SPEC® CFP2006 Result
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Itautec

Servidor Itautec MX223+ (Intel Xeon X5690)

$SPECfp®\_rate2006 = 140$

$SPECfp\_rate\_base2006 = 137$

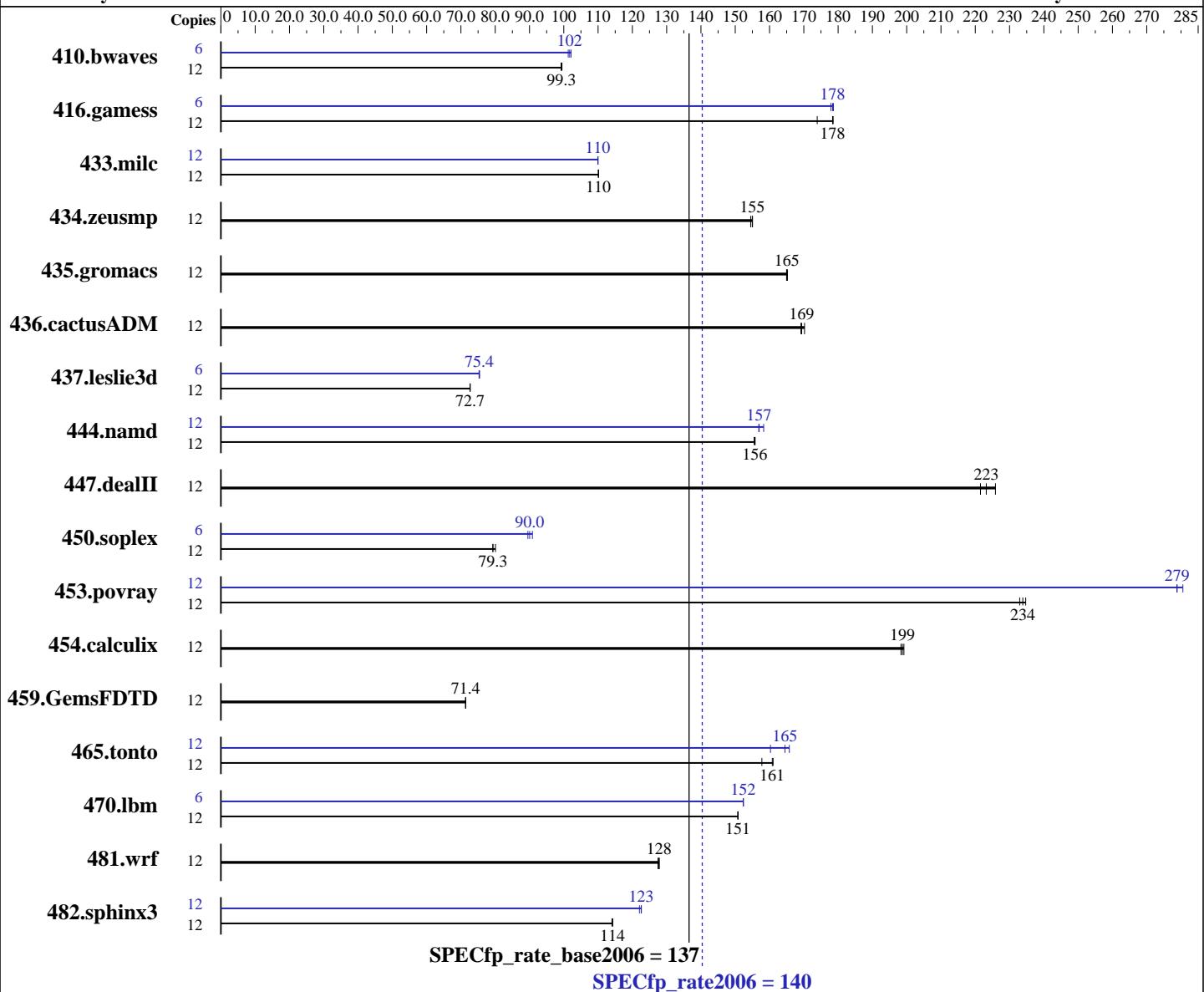**CPU2006 license:** 9001　　　　　　　　　　　　**Test date:** Aug-2011
Test sponsor: Itautec　　　　　　　　　　　**Hardware Availability:** Jul-2011
Tested by: Itautec　　　　　　　　　　　　**Software Availability:** Jan-2011

