



SPEC® CFP2006 Result

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Itaotec

SPECfp®_rate2006 = 363

Servidor Itaotec MX215 (Intel Xeon E5-2630)

SPECfp_rate_base2006 = 355

CPU2006 license: 9001

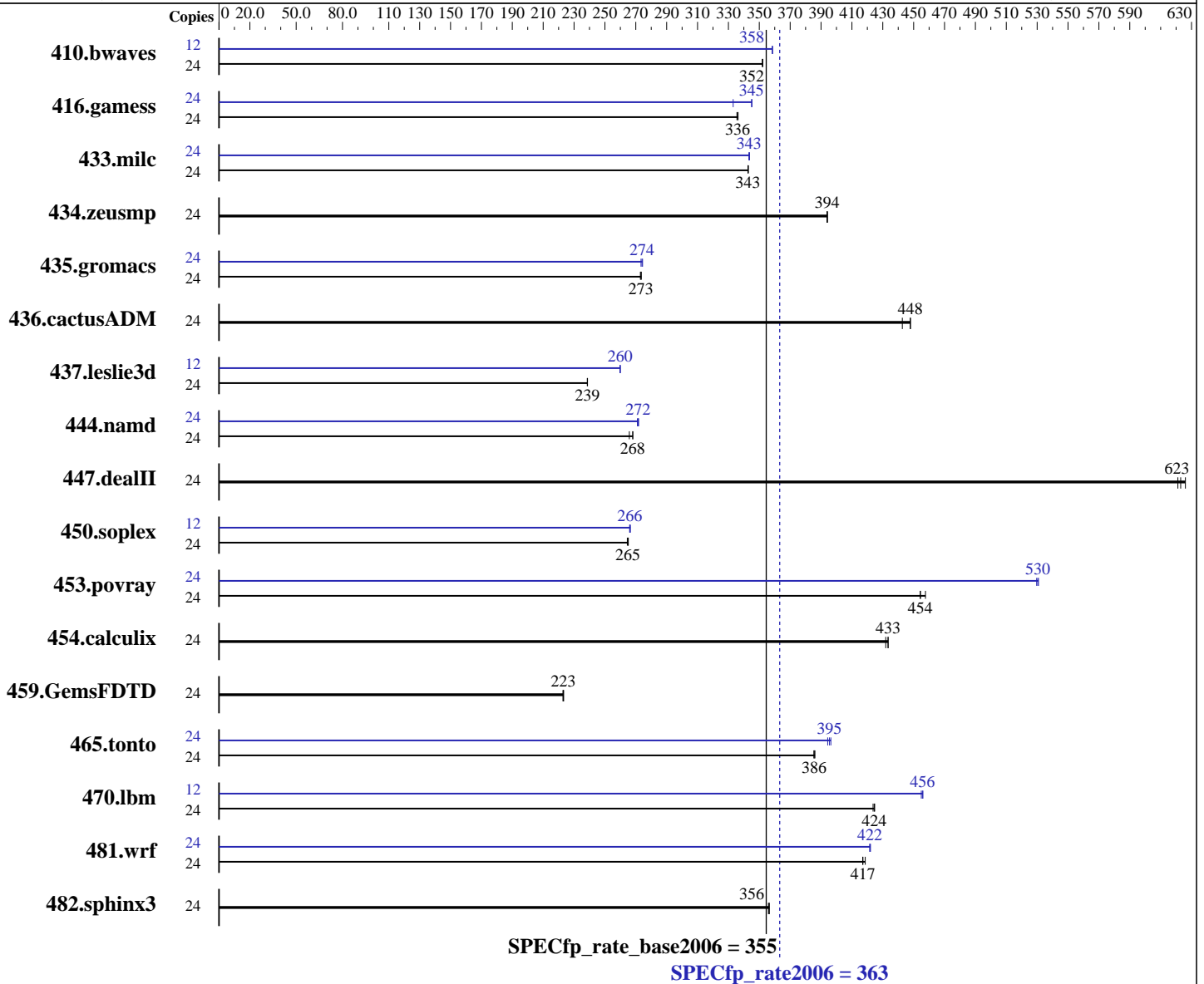
Test date: Jan-2013

Test sponsor: Itaotec

Hardware Availability: Jun-2012

Tested by: Itaotec

Software Availability: Jun-2012



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

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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 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

Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	<u>926</u>	<u>352</u>	926	352	927	352	12	<u>455</u>	<u>358</u>	455	359	455	358
416.gamess	24	1398	336	1401	336	<u>1399</u>	<u>336</u>	24	1411	333	<u>1362</u>	<u>345</u>	1361	345
433.milc	24	<u>643</u>	<u>343</u>	643	343	642	343	24	641	344	642	343	<u>642</u>	<u>343</u>
434.zeusmp	24	554	394	555	394	<u>554</u>	<u>394</u>	24	554	394	555	394	<u>554</u>	<u>394</u>
435.gromacs	24	<u>627</u>	<u>273</u>	626	274	628	273	24	627	273	<u>625</u>	<u>274</u>	625	274
436.cactusADM	24	<u>640</u>	<u>448</u>	640	448	648	443	24	<u>640</u>	<u>448</u>	640	448	648	443
437.leslie3d	24	945	239	<u>945</u>	<u>239</u>	946	239	12	<u>434</u>	<u>260</u>	434	260	434	260
444.namd	24	<u>718</u>	<u>268</u>	718	268	724	266	24	710	271	708	272	<u>709</u>	<u>272</u>
447.dealII	24	<u>441</u>	<u>623</u>	439	626	442	621	24	<u>441</u>	<u>623</u>	439	626	442	621
450.soplex	24	<u>755</u>	<u>265</u>	755	265	757	265	12	376	267	376	266	<u>376</u>	<u>266</u>
453.povray	24	279	458	281	454	<u>281</u>	<u>454</u>	24	<u>241</u>	<u>530</u>	241	530	241	531
454.calculix	24	<u>457</u>	<u>433</u>	458	432	457	433	24	<u>457</u>	<u>433</u>	458	432	457	433
459.GemsFDTD	24	<u>1141</u>	<u>223</u>	1141	223	1143	223	24	<u>1141</u>	<u>223</u>	1141	223	1143	223
465.tonto	24	<u>612</u>	<u>386</u>	612	386	613	385	24	596	396	<u>597</u>	<u>395</u>	599	394
470.lbm	24	778	424	<u>777</u>	<u>424</u>	776	425	12	362	455	362	456	<u>362</u>	<u>456</u>
481.wrf	24	640	419	643	417	<u>643</u>	<u>417</u>	24	636	422	<u>636</u>	<u>422</u>	635	422
482.sphinx3	24	<u>1313</u>	<u>356</u>	1312	356	1314	356	24	<u>1313</u>	<u>356</u>	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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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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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:

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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/Itaotec-Servidor_Itaotec-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/Itaotec-Servidor_Itaotec-Intel-Linux-Platform.xml
<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

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Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 14:46:22 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 January 2013.