# SPEC® CINT2006 Result

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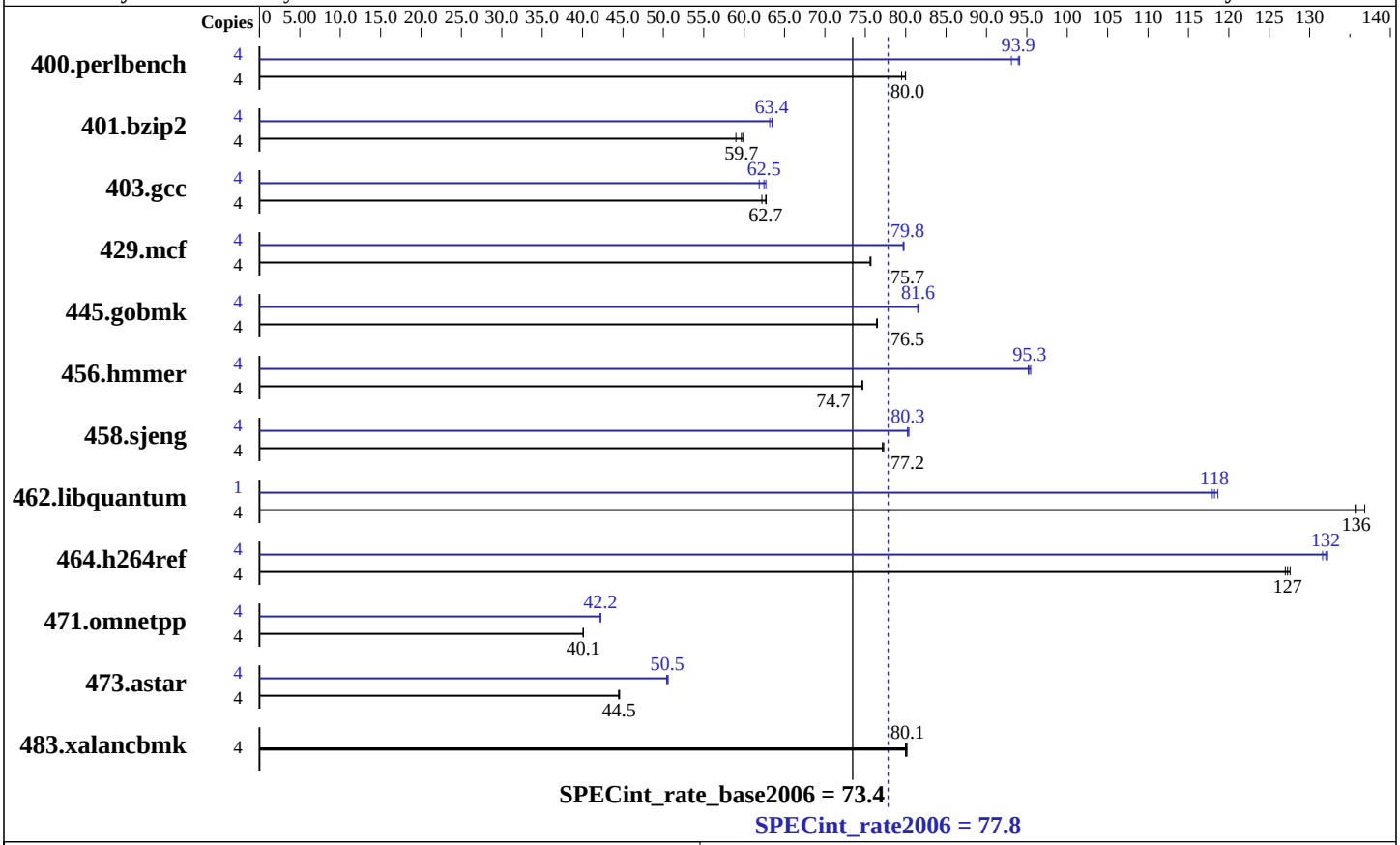
## NTT System S. A.
## NTT Tytan 516I