Benchmark	Copies	Result
410.bwaves	6	102
	12	99.3
416.gamess	6	178
	12	178
433.milc	12	110
	12	110
434.zeusmp	12	155
435.gromacs	12	165
436.cactusADM	12	169
437.leslie3d	6	75.4
	12	72.7
444.namd	12	157
	12	156
447.dealII	12	223
450.soplex	6	90.0
	12	79.3
453.povray	12	279
	12	234
454.calculix	12	199
459.GemsFDTD	12	71.4
465.tonto	12	165
	12	161
470.lbm	6	152
	12	151
481.wrf	12	128
482.sphinx3	12	123
	12	114

SPECfp_rate_base2006 = 137
SPECfp_rate2006 = 140

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

Continued on next page

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	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	None
Memory:	24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC)		
Disk Subsystem:	1 x 146 GB SAS, 15000 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	12	1640	99.5	**1642**	**99.3**	1644	99.2	6	798	102	**802**	**102**	805	101
416.gamess	12	**1317**	**178**	1351	174	1316	179	6	660	178	658	179	**659**	**178**
433.milc	12	**1001**	**110**	1000	110	1001	110	12	1001	110	**1002**	**110**	1002	110
434.zeusmp	12	707	155	**705**	**155**	704	155	12	707	155	**705**	**155**	704	155
435.gromacs	12	519	165	**519**	**165**	519	165	12	519	165	**519**	**165**	519	165
436.cactusADM	12	848	169	842	170	**847**	**169**	12	848	169	842	170	**847**	**169**
437.leslie3d	12	1552	72.7	**1552**	**72.7**	1552	72.7	6	**748**	**75.4**	749	75.3	748	75.4
444.namd	12	**618**	**156**	618	156	619	156	12	608	158	614	157	**613**	**157**
447.dealII	12	620	222	**615**	**223**	608	226	12	620	222	**615**	**223**	608	226
450.soplex	12	**1261**	**79.3**	1262	79.3	1250	80.1	6	559	89.5	**556**	**90.0**	551	90.8
453.povray	12	**273**	**234**	274	233	272	235	12	229	279	228	281	**229**	**279**
454.calculix	12	**498**	**199**	497	199	499	198	12	**498**	**199**	497	199	499	198
459.GemsFDTD	12	1783	71.4	**1784**	**71.4**	1784	71.4	12	1783	71.4	**1784**	**71.4**	1784	71.4
465.tonto	12	748	158	733	161	**734**	**161**	12	712	166	737	160	**718**	**165**
470.lbm	12	1093	151	**1093**	**151**	1094	151	6	541	152	541	152	**541**	**152**
481.wrf	12	**1049**	**128**	1049	128	1052	127	12	**1049**	**128**	1049	128	1052	127
482.sphinx3	12	2047	114	**2048**	**114**	2051	114	12	**1908**	**123**	1916	122	1907	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.

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General Notes

This result was measured on the Servidor Itautec MX224.
The Servidor Itautec MX203+, Servidor Itautec MX223+ and the Servidor Itautec MX224
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 -ansi-alias

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

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Base Optimization Flags (Continued)

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`

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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`

    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: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
        `-no-prec-div(pass 2) -prof-use(pass 2) -unroll2`
        `-inline-level=0 -scalar-rep- -static`

    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:

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Peak Optimization Flags (Continued)

435.gromacs: basepeak = yes

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/Itautec-Intel-Linux64-Platform.html
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html

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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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