



# SPEC® CINT2006 Result

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## Itaotec

## SPECint®\_rate2006 = 107

### Servidor Itaotec LX201 (Intel Xeon E5440)

## SPECint\_rate\_base2006 = 97.5

CPU2006 license: 9001

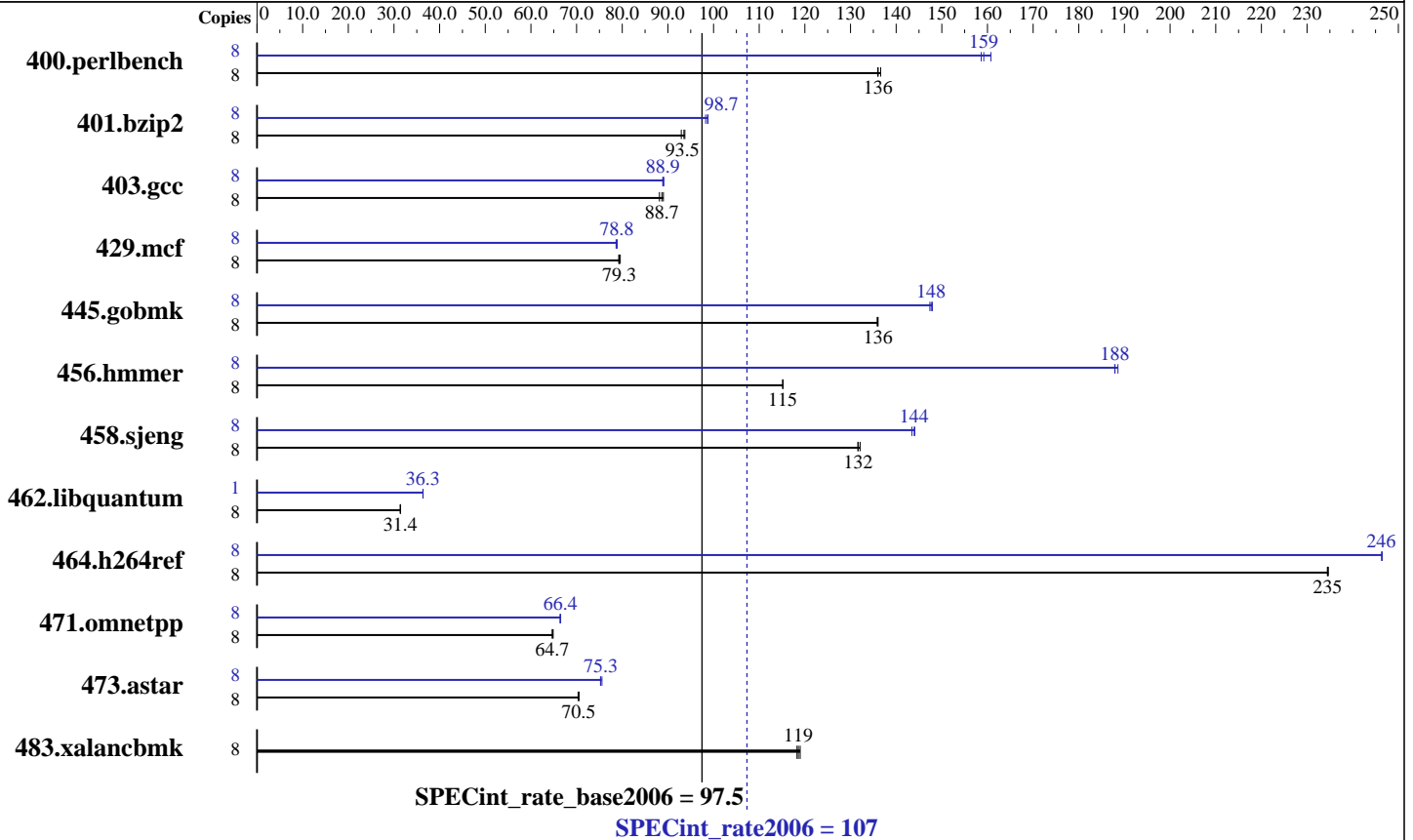
Test sponsor: Itaotec

Tested by: Itaotec

Test date: Mar-2008

Hardware Availability: Dec-2007

Software Availability: Jan-2008



### Hardware

CPU Name: Intel Xeon E5440  
 CPU Characteristics:  
 CPU MHz: 2830  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (8 \* 1 GB PC2-5300 FBDIMM, CL-5-5-5, ECC)  
 Disk Subsystem: 1 x SATA-2, 160GB, 7200 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler for Linux version 10.1 Build 20080112 Package ID: l\_cc\_p\_10.1.012  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run Level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Binutils 2.17.10.50  
 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  | 8      | 572        | 137         | 575        | 136        | <b>574</b>  | <b>136</b>  | 8      | 486        | 161         | <b>491</b> | <b>159</b>  | 493        | 159         |
| 401.bzip2      | 8      | <b>826</b> | <b>93.5</b> | 824        | 93.7       | 831         | 92.9        | 8      | 786        | 98.3        | <b>782</b> | <b>98.7</b> | 781        | 98.8        |
| 403.gcc        | 8      | 731        | 88.1        | 723        | 89.0       | <b>726</b>  | <b>88.7</b> | 8      | 724        | 88.9        | 723        | 89.1        | <b>724</b> | <b>88.9</b> |
| 429.mcf        | 8      | <b>920</b> | <b>79.3</b> | 921        | 79.2       | 917         | 79.6        | 8      | <b>926</b> | <b>78.8</b> | 925        | 78.9        | 928        | 78.6        |
| 445.gobmk      | 8      | 618        | 136         | <b>617</b> | <b>136</b> | 617         | 136         | 8      | 567        | 148         | 569        | 147         | <b>568</b> | <b>148</b>  |
| 456.hammer     | 8      | <b>648</b> | <b>115</b>  | 648        | 115        | 648         | 115         | 8      | 396        | 189         | 397        | 188         | <b>397</b> | <b>188</b>  |
| 458.sjeng      | 8      | 736        | 132         | <b>735</b> | <b>132</b> | 733         | 132         | 8      | 675        | 143         | <b>672</b> | <b>144</b>  | 672        | 144         |
| 462.libquantum | 8      | 5280       | 31.4        | 5276       | 31.4       | <b>5277</b> | <b>31.4</b> | 1      | 570        | 36.3        | <b>570</b> | <b>36.3</b> | 569        | 36.4        |
| 464.h264ref    | 8      | 754        | 235         | <b>755</b> | <b>235</b> | 755         | 234         | 8      | 719        | 246         | 718        | 246         | <b>719</b> | <b>246</b>  |