**SPECint®_rate2006 = 77.8**

**SPECint_rate_base2006 = 73.4**

**CPU2006 license:** 9013
**Test sponsor:** NTT System S. A.
**Tested by:** NTT System S. A.

**Test date:** Dec-2008
**Hardware Availability:** Dec-2008
**Software Availability:** Dec-2008




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X3360 |
| CPU Characteristics: | 2.83 GHz, 2x6 MB P2 shared, 1333 MHz System Bus |
| CPU MHz: | 2833 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 4 cores/chip |
| CPU(s) orderable: | 1 chip |
| 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 (4x2GB) |
| Disk Subsystem: | 400 GB SATA, 7200RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SuSe Linux SLES10 SP1, Kernel 2.6.16.60-0.21-smp |
| Compiler: | Intel C++ Compiler 11.0 for Linux<br>Build 20080930 Package ID: l_cproc_p_11.0.066 |
| Auto Parallel: | Yes |
| File System: | ReiserFS |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V8.1<br>Binutils 2.18.50.0.7.20080502 |

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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 | 492 | 79.5 | **489** | **80.0** | 489 | 80.0 | 4 | 420 | 93.1 | **416** | **93.9** | 415 | 94.1 |
| 401.bzip2 | 4 | 654 | 59.0 | **647** | **59.7** | 645 | 59.8 | 4 | 611 | 63.2 | 607 | 63.6 | **608** | **63.4** |
| 403.gcc | 4 | 518 | 62.2 | 513 | 62.7 | **514** | **62.7** | 4 | 520 | 61.9 | 514 | 62.7 | **516** | **62.5** |
| 429.mcf | 4 | 483 | 75.6 | **482** | **75.7** | 482 | 75.7 | 4 | **457** | **79.8** | 457 | 79.8 | 458 | 79.7 |
| 445.gobmk | 4 | **549** | **76.5** | 549 | 76.4 | 549 | 76.5 | 4 | **515** | **81.6** | 514 | 81.6 | 515 | 81.5 |
| 456.hmmer | 4 | 500 | 74.7 | **500** | **74.7** | 500 | 74.6 | 4 | **391** | **95.3** | 392 | 95.2 | 391 | 95.5 |
| 458.sjeng | 4 | **627** | **77.2** | 626 | 77.3 | 628 | 77.1 | 4 | **603** | **80.3** | 602 | 80.4 | 603 | 80.2 |
| 462.libquantum | 4 | 611 | 136 | **610** | **136** | 606 | 137 | 1 | **175** | **118** | 175 | 119 | 176 | 118 |
| 464.h264ref | 4 | 697 | 127 | **695** | **127** | 694 | 128 | 4 | 673 | 132 | **671** | **132** | 669 | 132 |
| 471.omnetpp | 4 | 623 | 40.1 | **624** | **40.1** | 624 | 40.1 | 4 | 592 | 42.2 | 592 | 42.2 | **592** | **42.2** |
| 473.astar | 4 | **631** | **44.5** | 632 | 44.5 | 630 | 44.6 | 4 | 555 | 50.6 | **556** | **50.5** | 557 | 50.4 |
| 483.xalancbmk | 4 | 345 | 80.0 | **345** | **80.1** | 344 | 80.2 | 4 | 345 | 80.0 | **345** | **80.1** | 344 | 80.2 |

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.
 taskset was used to bind processes to cores except
 for 462.libquantum peak
 OMP_NUM_THREADS set to number of processors
 KMP_AFFINITY set to "physical,0"
 KMP_STACKSIZE set to 64M
```

## 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:
`-xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3 -opt-prefetch`

C++ benchmarks:
`-xSSSE3 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs -L/spec/cpu2006.1.1/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/Compiler/11.0/066/bin/intel64/icc`

456.hmmer: `/opt/intel/Compiler/11.0/066/bin/intel64/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:

400.perlbench: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSSE3 -ipo -O3 -no-prec-div -static -ansi-alias -opt-prefetch`

Continued on next page

## Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

403.gcc: -xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -O2 -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll4

462.libquantum: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-malloc-options=3 -parallel -par-runtime-control -opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

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-Linux64-Platform.20090710.html
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.01.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.xml
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.01.xml


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

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