# SPEC® CINT2006 Result

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## Supermicro

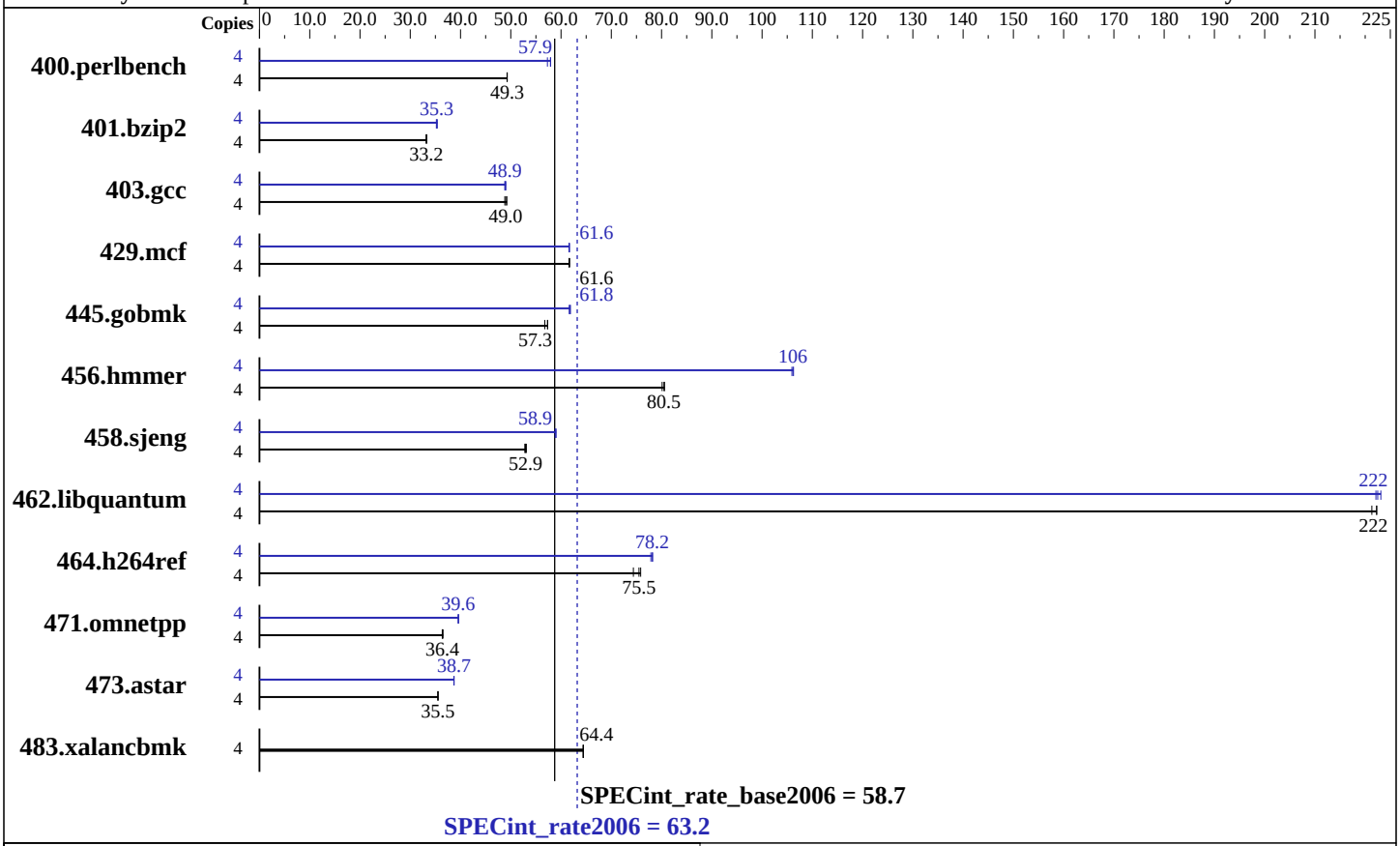
Motherboard X8SIU-F (Intel Core i3-540, 3.06 GHz)

