SPEC® CFP2006 Result
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Itautec

Servidor Itautec LX204 (Intel Xeon X5670)

$SPECfp^®_rate2006 = $ 225

$SPECfp_rate_base2006 = $ 217

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

Test date: Dec-2010
Hardware Availability: Feb-2011
Software Availability: Apr-2010

Benchmark	Copies	Result
410.bwaves	24	181
416.gamess	24 / 24	283 / 283
433.milc	24 / 24	179 / 165
434.zeusmp	24	281
435.gromacs	24 / 24	274 / 272
436.cactusADM	24	256
437.leslie3d	12 / 24	135 / 130
444.namd	24 / 24	262 / 258
447.dealII	24	370
450.soplex	12 / 24	143 / 129
453.povray	24 / 24	457 / 379
454.calculix	24	343
459.GemsFDTD	24	119
465.tonto	24 / 24	278 / 266
470.lbm	12 / 24	133 / 125
481.wrf	24	186
482.sphinx3	24 / 24	225 / 214

SPECfp_rate_base2006 = 217

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Hardware

CPU Name:	Intel Xeon X5670
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 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 (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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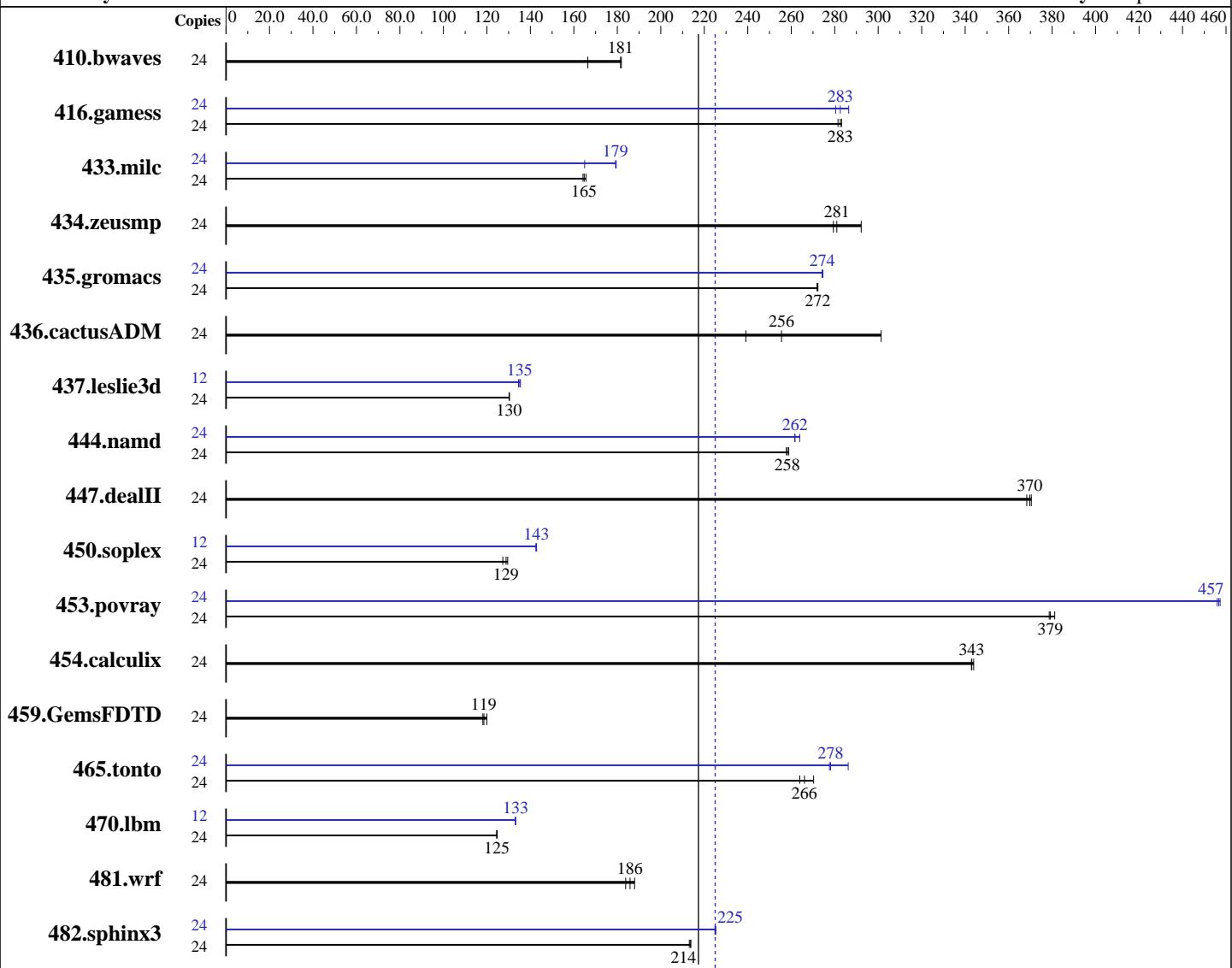|	
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L3 Cache:	12 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC)	Other Software:	Binutils 2.18.50.0.7.20080502
Disk Subsystem:	1 x 160 GB SATA-2, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1960	166	1793	182	**1797**	**181**	24	1960	166	1793	182	**1797**	**181**
416.gamess	24	1660	283	**1663**	**283**	1669	282	24	1641	286	1676	280	**1663**	**283**
433.milc	24	1342	164	**1337**	**165**	1331	166	24	1336	165	1227	179	**1230**	**179**
434.zeusmp	24	747	292	782	279	**777**	**281**	24	747	292	782	279	**777**	**281**
435.gromacs	24	630	272	**630**	**272**	629	272	24	**625**	**274**	624	275	625	274
436.cactusADM	24	1199	239	**1122**	**256**	952	301	24	1199	239	**1122**	**256**	952	301
437.leslie3d	24	1730	130	**1732**	**130**	1733	130	12	838	135	**835**	**135**	833	135
444.namd	24	744	259	**745**	**258**	747	258	24	736	262	**735**	**262**	729	264
447.dealII	24	745	368	741	370	**743**	**370**	24	745	368	741	370	**743**	**370**
450.soplex	24	1545	130	**1554**	**129**	1572	127	12	702	143	**701**	**143**	700	143
453.povray	24	**337**	**379**	335	381	337	379	24	279	457	280	456	**280**	**457**
454.calculix	24	576	344	577	343	**577**	**343**	24	576	344	577	343	**577**	**343**
459.GemsFDTD	24	2123	120	2155	118	**2147**	**119**	24	2123	120	2155	118	**2147**	**119**
465.tonto	24	**887**	**266**	874	270	895	264	24	851	278	825	286	**849**	**278**
470.lbm	24	2644	125	2649	124	**2646**	**125**	12	1238	133	**1238**	**133**	1239	133
481.wrf	24	1458	184	1426	188	**1442**	**186**	24	1458	184	1426	188	**1442**	**186**
482.sphinx3	24	**2189**	**214**	2188	214	2195	213	24	2076	225	2080	225	**2078**	**225**

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 LX203.
    The Servidor Itautec LX203, the Servidor Itautec LX213 and the Servidor Itautec LX204 are electronically equivalent.
```

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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
```

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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`

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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: basepeak = yes

    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: basepeak = yes

    416.gamess: -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 -ansi-alias -scalar-rep-

    434.zeusmp: basepeak = yes

    437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static

  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) -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

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The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20101123.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20101123.xml

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