# SPEC® CINT2006 Result

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## Itautec

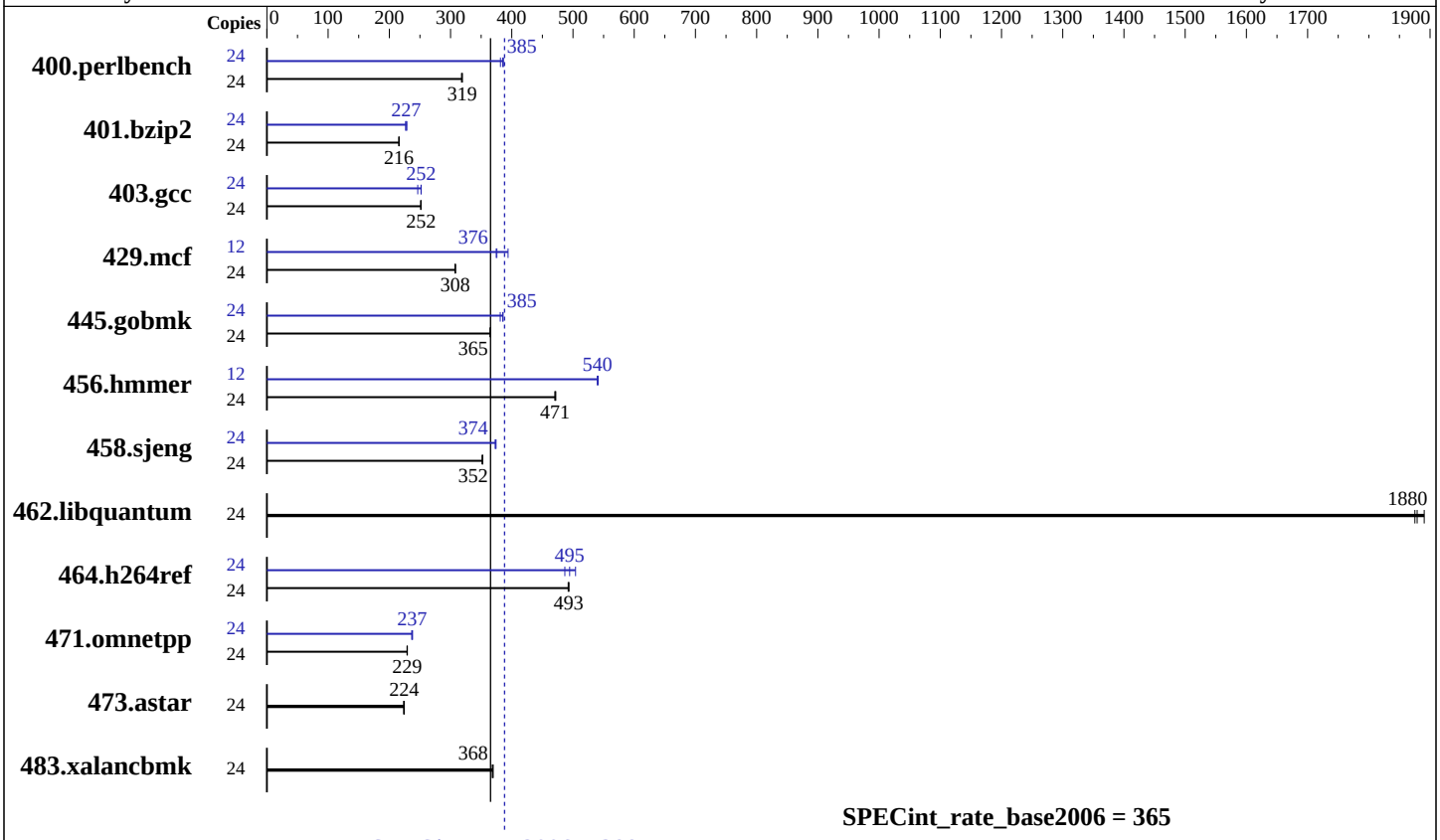
## Servidor Itautec MX214 (Intel Xeon X5670)

**SPECint®_rate2006 = 388**

**SPECint_rate_base2006 = 365**

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

**Test date:** Jun-2011
**Hardware Availability:** Apr-2011
**Software Availability:** Jan-2011




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5670 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.33 GHz |
| CPU MHz: | 2933 |
| 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: | 1 x 500 GB SATA-2, 7200 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default |
| Compiler: | Intel C++ Compiler XE for applications running on IA-32 Version 12.0.2 Build 20110112 |
| Auto Parallel: | No |
| File System: | ext3 |
| 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 | 734 | 319 | 738 | 318 | **735** | **319** | 24 | 615 | 382 | **609** | **385** | 607 | 386 |
| 401.bzip2 | 24 | **1073** | **216** | 1073 | 216 | 1074 | 216 | 24 | **1019** | **227** | 1022 | 227 | 1013 | 229 |
| 403.gcc | 24 | 767 | 252 | 769 | 251 | **768** | **252** | 24 | 766 | 252 | **767** | **252** | 784 | 246 |
| 429.mcf | 24 | 713 | 307 | **711** | **308** | 710 | 308 | 12 | 292 | 375 | **291** | **376** | 278 | 394 |
| 445.gobmk | 24 | 689 | 365 | **690** | **365** | 690 | 365 | 24 | **654** | **385** | 652 | 386 | 660 | 381 |
| 456.hmmer | 24 | **476** | **471** | 476 | 471 | 474 | 472 | 12 | 207 | 541 | **207** | **540** | 207 | 540 |
| 458.sjeng | 24 | **825** | **352** | 826 | 351 | 823 | 353 | 24 | 776 | 374 | 779 | 373 | **777** | **374** |
| 462.libquantum | 24 | 263 | 1890 | 265 | 1880 | **265** | **1880** | 24 | 263 | 1890 | 265 | 1880 | **265** | **1880** |
| 464.h264ref | 24 | **1077** | **493** | 1077 | 493 | 1079 | 492 | 24 | 1053 | 504 | **1074** | **495** | 1091 | 487 |
| 471.omnetpp | 24 | 654 | 229 | 655 | 229 | **655** | **229** | 24 | **632** | **237** | 630 | 238 | 634 | 237 |
| 473.astar | 24 | 750 | 225 | 754 | 223 | **752** | **224** | 24 | 750 | 225 | 754 | 223 | **752** | **224** |
| 483.xalancbmk | 24 | **449** | **368** | 449 | 368 | 448 | 370 | 24 | **449** | **368** | 449 | 368 | 448 | 370 |

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.
```

# 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:
`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch`
`-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

C++ benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs`
`-L/home/rcaneca/sh/SmartHeap_8.1/lib -lsmartheap`
`-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

## 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`

Continued on next page

## Peak Portability Flags (Continued)

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
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

429.mcf: -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 -auto-ilp32

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: -xSSE4.2(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: -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

Continued on next page

## Peak Optimization Flags (Continued)

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-ic12.0-linux64-revB.html`
`http://www.spec.org/cpu2006/flags/Itautec-Intel-Linux64-Platform.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml`
`http://www.spec.org/cpu2006/flags/Itautec-Intel-Linux64-Platform.xml`


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

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