



# SPEC® CINT2006 Result

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## Intel Corporation

Supermicro SuperServer 6026T-NTR+ (Intel Xeon E5502, 1.86 GHz)

**SPECint®2006 = 19.9**

**SPECint\_base2006 = 17.9**

CPU2006 license: 13

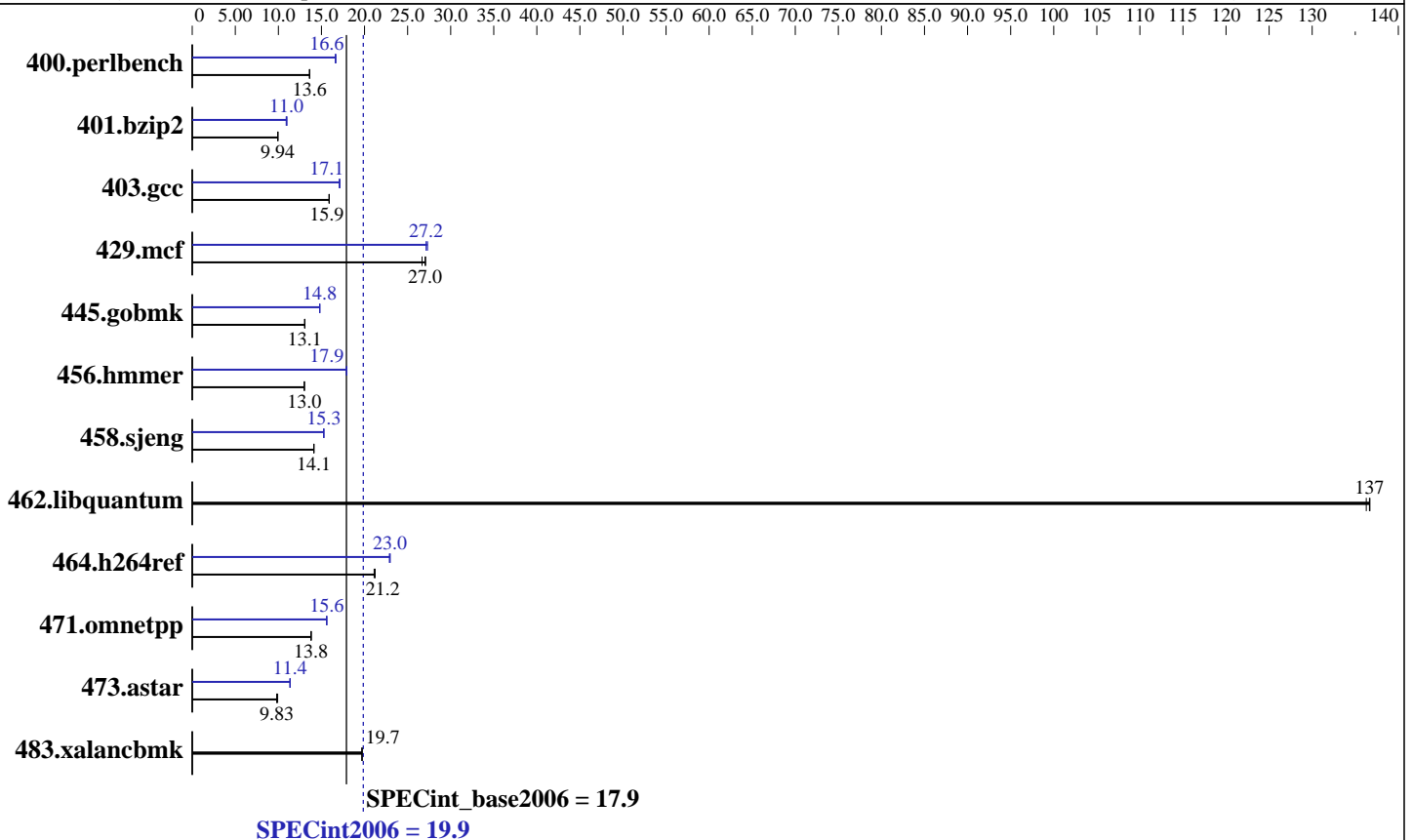
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Mar-2009

