



# SPEC<sup>®</sup> CINT2006 Result

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## Itautec

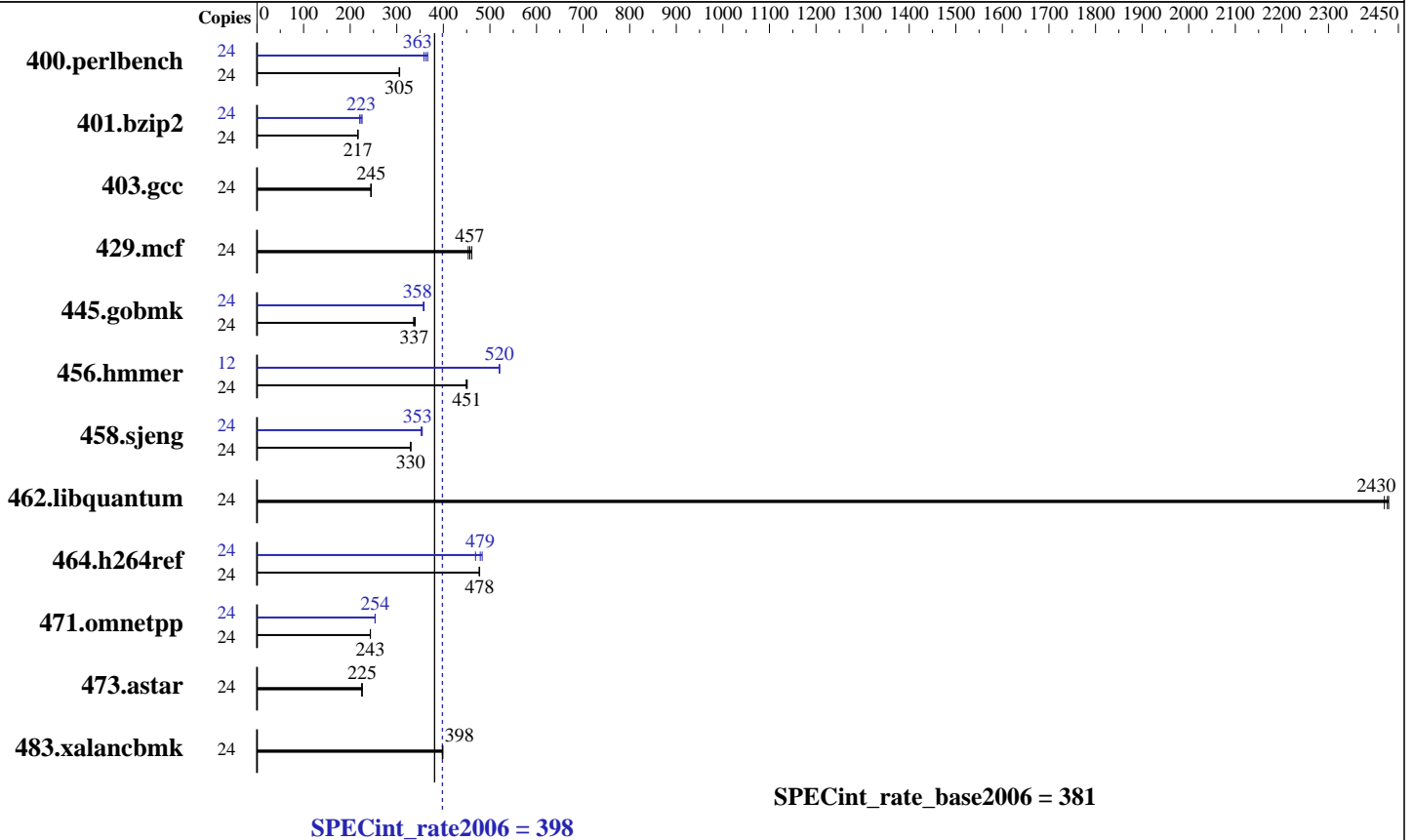
SPECint<sup>®</sup>\_rate2006 = 398

### Servidor Itautec MX214 (Intel Xeon X5670)

SPECint\_rate\_base2006 = 381

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

Test date: Jan-2012  
Hardware Availability: Jul-2011  
Software Availability: Dec-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: 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     | <b>768</b> | <b>305</b> | 768        | 305         | 766         | 306        | 24     | 654        | 359        | <b>646</b> | <b>363</b>  | 640         | 366        |
| 401.bzip2      | 24     | 1070       | 216        | 1068       | 217         | <b>1069</b> | <b>217</b> | 24     | 1027       | 226        | 1051       | 220         | <b>1037</b> | <b>223</b> |
| 403.gcc        | 24     | <b>788</b> | <b>245</b> | 788        | 245         | 791         | 244        | 24     | <b>788</b> | <b>245</b> | 788        | 245         | 791         | 244        |
| 429.mcf        | 24     | <b>479</b> | <b>457</b> | 475        | 461         | 483         | 453        | 24     | <b>479</b> | <b>457</b> | 475        | 461         | 483         | 453        |
| 445.gobmk      | 24     | 749        | 336        | <b>747</b> | <b>337</b>  | 741         | 340        | 24     | 706        | 357        | 702        | 359         | <b>703</b>  | <b>358</b> |
| 456.hammer     | 24     | 499        | 449        | 496        | 451         | <b>497</b>  | <b>451</b> | 12     | 215        | 521        | 215        | 520         | <b>215</b>  | <b>520</b> |
| 458.sjeng      | 24     | <b>880</b> | <b>330</b> | 881        | 330         | 879         | 330        | 24     | <b>822</b> | <b>353</b> | 819        | 355         | 824         | 353        |
| 462.libquantum | 24     | 205        | 2420       | <b>205</b> | <b>2430</b> | 205         | 2430       | 24     | 205        | 2420       | <b>205</b> | <b>2430</b> | 205         | 2430       |
| 464.h264ref    | 24     | 1114       | 477        | 1111       | 478         | <b>1112</b> | <b>478</b> | 24     | 1099       | 483        | 1132       | 469         | <b>1108</b> | <b>479</b> |
| 471.omnetpp    | 24     | <b>617</b> | <b>243</b> | 617        | 243         | 616         | 244        | 24     | 591        | 254        | 592        | 254         | <b>592</b>  | <b>254</b> |
| 473.astar      | 24     | 746        | 226        | 749        | 225         | <b>747</b>  | <b>225</b> | 24     | 746        | 226        | 749        | 225         | <b>747</b>  | <b>225</b> |
| 483.xalancbmk  | 24     | <b>416</b> | <b>398</b> | 415        | 399         | 416         | 398        | 24     | <b>416</b> | <b>398</b> | 415        | 399         | 416         | 398        |

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.

## Base Compiler Invocation

C benchmarks:  
icc -m32

C++ benchmarks:  
icpc -m32



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## 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.hmmmer: 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.hmmmer: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalanbmk: -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: basepeak = yes

429.mcf: basepeak = yes

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

456.hmmr: -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 -lsmarheap

473.astar: basepeak = yes

483.xalanbmk: basepeak = yes



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## 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/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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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