# SPEC® CINT2006 Result

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## Itautec

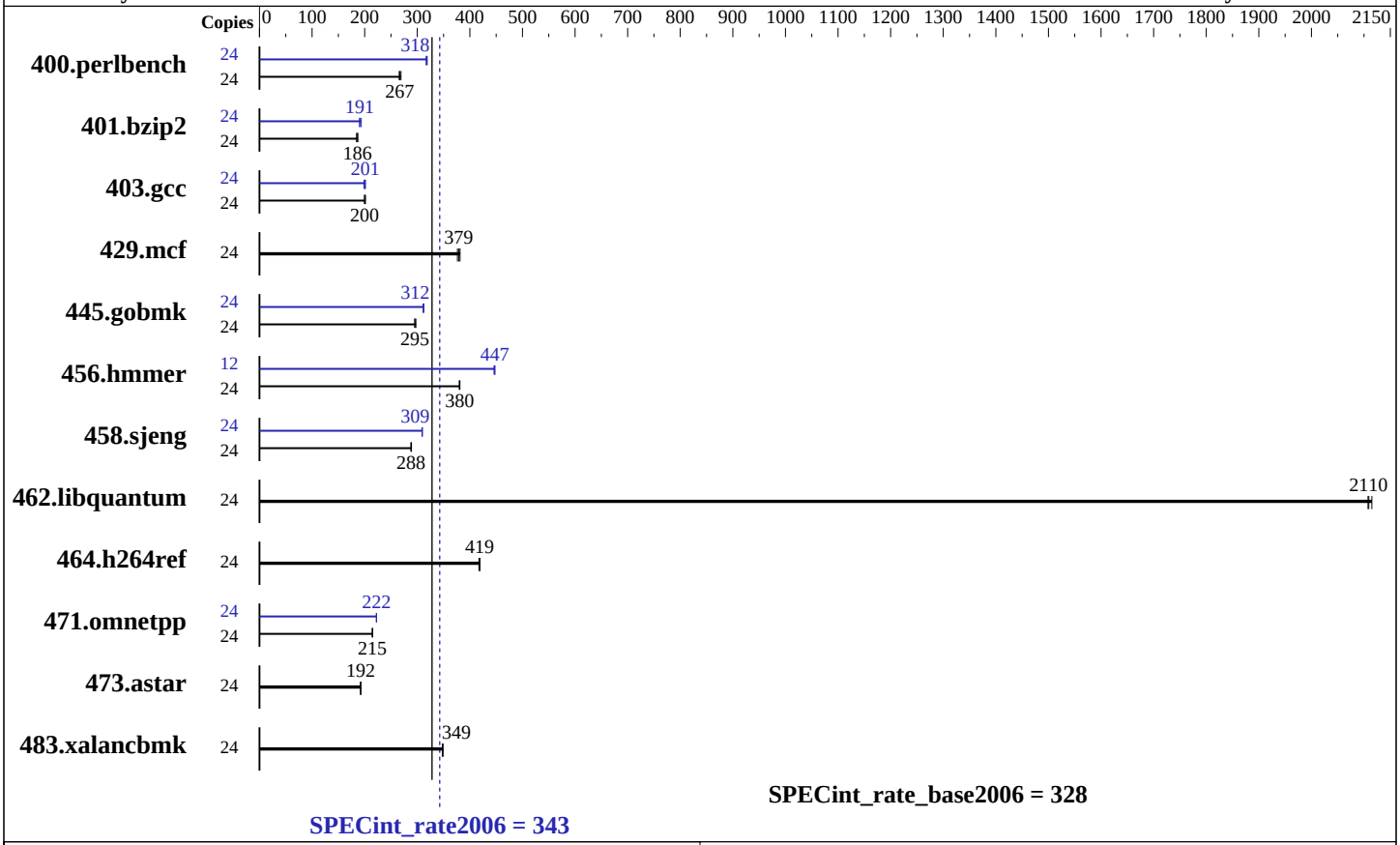
## Servidor Itautec MX223+ (Intel Xeon E5649)

**SPECint®_rate2006 = 343**

**SPECint_rate_base2006 = 328**

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

**Test date:** Apr-2012
**Hardware Availability:** Jul-2011
**Software Availability:** Dec-2011




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5649 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.93 GHz |
| CPU MHz: | 2533 |
| 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 |
| L3 Cache: | 12 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC) |
| Disk Subsystem: | 2 x 146 GB, SAS, 15000 RPM, RAID 0 |
| 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 | 24 | 871 | 269 | 883 | 266 | **880** | **267** | 24 | 740 | 317 | 735 | 319 | **738** | **318** |
| 401.bzip2 | 24 | 1256 | 184 | **1243** | **186** | 1239 | 187 | 24 | 1197 | 194 | 1218 | 190 | **1215** | **191** |
| 403.gcc | 24 | **966** | **200** | 968 | 200 | 959 | 202 | 24 | 960 | 201 | **961** | **201** | 973 | 199 |
| 429.mcf | 24 | 582 | 376 | 574 | 381 | **577** | **379** | 24 | 582 | 376 | 574 | 381 | **577** | **379** |
| 445.gobmk | 24 | **852** | **295** | 853 | 295 | 847 | 297 | 24 | **808** | **312** | 809 | 311 | 806 | 312 |
| 456.hmmer | 24 | **589** | **380** | 588 | 381 | 589 | 380 | 12 | **250** | **447** | 251 | 446 | 250 | 448 |
| 458.sjeng | 24 | 1005 | 289 | **1007** | **288** | 1009 | 288 | 24 | 938 | 310 | 940 | 309 | **939** | **309** |
| 462.libquantum | 24 | **236** | **2110** | 236 | 2110 | 235 | 2110 | 24 | **236** | **2110** | 236 | 2110 | 235 | 2110 |
| 464.h264ref | 24 | **1269** | **419** | 1273 | 417 | 1268 | 419 | 24 | **1269** | **419** | 1273 | 417 | 1268 | 419 |
| 471.omnetpp | 24 | **698** | **215** | 699 | 215 | 698 | 215 | 24 | **675** | **222** | 675 | 222 | 674 | 223 |
| 473.astar | 24 | **876** | **192** | 876 | 192 | 876 | 192 | 24 | **876** | **192** | 876 | 192 | 876 | 192 |
| 483.xalancbmk | 24 | 476 | 348 | **475** | **349** | 475 | 349 | 24 | 476 | 348 | **475** | **349** | 475 | 349 |

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

```
Data Reuse disabled in BIOS.
DCU Prefetcher disabled in BIOS.
```

## General Notes

```
This result was measured on the Servidor Itautec MX224.
The Servidor Itautec MX203+, Servidor Itautec MX223+ and the Servidor Itautec MX224
are electronically equivalent.
```

## Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

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## Base Compiler Invocation (Continued)

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:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -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:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

401.bzip2: -xSSE4.2(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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -auto-ilp32

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

458.sjeng: -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-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xSSE4.2(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

Continued on next page

## Peak Optimization Flags (Continued)

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/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`


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For other inquiries, please contact webmaster@spec.org.

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