# SPEC® CINT2006 Result

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## Itautec

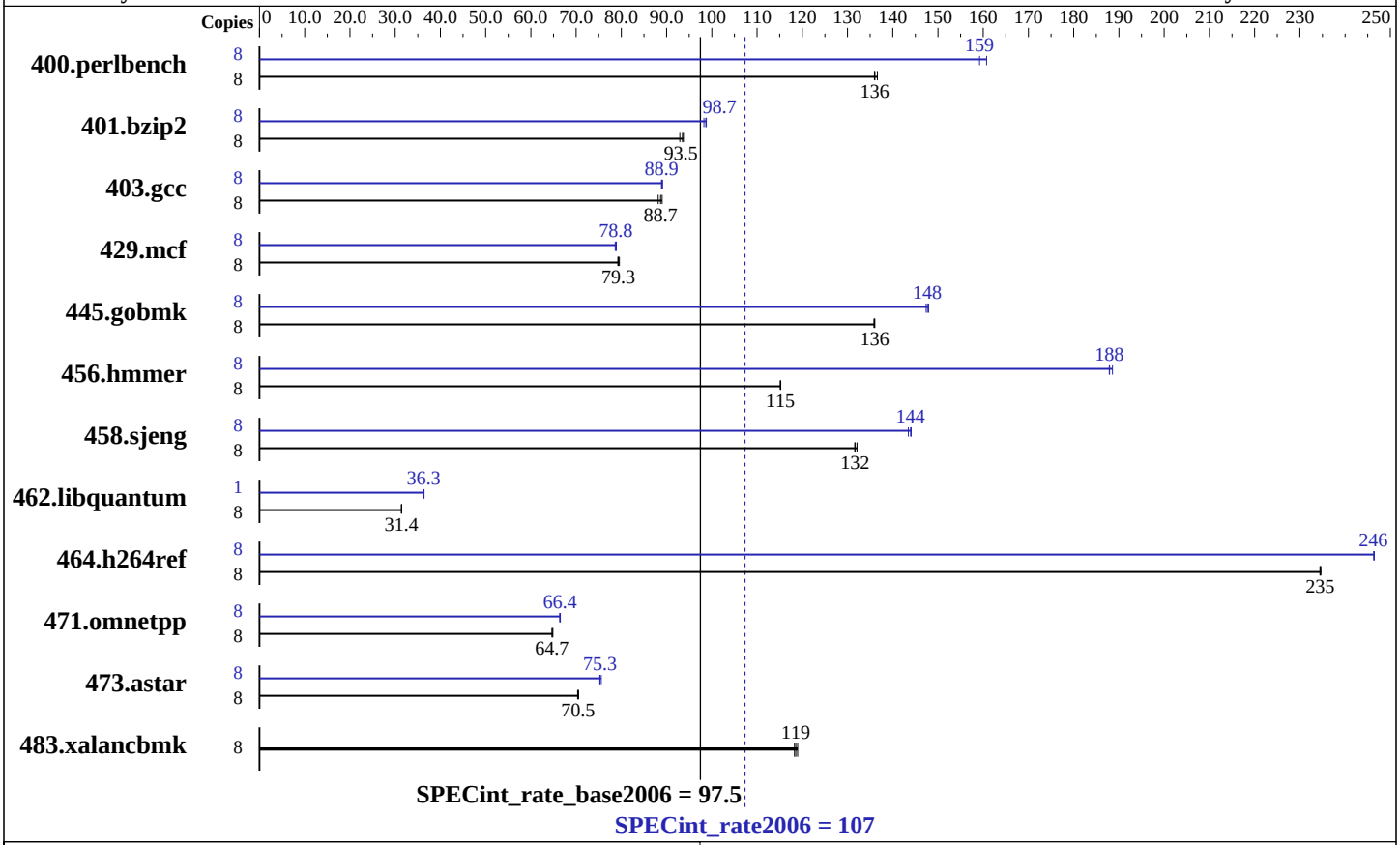
## Servidor Itautec LX201 (Intel Xeon E5440)

SPECint®_rate2006 = 107

SPECint_rate_base2006 = 97.5

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

**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<br>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 | **574** | **136** | 8 | 486 | 161 | **491** | **159** | 493 | 159 |
| 401.bzip2 | 8 | **826** | **93.5** | 824 | 93.7 | 831 | 92.9 | 8 | 786 | 98.3 | **782** | **98.7** | 781 | 98.8 |
| 403.gcc | 8 | 731 | 88.1 | 723 | 89.0 | **726** | **88.7** | 8 | 724 | 88.9 | 723 | 89.1 | **724** | **88.9** |
| 429.mcf | 8 | **920** | **79.3** | 921 | 79.2 | 917 | 79.6 | 8 | **926** | **78.8** | 925 | 78.9 | 928 | 78.6 |
| 445.gobmk | 8 | 618 | 136 | **617** | **136** | 617 | 136 | 8 | 567 | 148 | 569 | 147 | **568** | **148** |
| 456.hmmer | 8 | **648** | **115** | 648 | 115 | 648 | 115 | 8 | 396 | 189 | 397 | 188 | **397** | **188** |
| 458.sjeng | 8 | 736 | 132 | **735** | **132** | 733 | 132 | 8 | 675 | 143 | **672** | **144** | 672 | 144 |
| 462.libquantum | 8 | 5280 | 31.4 | 5276 | 31.4 | **5277** | **31.4** | 1 | 570 | 36.3 | **570** | **36.3** | 569 | 36.4 |
| 464.h264ref | 8 | 754 | 235 | **755** | **235** | 755 | 234 | 8 | 719 | 246 | 718 | 246 | **719** | **246** |
| 471.omnetpp | 8 | 771 | 64.9 | 773 | 64.7 | **773** | **64.7** | 8 | 753 | 66.4 | 752 | 66.5 | **752** | **66.4** |
| 473.astar | 8 | 799 | 70.3 | 796 | 70.5 | **797** | **70.5** | 8 | 746 | 75.2 | 743 | 75.6 | **746** | **75.3** |
| 483.xalancbmk | 8 | 467 | 118 | 464 | 119 | **466** | **119** | 8 | 467 | 118 | 464 | 119 | **466** | **119** |

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

## 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

Continued on next page

## 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 -lsmartheap

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 -lsmartheap

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

Continued on next page

## 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/Itautec-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/Itautec-ic10.1-INT-intel64-linux-flags.xml`


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

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