# SPEC® CINT2006 Result

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## Itautec

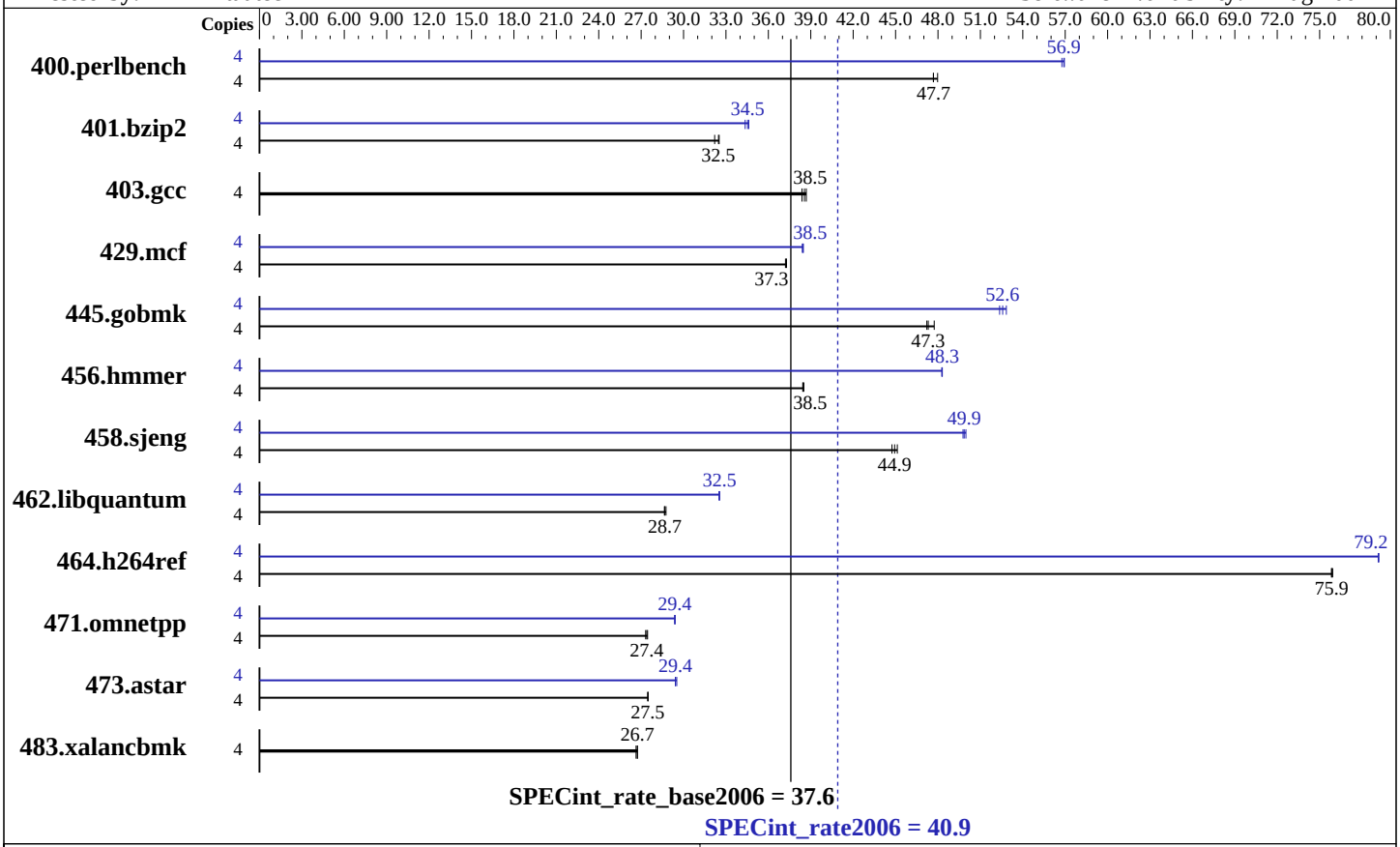
## Servidor Itautec MX221 (Intel Xeon E5320)

SPECint®_rate2006 = 40.9

SPECint_rate_base2006 = 37.6

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

**Test date:** Nov-2007
**Hardware Availability:** Feb-2007
**Software Availability:** Aug-2007




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5320 |
| CPU Characteristics: | Quad Core, 1.86 GHz |
| CPU MHz: | 1866 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 4 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 8 MB I+D on chip per chip, 4 MB shared / 2 cores |
| L3 Cache: | None |
| Other Cache: | None |
| Memory: | 16 GB (8 * 2GB DDR2 5300F, 2 rank, CL5 ECC) |
| Disk Subsystem: | 73GB SCSI, 15000rpm |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 10 (x86_64), Kernel 2.6.16.21-0.8-smp |
| Compiler: | Intel C++ Compiler for Linux32 version 10.0 Build 20070809 Package ID: l_cc_p_10.0.026 |
| Auto Parallel: | No |
| File System: | ReiserFS |
| System State: | Multi-user, run level 3 |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Binutils 2.16.91.0.7 |

