



# SPEC® CFP2006 Result

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**Itautec**

**SPECfp®\_rate2006 = 315**

Servidor Itautec MP225 (Intel Xeon E5-2630L)

**SPECfp\_rate\_base2006 = 308**

**CPU2006 license:** 9001

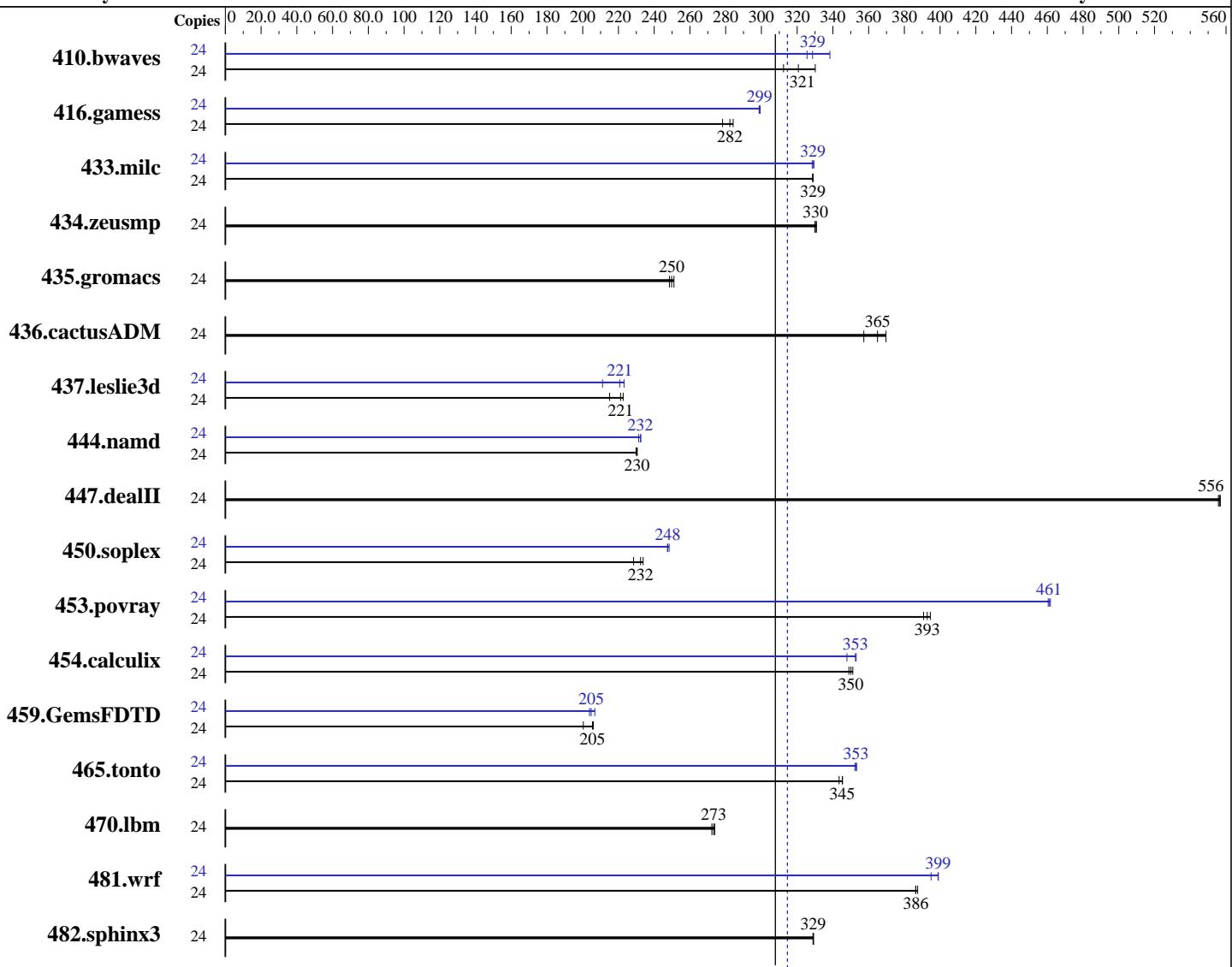
**Test date:** Sep-2012

**Test sponsor:** Itautec

**Hardware Availability:** Jun-2012

**Tested by:** Itautec

**Software Availability:** Dec-2011



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## Hardware

CPU Name: Intel Xeon E5-2630L  
CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz  
CPU MHz: 2000  
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

