# SPEC® CINT2006 Result

## Supermicro

Motherboard X8DTG-QF (Intel Xeon X5680, 3.33 GHz)

$SPECint®\_rate2006 = 375$

$SPECint\_rate\_base2006 = 351$

**CPU2006 license:** 001176　　　　　　　　　　　　　　　**Test date:** Jul-2010
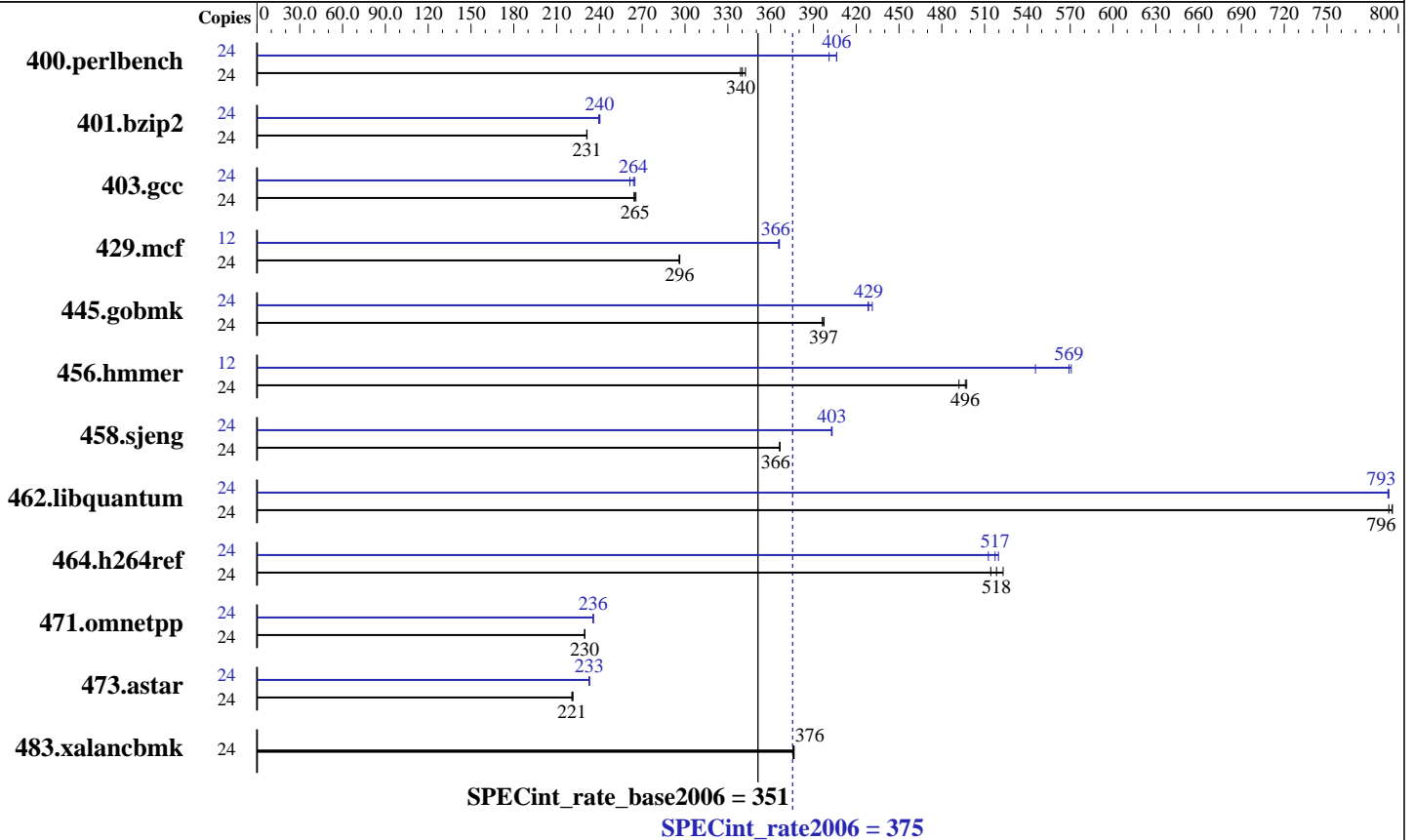**Test sponsor:** Supermicro　　　　　　　　　　　　　　**Hardware Availability:** Mar-2010
**Tested by:** Supermicro　　　　　　　　　　　　　　　**Software Availability:** Jan-2010



SPECint_rate_base2006 = 351

SPECint_rate2006 = 375

## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5680 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.60 GHz |
| CPU MHz: | 3333 |
| FPU: | Integrated |
| CPU(s) enabled: | 12 cores, 2 chips, 6 cores/chip, 2 threads/core |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |
| L3 Cache: | 12 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 48 GB (12 x 4 GB PC3-10600R, 2 rank, ECC, CL9) |
| Disk Subsystem: | 2 x 300 GB SAS, 15000 RPM, RAID 0 |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 11 (x86_64) Kernel 2.6.27.19-5-default |
| Compiler: | Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 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 |

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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 | 24 | 692 | 339 | **689** | **340** | 685 | 342 | 24 | 577 | 406 | 585 | 401 | **577** | **406** |
| 401.bzip2 | 24 | 1002 | 231 | 1001 | 231 | **1001** | **231** | 24 | 967 | 240 | **965** | **240** | 963 | 240 |
| 403.gcc | 24 | 727 | 266 | 731 | 264 | **729** | **265** | 24 | 739 | 261 | **732** | **264** | 729 | 265 |
| 429.mcf | 24 | **739** | **296** | 739 | 296 | 740 | 296 | 12 | 299 | 366 | 299 | 366 | **299** | **366** |
| 445.gobmk | 24 | **634** | **397** | 635 | 396 | 634 | 397 | 24 | **587** | **429** | 588 | 428 | 584 | 431 |
| 456.hmmer | 24 | **451** | **496** | 450 | 497 | 455 | 492 | 12 | 205 | 546 | **197** | **569** | 196 | 571 |
| 458.sjeng | 24 | **793** | **366** | 792 | 367 | 793 | 366 | 24 | **721** | **403** | 720 | 403 | 721 | 403 |
| 462.libquantum | 24 | 627 | 793 | 625 | 796 | **625** | **796** | 24 | 627 | 793 | 627 | 793 | **627** | **793** |
| 464.h264ref | 24 | 1033 | 514 | 1016 | 523 | **1025** | **518** | 24 | **1027** | **517** | 1036 | 513 | 1022 | 520 |
| 471.omnetpp | 24 | **653** | **230** | 653 | 230 | 653 | 230 | 24 | 637 | 236 | **637** | **236** | 636 | 236 |
| 473.astar | 24 | 763 | 221 | **763** | **221** | 761 | 221 | 24 | 724 | 233 | 723 | 233 | **723** | **233** |
| 483.xalancbmk | 24 | 441 | 376 | **440** | **376** | 440 | 376 | 24 | 441 | 376 | **440** | **376** | 440 | 376 |

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
     PWS-801-1R power supply, 2 SNK-P0035AP4 heatsinks,
     along with 2 Nidec UltraFlo T92T12MMA7-57 T072 and
     1 EVERCOOL EC6025H12S 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

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# 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.20100316.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.20100316.xml

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