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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 | 4 | 815 | 48.0 | 820 | 47.7 | **820** | **47.7** | 4 | 686 | 56.9 | 688 | 56.8 | **687** | **56.9** |
| 401.bzip2 | 4 | **1189** | **32.5** | 1187 | 32.5 | 1199 | 32.2 | 4 | **1118** | **34.5** | 1115 | 34.6 | 1123 | 34.4 |
| 403.gcc | 4 | 839 | 38.4 | 832 | 38.7 | **835** | **38.5** | 4 | 839 | 38.4 | 832 | 38.7 | **835** | **38.5** |
| 429.mcf | 4 | 979 | 37.3 | **979** | **37.3** | 980 | 37.2 | 4 | 950 | 38.4 | **949** | **38.5** | 948 | 38.5 |
| 445.gobmk | 4 | 889 | 47.2 | 879 | 47.7 | **887** | **47.3** | 4 | 801 | 52.4 | 794 | 52.8 | **798** | **52.6** |
| 456.hmmer | 4 | **970** | **38.5** | 969 | 38.5 | 971 | 38.4 | 4 | **773** | **48.3** | 773 | 48.3 | 773 | 48.3 |
| 458.sjeng | 4 | 1073 | 45.1 | 1082 | 44.7 | **1077** | **44.9** | 4 | 972 | 49.8 | **971** | **49.9** | 968 | 50.0 |
| 462.libquantum | 4 | 2882 | 28.8 | 2893 | 28.6 | **2891** | **28.7** | 4 | **2547** | **32.5** | 2547 | 32.5 | 2549 | 32.5 |
| 464.h264ref | 4 | 1166 | 75.9 | 1167 | 75.8 | **1167** | **75.9** | 4 | 1118 | 79.1 | 1118 | 79.2 | **1118** | **79.2** |
| 471.omnetpp | 4 | 911 | 27.5 | 915 | 27.3 | **912** | **27.4** | 4 | **851** | **29.4** | 850 | 29.4 | 851 | 29.4 |
| 473.astar | 4 | 1022 | 27.5 | 1022 | 27.5 | **1022** | **27.5** | 4 | 951 | 29.5 | 954 | 29.4 | **954** | **29.4** |
| 483.xalancbmk | 4 | 1036 | 26.6 | **1032** | **26.7** | 1032 | 26.7 | 4 | 1036 | 26.6 | **1032** | **26.7** | 1032 | 26.7 |

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

## General Notes

```
Bios settings:
Hardware Prefetcher:      Disabled
Adjacent Sector Prefetch: Disabled
ulimit -s unlimited used to set stack size to unlimited
taskset command used to assign copies to cores
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
This result was measured on the Servidor Itautec MX201.
The Servidor Itautec MX221 and the Servidor Itautec MX201
are electronically equivalent.
```

## Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

## Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
462.libquantum: `-DSPEC_CPU_LINUX`

Continued on next page

## Base Portability Flags (Continued)

483.xalancbmk: -DSPEC_CPU_LINUX

## Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):
icc

401.bzip2: /opt/intel/cce/10.0.026/bin/icc

456.hmmer: /opt/intel/cce/10.0.026/bin/icc

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
483.xalancbmk: -DSPEC_CPU_LINUX

## Peak Optimization Flags

C benchmarks:

Continued on next page

## Peak Optimization Flags (Continued)

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

401.bzip2: `-L/opt/intel/cce/10.0.026/lib -I/opt/intel/cce/10.0.026/include -prof-gen`(pass 1) `-prof-use`(pass 2) `-fast`

403.gcc: `basepeak = yes`

429.mcf: `-fast -prefetch`

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

456.hmmer: `-L/opt/intel/cce/10.0.026/lib -I/opt/intel/cce/10.0.026/include -prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -ansi-alias`

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

462.libquantum: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always`

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 -Wl,-z,muldefs`

473.astar: `Same as 471.omnetpp`

483.xalancbmk: `basepeak = yes`

## Peak Other Flags

C benchmarks:

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-ia32-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-ia32-intel64-linux-flags.xml`

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