SPECint®_rate2006 = 63.2

SPECint_rate_base2006 = 58.7

**CPU2006 license:** 001176
**Test sponsor:** Supermicro
**Tested by:** Supermicro

**Test date:** Jun-2010
**Hardware Availability:** Apr-2010
**Software Availability:** Jan-2010




### Hardware

| | |
|---|---|
| CPU Name: | Intel Core i3-540 |
| CPU Characteristics: | |
| CPU MHz: | 3067 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 2 cores/chip, 2 threads/core |
| CPU(s) orderable: | 1 chip |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |
| L3 Cache: | 4 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 16 GB (4 x 4 GB 2Rx8 DDR3-1333 UDIMM, ECC, CL9) |
| Disk Subsystem: | 1 x 160 GB SATA II, 7200 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 11 (x86_64)<br>Kernel 2.6.27.19-5-default |
| Compiler: | Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1<br>Build 20091130 Package ID: l_cproc_p_11.1.064 |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V8.1 |

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 4 | 793 | 49.3 | 793 | 49.3 | **793** | **49.3** | 4 | **675** | **57.9** | 682 | 57.3 | 675 | 57.9 |
| 401.bzip2 | 4 | 1160 | 33.3 | 1164 | 33.2 | **1163** | **33.2** | 4 | **1095** | **35.3** | 1091 | 35.4 | 1097 | 35.2 |
| 403.gcc | 4 | 654 | 49.2 | **657** | **49.0** | 660 | 48.8 | 4 | 660 | 48.8 | **659** | **48.9** | 657 | 49.0 |
| 429.mcf | 4 | **592** | **61.6** | 592 | 61.6 | 591 | 61.7 | 4 | 592 | 61.6 | **592** | **61.6** | 591 | 61.7 |
| 445.gobmk | 4 | **732** | **57.3** | 739 | 56.8 | 732 | 57.3 | 4 | 681 | 61.6 | **679** | **61.8** | 678 | 61.9 |
| 456.hmmer | 4 | **464** | **80.5** | 466 | 80.1 | 463 | 80.6 | 4 | **352** | **106** | 351 | 106 | 352 | 106 |
| 458.sjeng | 4 | 912 | 53.1 | **914** | **52.9** | 917 | 52.8 | 4 | **821** | **58.9** | 820 | 59.0 | 823 | 58.8 |
| 462.libquantum | 4 | **373** | **222** | 374 | 221 | 373 | 222 | 4 | 371 | 223 | 373 | 222 | **373** | **222** |
| 464.h264ref | 4 | 1190 | 74.4 | 1167 | 75.8 | **1172** | **75.5** | 4 | **1133** | **78.2** | 1137 | 77.9 | 1132 | 78.2 |
| 471.omnetpp | 4 | 684 | 36.5 | 687 | 36.4 | **687** | **36.4** | 4 | **632** | **39.6** | 631 | 39.6 | 632 | 39.5 |
| 473.astar | 4 | 791 | 35.5 | **791** | **35.5** | 790 | 35.5 | 4 | **726** | **38.7** | 726 | 38.7 | 725 | 38.7 |
| 483.xalancbmk | 4 | 428 | 64.4 | 429 | 64.4 | **428** | **64.4** | 4 | 428 | 64.4 | 429 | 64.4 | **428** | **64.4** |

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 stack size to unlimited prior to run
```

## Platform Notes

```
Fan speed set to Full Speed in BIOS Setup.
As tested, the system used a Supermicro CSE-815TQ-330UB chassis.
The chassis is bundled with a PWS-333-1H20 power supply, a SNK-P0046P heatsink,
and 4 FAN-0086L4 cooling fans.
```

## General Notes

```
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
```

# Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

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## Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32

## 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 -static -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):
icpc -m32

473.astar: icpc -m64

## Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -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) -static(pass 2)
-prof-use(pass 2) -ansi-alias

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
-ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
-opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(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/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

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## Peak Optimization Flags (Continued)

473.astar: `-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=routine -Wl,-z,muldefs -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

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/Intel-ic11.1-linux64-revE.20100915.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100915.xml`


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