| 471.omnetpp    | 8      | 771        | 64.9        | 773        | 64.7       | <b>773</b>  | <b>64.7</b> | 8      | 753        | 66.4        | 752        | 66.5        | <b>752</b> | <b>66.4</b> |
| 473.astar      | 8      | 799        | 70.3        | 796        | 70.5       | <b>797</b>  | <b>70.5</b> | 8      | 746        | 75.2        | 743        | 75.6        | <b>746</b> | <b>75.3</b> |
| 483.xalancbmk  | 8      | 467        | 118         | 464        | 119        | <b>466</b>  | <b>119</b>  | 8      | 467        | 118         | 464        | 119         | <b>466</b> | <b>119</b>  |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Compiler Invocation Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_STACK\_SIZE set to 64M  
KMP\_AFFINITY set to physical,0

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.  
'/usr/bin/taskset' used to bind benchmark copies to processors.

## Platform Notes

BIOS configuration:  
Hardware Prefetch Disabled

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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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:  
-fast -inline-calloc -opt-malloc-options=3  
  
C++ benchmarks:  
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/opt/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  
  
401.bzip2: /opt/intel/cce/10.1.012/bin/icc  
-L/opt/intel/cce/10.1.012/lib  
-I/opt/intel/cce/10.1.012/include  
  
456.hmmer: /opt/intel/cce/10.1.012/bin/icc  
-L/opt/intel/cce/10.1.012/lib  
-I/opt/intel/cce/10.1.012/include  
  
C++ benchmarks:  
icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX

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## Peak Portability Flags (Continued)

483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo  
-no-prec-div -ansi-alias

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch  
-opt-streaming-stores always -vec-guard-write  
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/opt/sh/SmartHeap\_8.1/lib -lsmarheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/opt/sh/SmartHeap\_8.1/lib -lsmarheap

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

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## Peak Other Flags (Continued)

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Itaotec-ic10.1-INT-intel64-linux-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Itaotec-ic10.1-INT-intel64-linux-flags.xml>

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

Tested with SPEC CPU2006 v1.0.1.  
Report generated on Tue Jul 22 18:18:30 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 15 April 2008.