# SPEC® CINT2006 Result

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## Supermicro

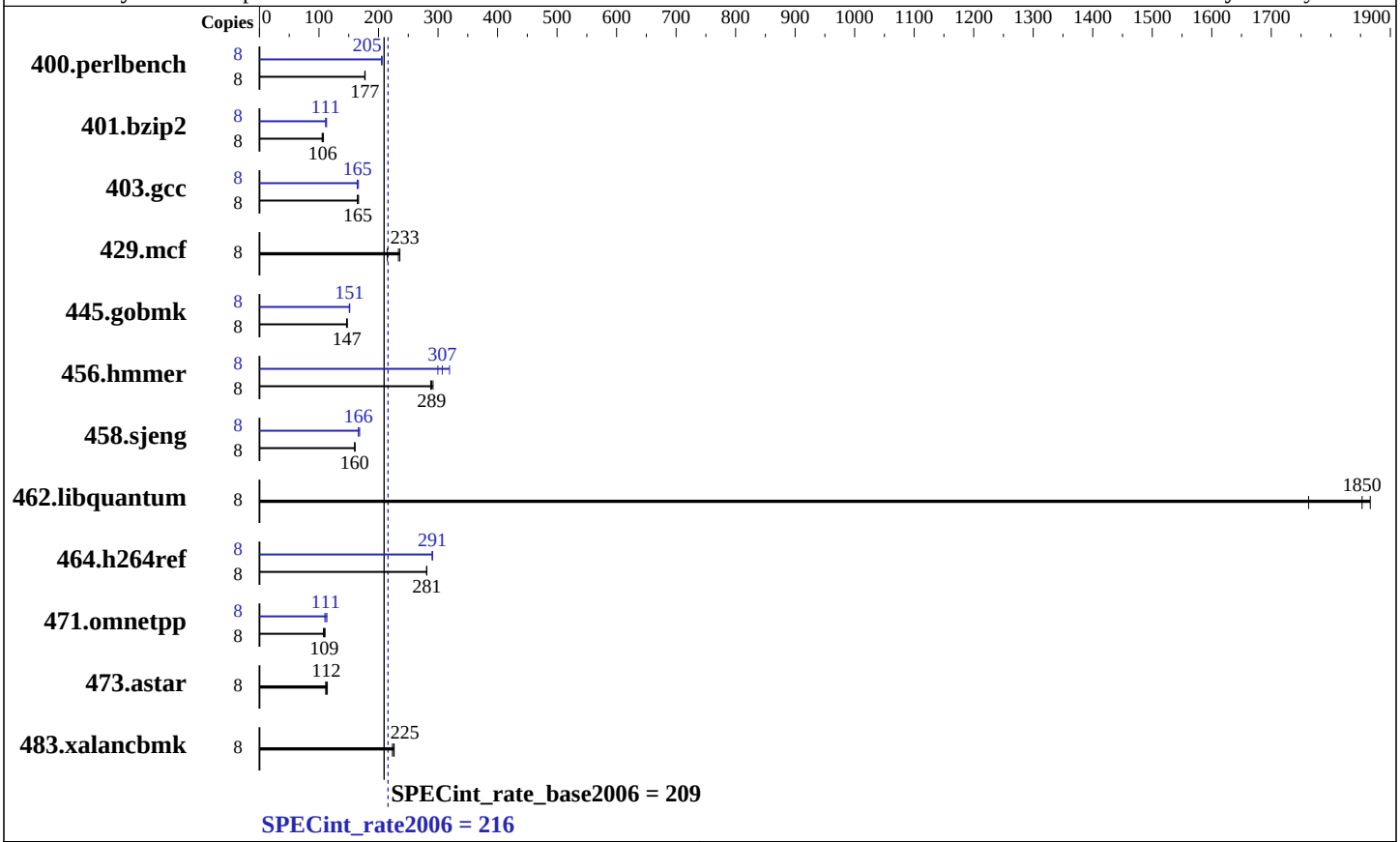
SuperWorkstation 5038A-iL (X10SAE, Intel Core i7-4770, 3.40 GHz)

SPECint®_rate2006 = 216

SPECint_rate_base2006 = 209

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

**Test date:** Jun-2013
**Hardware Availability:** Jun-2013
**Software Availability:** May-2013




### Hardware

| | |
|---|---|
| CPU Name: | Intel Core i7-4770 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.90 GHz |
| CPU MHz: | 3400 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 4 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: | 8 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 16 GB (4 x 4 GB 2Rx4 PC3-12800U-11) |
| Disk Subsystem: | 1 x 1000 GB SATA III, 7200 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 6.4, Kernel 2.6.32-358.el6.x86_64 |
| Compiler: | C/C++: Version 13.1.1.163 of Intel C++ Studio XE for Linux |
| Auto Parallel: | No |
| File System: | ext4 |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V10.0 |

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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 | 440 | 178 | **441** | **177** | 442 | 177 | 8 | 379 | 206 | 381 | 205 | **381** | **205** |
| 401.bzip2 | 8 | **727** | **106** | 733 | 105 | 718 | 108 | 8 | 694 | 111 | **693** | **111** | 684 | 113 |
| 403.gcc | 8 | 387 | 166 | **390** | **165** | 391 | 165 | 8 | **391** | **165** | 387 | 166 | 392 | 164 |
| 429.mcf | 8 | 340 | 215 | **312** | **233** | 309 | 236 | 8 | 340 | 215 | **312** | **233** | 309 | 236 |
| 445.gobmk | 8 | 573 | 146 | 569 | 148 | **571** | **147** | 8 | **554** | **151** | 556 | 151 | 554 | 152 |
| 456.hmmer | 8 | **258** | **289** | 259 | 288 | 256 | 292 | 8 | 234 | 319 | **243** | **307** | 249 | 300 |
| 458.sjeng | 8 | 605 | 160 | 603 | 160 | **605** | **160** | 8 | 575 | 168 | 583 | 166 | **582** | **166** |
| 462.libquantum | 8 | 94.0 | 1760 | 88.8 | 1870 | **89.5** | **1850** | 8 | 94.0 | 1760 | 88.8 | 1870 | **89.5** | **1850** |
| 464.h264ref | 8 | **630** | **281** | 631 | 281 | 630 | 281 | 8 | **609** | **291** | 609 | 291 | 610 | 290 |
| 471.omnetpp | 8 | 454 | 110 | **458** | **109** | 465 | 107 | 8 | 455 | 110 | 441 | 113 | **449** | **111** |
| 473.astar | 8 | 505 | 111 | **501** | **112** | 492 | 114 | 8 | 505 | 111 | **501** | **112** | 492 | 114 |
| 483.xalancbmk | 8 | 244 | 226 | **245** | **225** | 247 | 223 | 8 | 244 | 226 | **245** | **225** | 247 | 223 |

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

## Submit Notes

```
The taskset mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate taskset commands to bind each copy to a specific processor.
For details, please see the config file.
```

## Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

## General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

## Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

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:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/sh -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

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

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

## Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64

Continued on next page

## Peak Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(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/sh -lsmartheap

473.astar: basepeak = yes

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/Supermicro-Platform-Settings-V1.2-revB.20130719.html`
`http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml`
`http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.xml`


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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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