d	12	1556	72.5	**1557**	**72.5**	1558	72.4	6	**748**	**75.4**	747	75.5	748	75.4
444.namd	12	**608**	**158**	607	159	610	158	12	**598**	**161**	598	161	602	160
447.dealII	12	**616**	**223**	587	234	617	223	12	**616**	**223**	587	234	617	223
450.soplex	12	1294	77.4	**1277**	**78.4**	1253	79.9	6	572	87.5	**552**	**90.6**	549	91.2
453.povray	12	272	234	269	238	**269**	**238**	12	226	282	223	286	**225**	**284**
454.calculix	12	488	203	**489**	**203**	491	202	12	488	203	**489**	**203**	491	202
459.GemsFDTD	12	1783	71.4	1780	71.5	**1781**	**71.5**	12	1783	71.4	1780	71.5	**1781**	**71.5**
465.tonto	12	**736**	**160**	712	166	752	157	12	**714**	**165**	711	166	721	164
470.lbm	12	1091	151	**1092**	**151**	1092	151	6	540	153	**540**	**153**	540	153
481.wrf	12	1047	128	**1046**	**128**	1046	128	12	1047	128	**1046**	**128**	1046	128
482.sphinx3	12	2047	114	**2048**	**114**	2048	114	12	1906	123	**1905**	**123**	1902	123

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.
Large pages were not enabled for this run
```

Platform Notes

```
Data Reuse disabled in BIOS.
```

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 -ansi-alias
```

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

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

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

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) `-prof-use`(pass 2) `-static -auto-ilp32`

470.lbm: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2)
`-no-prec-div`(pass 2) `-prof-use`(pass 2) `-opt-malloc-options=3`
`-ansi-alias -opt-prefetch -static -auto-ilp32`

Continued on next page

Peak Optimization Flags (Continued)

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

C++ benchmarks:

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

447.dealII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto -inline-calloc -opt-malloc-options=3 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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) -prof-use(pass 2) -opt-prefetch -static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Itautec-Intel-Linux64-Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Itautec-Intel-Linux64-Platform.xml

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