# SPEC® CINT2006 Result

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## Itautec

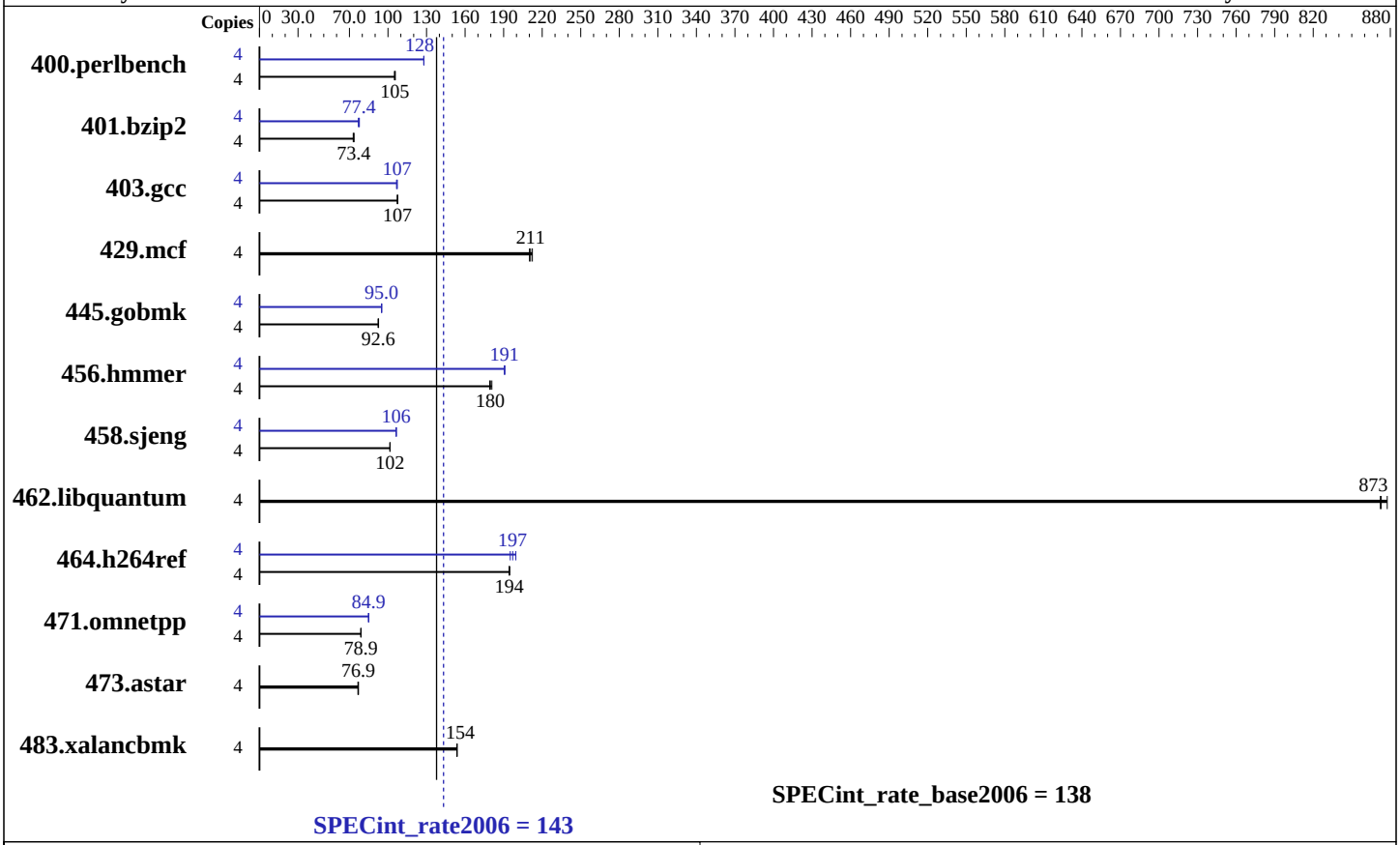
## Servidor Itautec LX105 (Intel Xeon E3-1220)

**SPECint®_rate2006 = 143**

**SPECint_rate_base2006 = 138**

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

**Test date:** Mar-2012
**Hardware Availability:** Jun-2012
**Software Availability:** Dec-2011




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E3-1220 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.40 GHz |
| CPU MHz: | 3100 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 4 cores/chip |
| CPU(s) orderable: | 1 chip |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |
| L3 Cache: | 8 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 8 GB (4 x 2 GB 2Rx8 PC3-10600U-9, ECC) |
| Disk Subsystem: | 500 GB, SATA-2, 7200 RPM |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server Release 6.2, 2.6.32-220.el6.x86_64 |
| Compiler: | C/C++: 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-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V8.1 |

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## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 4 | 370 | 106 | 372 | 105 | **371** | **105** | 4 | 305 | 128 | 306 | 128 | **305** | **128** |
| 401.bzip2 | 4 | 529 | 72.9 | 525 | 73.6 | **526** | **73.4** | 4 | 497 | 77.7 | 502 | 76.9 | **499** | **77.4** |
| 403.gcc | 4 | 299 | 108 | 300 | 107 | **300** | **107** | 4 | 302 | 107 | **301** | **107** | 300 | 107 |
| 429.mcf | 4 | 174 | 210 | **173** | **211** | 172 | 212 | 4 | 174 | 210 | **173** | **211** | 172 | 212 |
| 445.gobmk | 4 | 455 | 92.3 | 453 | 92.7 | **453** | **92.6** | 4 | **442** | **95.0** | 442 | 95.0 | 441 | 95.1 |
| 456.hmmer | 4 | 208 | 179 | **208** | **180** | 206 | 181 | 4 | 196 | 191 | 195 | 191 | **196** | **191** |
| 458.sjeng | 4 | **477** | **102** | 477 | 102 | 476 | 102 | 4 | 455 | 106 | 455 | 106 | **455** | **106** |
| 462.libquantum | 4 | **94.9** | **873** | 95.0 | 872 | 94.4 | 878 | 4 | **94.9** | **873** | 95.0 | 872 | 94.4 | 878 |
| 464.h264ref | 4 | 454 | 195 | **455** | **194** | 456 | 194 | 4 | **449** | **197** | 454 | 195 | 444 | 199 |
| 471.omnetpp | 4 | 317 | 78.9 | **317** | **78.9** | 317 | 79.0 | 4 | **294** | **84.9** | 294 | 85.0 | 295 | 84.8 |
| 473.astar | 4 | **365** | **76.9** | 365 | 77.0 | 367 | 76.6 | 4 | **365** | **76.9** | 365 | 77.0 | 367 | 76.6 |
| 483.xalancbmk | 4 | 179 | 154 | 180 | 154 | **180** | **154** | 4 | 179 | 154 | 180 | 154 | **180** | **154** |

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
```

## Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

C++ benchmarks:

```
icpc -m32
```

## Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

## Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/home/rcaneca/sh/SmartHeap_8.1/lib -lsmartheap
```

## Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -m32`

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:
`icpc -m32`

## Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

## Peak Optimization Flags

C benchmarks:

Continued on next page

## Peak Optimization Flags (Continued)

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32

401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xAVX -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/home/rcaneca/sh/SmartHeap_8.1/lib -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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

You can also download the XML flags sources by saving the following links:

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


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