Hardware Availability: Mar-2009

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon E5502  
 CPU Characteristics:  
 CPU MHz: 1867  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 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: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 24 GB (12 x 2GB DDR3-1066, CL7)  
 Disk Subsystem: 1 x 150 GB SATA, 10000RPM  
 Other Hardware: None

### Software

Operating System: SuSe Linux SLES10 SP2, Kernel 2.6.16.60-0.34-smp for x86\_64  
 Compiler: Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: 1\_cproc\_p\_11.0.080  
 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 Binutils 2.18.50.0.7.20080502



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## Results Table

| Benchmark      | Base       |             |            |             |             |             | Peak       |             |         |       |            |             |
|----------------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|---------|-------|------------|-------------|
|                | Seconds    | Ratio       | Seconds    | Ratio       | Seconds     | Ratio       | Seconds    | Ratio       | Seconds | Ratio | Seconds    | Ratio       |
| 400.perlbench  | 716        | 13.6        | <u>717</u> | <u>13.6</u> | 718         | 13.6        | 586        | 16.7        | 588     | 16.6  | <u>587</u> | <u>16.6</u> |
| 401.bzip2      | <u>971</u> | <u>9.94</u> | 972        | 9.93        | 970         | 9.95        | <u>881</u> | <u>11.0</u> | 878     | 11.0  | 885        | 10.9        |
| 403.gcc        | <u>507</u> | <u>15.9</u> | 506        | 15.9        | 507         | 15.9        | 471        | 17.1        | 470     | 17.1  | <u>471</u> | <u>17.1</u> |
| 429.mcf        | 342        | 26.7        | <u>337</u> | <u>27.0</u> | 337         | 27.1        | 336        | 27.2        | 334     | 27.3  | <u>336</u> | <u>27.2</u> |
| 445.gobmk      | 805        | 13.0        | <u>802</u> | <u>13.1</u> | 802         | 13.1        | 710        | 14.8        | 707     | 14.8  | <u>709</u> | <u>14.8</u> |
| 456.hammer     | 717        | 13.0        | <u>717</u> | <u>13.0</u> | 716         | 13.0        | 520        | 17.9        | 521     | 17.9  | <u>520</u> | <u>17.9</u> |
| 458.sjeng      | <u>857</u> | <u>14.1</u> | 858        | 14.1        | 856         | 14.1        | 792        | 15.3        | 792     | 15.3  | <u>792</u> | <u>15.3</u> |
| 462.libquantum | 152        | 137         | 152        | 136         | <u>152</u>  | <u>137</u>  | 152        | 137         | 152     | 136   | <u>152</u> | <u>137</u>  |
| 464.h264ref    | 1043       | 21.2        | 1048       | 21.1        | <u>1044</u> | <u>21.2</u> | <u>964</u> | <u>23.0</u> | 967     | 22.9  | 964        | 23.0        |
| 471.omnetpp    | 452        | 13.8        | <u>453</u> | <u>13.8</u> | 454         | 13.8        | 400        | 15.6        | 400     | 15.6  | <u>400</u> | <u>15.6</u> |
| 473.astar      | 716        | 9.81        | <u>714</u> | <u>9.83</u> | 708         | 9.92        | <u>618</u> | <u>11.4</u> | 617     | 11.4  | 620        | 11.3        |
| 483.xalanbmk   | <u>350</u> | <u>19.7</u> | 350        | 19.7        | 350         | 19.7        | <u>350</u> | <u>19.7</u> | 350     | 19.7  | 350        | 19.7        |

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

## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalanbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -opt-prefetch

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## Base Optimization Flags (Continued)

C++ benchmarks:

-xSSE4.2 -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/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc

## 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\_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 -opt-prefetch

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## Peak Optimization Flags (Continued)

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) -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3

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: basepeak = yes

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/spec/cpu2006.1.1/lib -lsmartheap

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 -auto-ilp32  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca



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The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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