# SPEC® CINT2006 Result

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## Supermicro

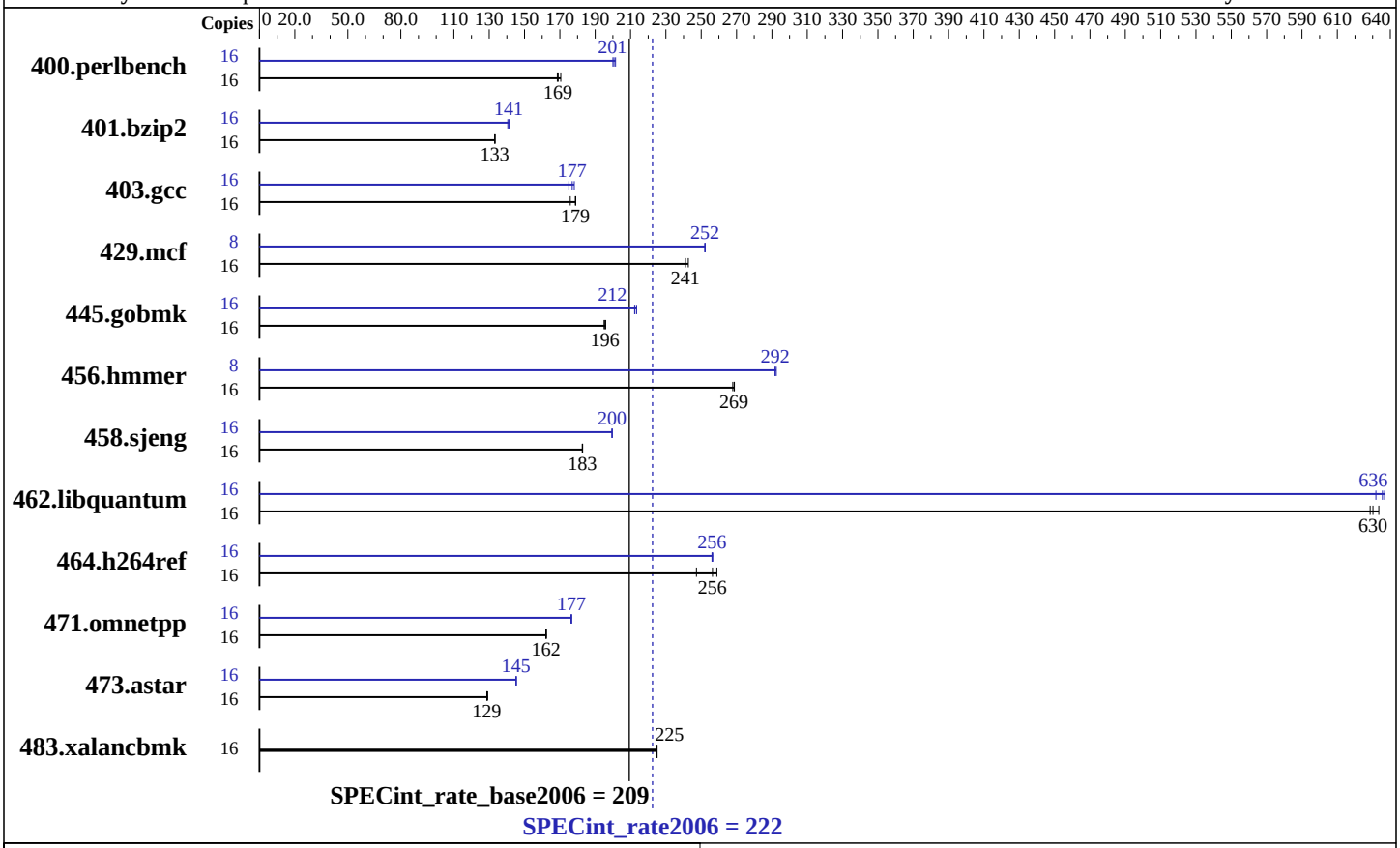
Motherboard X8DT3-LN4F (Intel Xeon E5620, 2.40GHz)

SPECint®_rate2006 = 222

SPECint_rate_base2006 = 209

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

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




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5620 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.67 GHz |
| CPU MHz: | 2400 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 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 2Rx4 DDR3-1066 RDIMM, ECC, CL7) |
| Disk Subsystem: | 1 x 500 GB SATA II, 7200 RPM |
| 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 |

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 16 | 927 | 169 | **925** | **169** | 917 | 171 | 16 | **779** | **201** | 781 | 200 | 776 | 202 |
| 401.bzip2 | 16 | 1160 | 133 | **1159** | **133** | 1158 | 133 | 16 | **1095** | **141** | 1099 | 141 | 1093 | 141 |
| 403.gcc | 16 | **721** | **179** | 720 | 179 | 732 | 176 | 16 | 736 | 175 | **728** | **177** | 723 | 178 |
| 429.mcf | 16 | 606 | 241 | **605** | **241** | 601 | 243 | 8 | 289 | 252 | **289** | **252** | 289 | 252 |
| 445.gobmk | 16 | **858** | **196** | 861 | 195 | 857 | 196 | 16 | 786 | 213 | **790** | **212** | 791 | 212 |
| 456.hmmer | 16 | 557 | 268 | **556** | **269** | 555 | 269 | 8 | 255 | 292 | 256 | 292 | **256** | **292** |
| 458.sjeng | 16 | **1059** | **183** | 1060 | 183 | 1058 | 183 | 16 | **970** | **200** | 970 | 200 | 970 | 200 |
| 462.libquantum | 16 | **526** | **630** | 527 | 629 | 523 | 633 | 16 | 521 | 637 | 525 | 632 | **522** | **636** |
| 464.h264ref | 16 | 1368 | 259 | 1432 | 247 | **1381** | **256** | 16 | 1383 | 256 | **1382** | **256** | 1380 | 257 |
| 471.omnetpp | 16 | 617 | 162 | **617** | **162** | 616 | 162 | 16 | 566 | 177 | 567 | 176 | **566** | **177** |
| 473.astar | 16 | 870 | 129 | **873** | **129** | 873 | 129 | 16 | 773 | 145 | **773** | **145** | 773 | 145 |
| 483.xalancbmk | 16 | **491** | **225** | 491 | 225 | 492 | 224 | 16 | **491** | **225** | 491 | 225 | 492 | 224 |

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-745TQ-920B chassis.
The chassis is bundled with a PWS-920P-1R power supply, 2 SNK-P0038P heatsinks,
as well as 2 FAN-0082L4 and 3 FAN-0074L4 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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