SPEC® CFP2006 Result

Itautec

$SPECfp^{®}\_rate2006 = 363$

Servidor Itautec MX225 (Intel Xeon E5-2630)

$SPECfp\_rate\_base2006 = 355$

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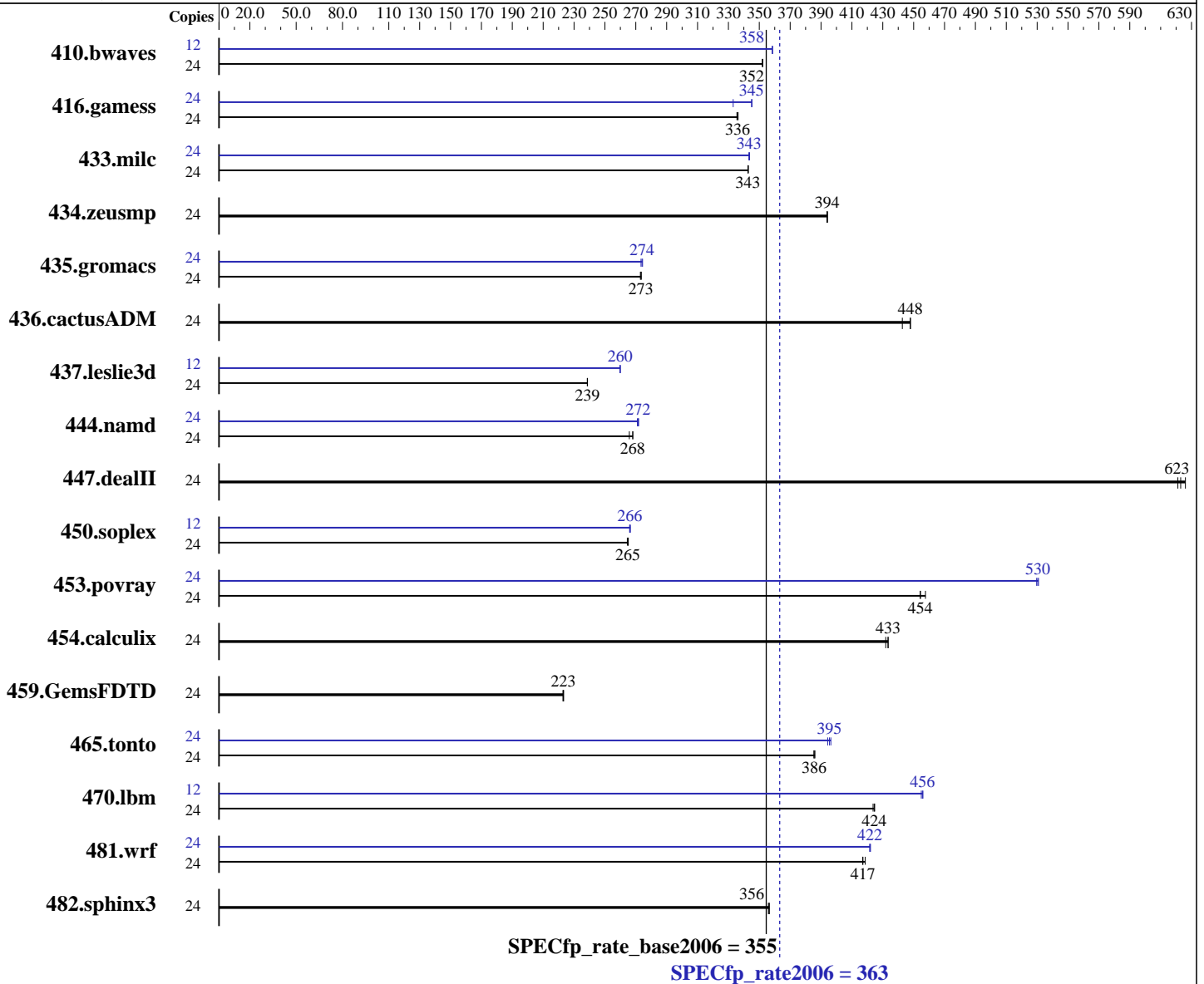**Test sponsor:** Itautec
Tested by: Itautec

Test date: Jan-2013
Hardware Availability: Jun-2012
Software Availability: Jun-2012

Benchmark	Copies	Result
410.bwaves	12	358
	24	352
416.gamess	24	345
	24	336
433.milc	24	343
	24	343
434.zeusmp	24	394
435.gromacs	24	274
	24	273
436.cactusADM	24	448
437.leslie3d	12	260
	24	239
444.namd	24	272
	24	268
447.dealII	24	623
450.soplex	12	266
	24	265
453.povray	24	530
	24	454
454.calculix	24	433
459.GemsFDTD	24	223
465.tonto	24	395
	24	386
470.lbm	12	456
	24	424
481.wrf	24	422
	24	417
482.sphinx3	24	356