## Software

Operating System: Red Hat Enterprise Linux Server Release 6.2, 2.6.32-279.el6.x86\_64  
Compiler: C/C++/Fortran: Version 12.1.0 of Intel Compiler XE Build 2011011  
Auto Parallel: No  
File System: ext4  
System State: Run level 3 (multi-user)  
Base Pointers: 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: 32 GB (8 x 4 GB 2Rx4 PC3-10600R-9, ECC)  
 Disk Subsystem: 2 x 146 GB, SAS, 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	988	330	<b>1017</b>	<b>321</b>	1044	312	24	<b>992</b>	<b>329</b>	964	338	1002	326
416.gamess	24	<b>1664</b>	<b>282</b>	1654	284	1689	278	24	1570	299	<b>1572</b>	<b>299</b>	1573	299
433.milc	24	670	329	670	329	<b>670</b>	<b>329</b>	24	669	329	<b>670</b>	<b>329</b>	671	328
434.zeusmp	24	662	330	<b>661</b>	<b>330</b>	660	331	24	662	330	<b>661</b>	<b>330</b>	660	331
435.gromacs	24	689	249	<b>686</b>	<b>250</b>	683	251	24	689	249	<b>686</b>	<b>250</b>	683	251
436.cactusADM	24	<b>786</b>	<b>365</b>	803	357	776	370	24	<b>786</b>	<b>365</b>	803	357	776	370
437.leslie3d	24	1049	215	1013	223	<b>1020</b>	<b>221</b>	24	1069	211	1011	223	<b>1022</b>	<b>221</b>
444.namd	24	837	230	<b>835</b>	<b>230</b>	835	230	24	832	231	<b>828</b>	<b>232</b>	828	233
447.dealII	24	494	556	<b>494</b>	<b>556</b>	493	557	24	494	556	<b>494</b>	<b>556</b>	493	557
450.soplex	24	876	228	856	234	<b>861</b>	<b>232</b>	24	806	248	<b>809</b>	<b>248</b>	809	247
453.povray	24	327	391	324	395	<b>325</b>	<b>393</b>	24	277	462	<b>277</b>	<b>461</b>	277	460
454.calculix	24	564	351	567	349	<b>566</b>	<b>350</b>	24	561	353	569	348	<b>562</b>	<b>353</b>
459.GemsFDTD	24	1271	200	<b>1239</b>	<b>205</b>	1236	206	24	1232	207	<b>1244</b>	<b>205</b>	1249	204
465.tonto	24	<b>684</b>	<b>345</b>	688	343	684	345	24	<b>669</b>	<b>353</b>	670	352	668	353
470.lbm	24	1211	272	<b>1207</b>	<b>273</b>	1204	274	24	1211	272	<b>1207</b>	<b>273</b>	1204	274
481.wrf	24	694	386	692	387	<b>694</b>	<b>386</b>	24	672	399	679	395	<b>672</b>	<b>399</b>
482.sphinx3	24	<b>1422</b>	<b>329</b>	1421	329	1422	329	24	<b>1422</b>	<b>329</b>	1421	329	1422	329

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/rccaneca/cpu2006/Docs/sysinfo  
 \$Rev: 6775 \$ \$Date::: 2011-08-16 #\\$ 8787f7622badcf24e01c368b1db4377c  
 running on mp225 Sat Sep 22 19:07:05 2012

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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 : Intel(R) Xeon(R) CPU E5-2630L 0 @ 2.00GHz
        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:      32850356 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 mp225 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 Sep 22 03:57
```

```
SPEC is set to: /home/rccaneca/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/vg_mp225-lv_home
                  ext4   67G   2.1G   62G   4%  /home
```

(End of data from sysinfo program)

## Base Compiler Invocation

C benchmarks:

icc -m64

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## Base Compiler Invocation (Continued)

C++ benchmarks:

icpc -m64

Fortran benchmarks:

fort -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 -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3



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Tested by: Itaute

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## 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  
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:

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  
-opt-mem-layout-trans=3

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

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## Peak Optimization Flags (Continued)

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

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/libhugetlbfss/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfss-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 -static -opt-prefetch  
-B /usr/share/libhugetlbfss/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfss-link=BDT

459.GemsFDTD: -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/libhugetlbfss/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfss-link=BDT

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/libhugetlbfss/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfss-link=BDT

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xsse4.2 -ipo -O3 -no-prec-div -static -auto-ilp32  
-opt-mem-layout-trans=3  
-B /usr/share/libhugetlbfss/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfss-link=BDT

481.wrf: -xsse4.2 -ipo -O3 -no-prec-div -static -auto-ilp32  
-opt-mem-layout-trans=3



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

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