SPECfp_rate_base2006 = 355

SPECfp_rate2006 = 363

Hardware

CPU Name: Intel Xeon E5-2630
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2300
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: Red Hat Enterprise Linux Server release 6.3 2.6.32-279.el6.x86_64
Compiler: C/C++/Fortran: Version 12.1.0 of Intel Compiler XE Build 20111011
Auto Parallel: No
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit

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L3 Cache:	15 MB I+D on chip per chip	Other Software:	None
Other Cache:	None		
Memory:	64 GB (16 x 4 GB 2Rx4 PC3-10600R-9, ECC)		
Disk Subsystem:	1 TB, SATA-3, 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	**926**	**352**	926	352	927	352	12	**455**	**358**	455	359	455	358
416.gamess	24	1398	336	1401	336	**1399**	**336**	24	1411	333	**1362**	**345**	1361	345
433.milc	24	**643**	**343**	643	343	642	343	24	641	344	642	343	**642**	**343**
434.zeusmp	24	554	394	555	394	**554**	**394**	24	554	394	555	394	**554**	**394**
435.gromacs	24	**627**	**273**	626	274	628	273	24	627	273	**625**	**274**	625	274
436.cactusADM	24	**640**	**448**	640	448	648	443	24	**640**	**448**	640	448	648	443
437.leslie3d	24	945	239	**945**	**239**	946	239	12	**434**	**260**	434	260	434	260
444.namd	24	**718**	**268**	718	268	724	266	24	710	271	708	272	**709**	**272**
447.dealII	24	**441**	**623**	439	626	442	621	24	**441**	**623**	439	626	442	621
450.soplex	24	**755**	**265**	755	265	757	265	12	376	267	376	266	**376**	**266**
453.povray	24	279	458	281	454	**281**	**454**	24	**241**	**530**	241	530	241	531
454.calculix	24	**457**	**433**	458	432	457	433	24	**457**	**433**	458	432	457	433
459.GemsFDTD	24	**1141**	**223**	1141	223	1143	223	24	**1141**	**223**	1141	223	1143	223
465.tonto	24	**612**	**386**	612	386	613	385	24	596	396	**597**	**395**	599	394
470.lbm	24	778	424	**777**	**424**	776	425	12	362	455	362	456	**362**	**456**
481.wrf	24	640	419	643	417	**643**	**417**	24	636	422	**636**	**422**	635	422
482.sphinx3	24	**1313**	**356**	1312	356	1314	356	24	**1313**	**356**	1312	356	1314	356

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

     Sysinfo program /home/rcaneca/cpu2006/Docs/sysinfo
     $Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
     running on mx225 Sat Jan 12 00:49:13 2013

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Hardware Availability: Jun-2012
Software Availability: Jun-2012

Platform Notes (Continued)

```
This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Genuine Intel(R) CPU @ 2.30GHz
   model name : Intel(R) Xeon(R) CPU E5-2630 0 @ 2.30GHz
      2 "physical id"s (chips)
     24 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 6
      siblings  : 12
      physical 0: cores 0 1 2 3 4 5
      physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
   MemTotal:       65917564 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.3 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux mx225 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36 EDT 2012 x86_64
   x86_64 x86_64 GNU/Linux

run-level 3 Jan 11 11:13

SPEC is set to: /home/rcaneca/cpu2006
   Filesystem    Type    Size  Used Avail Use% Mounted on
   /dev/mapper/vg_mx225-lv_home
                 ext4    836G  2.1G  791G   1% /home

(End of data from sysinfo program)
```

General Notes

```
This result was measured on the Servidor Itautec MX225.
The Servidor Itautec MX215 and the Servidor Itautec MX225
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:
```
    -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
    -ansi-alias -opt-mem-layout-trans=3
```

C++ benchmarks:
```
    -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
    -ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:
```
    -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch
```

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

Test date: Jan-2013
Hardware Availability: Jun-2012
Software Availability: Jun-2012

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Peak Compiler Invocation

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

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
   482.sphinx3: -DSPEC_CPU_LP64
```

Peak Optimization Flags

C benchmarks:

Itautec

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CPU2006 license: 9001
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Software Availability: Jun-2012

Peak Optimization Flags (Continued)

```
 433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
           -opt-mem-layout-trans=3

 470.lbm: -xAVX(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 -auto-ilp32
          -opt-mem-layout-trans=3

 482.sphinx3: basepeak = yes
```

C++ benchmarks:

```
 444.namd: -xAVX(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: -xAVX(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

 453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
             -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
```

Fortran benchmarks:

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

 416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
             -no-prec-div(pass 2) -unroll2 -inline-level=0 -scalar-rep-
             -static

 434.zeusmp: basepeak = yes

 437.leslie3d: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch

 459.GemsFDTD: basepeak = yes

 465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -unroll4 -auto -inline-calloc
            -opt-malloc-options=3
```

Benchmarks using both Fortran and C:

```
 435.gromacs: -xAVX(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 -opt-mem-layout-trans=3
```

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Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32
-opt-mem-layout-trans=3

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Itautec-Servidor_Itautec-Intel-Linux-Platform.html
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Itautec-Servidor_Itautec-Intel-Linux-Platform.xml
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml

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

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