



# SPEC® CINT2006 Result

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## Supermicro

(Test Sponsor: Intel Corporation)

Supermicro X7DB8+ (Intel Xeon processor E5420, 2.50 GHz)

**SPECint®2006 = 22.8**

**SPECint\_base2006 = 19.8**

CPU2006 license: 13

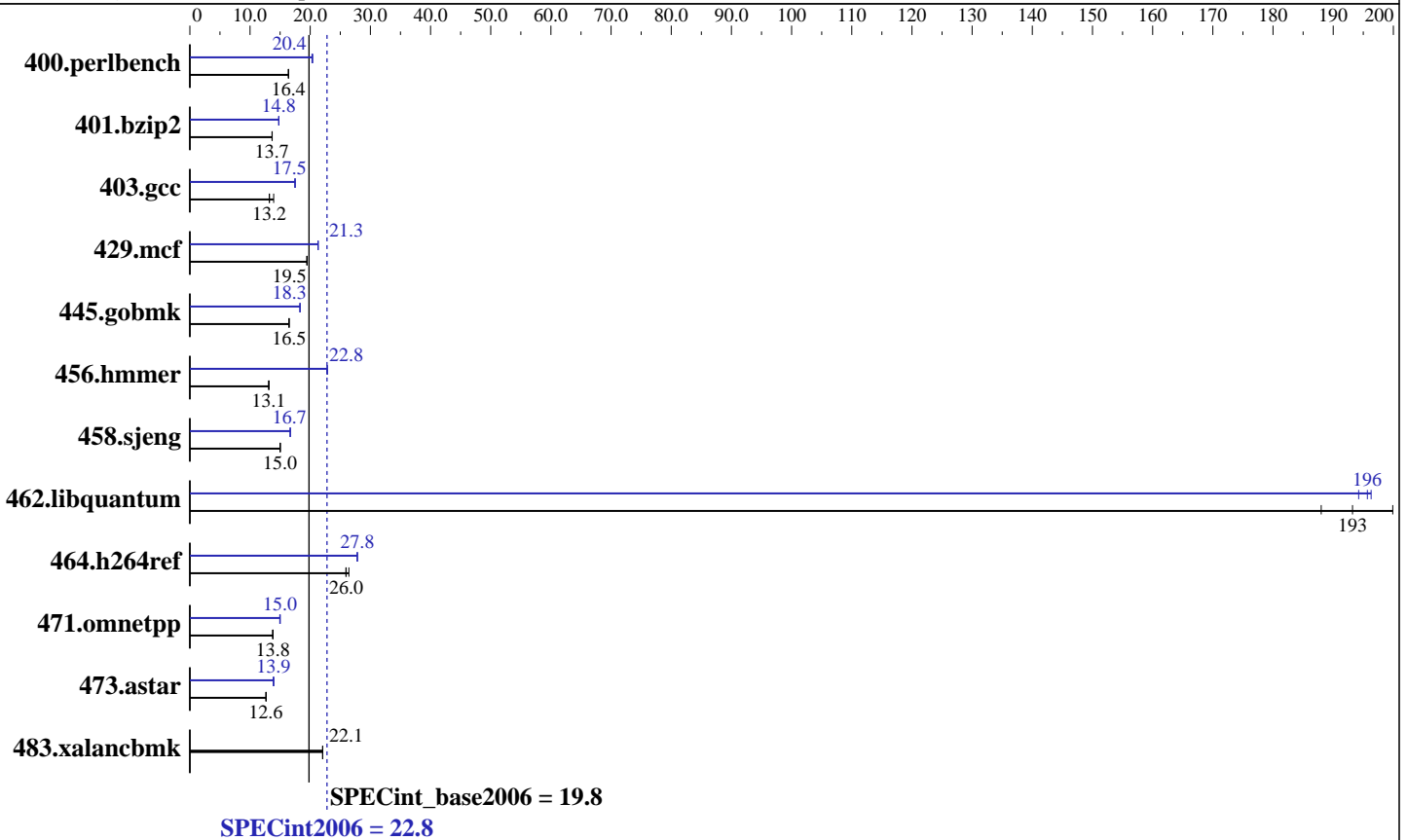
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5420  
 CPU Characteristics: Quad Core, 2.50 GHz  
 CPU MHz: 2500  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (8 \* 2GB DDR2 5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1x73GB Seagate ST37330LC SCSI 10K RPM  
 Other Hardware: None

### Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10 SP1 RC1, Kernel  
 linux-cbgn 2.6.16.43-0.5-smp for x86\_64  
 Compiler: Intel C++ Compiler 10.1 for Linux  
 Build 20070913 Package ID: l\_cc\_p\_10.1.008  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Multi-user, run level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap library V8.1  
 Binutils 2.17.50.0.15



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	595	16.4	597	16.4	<b><u>596</u></b>	<b><u>16.4</u></b>	479	20.4	<b><u>480</u></b>	<b><u>20.4</u></b>	481	20.3
401.bzip2	707	13.6	<b><u>706</u></b>	<b><u>13.7</u></b>	705	13.7	652	14.8	<b><u>653</u></b>	<b><u>14.8</u></b>	653	14.8
403.gcc	610	13.2	<b><u>608</u></b>	<b><u>13.2</u></b>	578	13.9	460	17.5	461	17.4	<b><u>461</u></b>	<b><u>17.5</u></b>
429.mcf	469	19.4	468	19.5	<b><u>468</u></b>	<b><u>19.5</u></b>	429	21.3	<b><u>428</u></b>	<b><u>21.3</u></b>	428	21.3
445.gobmk	637	16.5	<b><u>636</u></b>	<b><u>16.5</u></b>	636	16.5	573	18.3	<b><u>573</u></b>	<b><u>18.3</u></b>	573	18.3
456.hmmer	710	13.1	712	13.1	<b><u>711</u></b>	<b><u>13.1</u></b>	408	22.8	409	22.8	<b><u>409</u></b>	<b><u>22.8</u></b>
458.sjeng	808	15.0	<b><u>807</u></b>	<b><u>15.0</u></b>	804	15.0	<b><u>725</u></b>	<b><u>16.7</u></b>	724	16.7	726	16.7
462.libquantum	110	188	104	200	<b><u>107</u></b>	<b><u>193</u></b>	<b><u>106</u></b>	<b><u>196</u></b>	107	194	106	196
464.h264ref	853	25.9	<b><u>853</u></b>	<b><u>26.0</u></b>	838	26.4	796	27.8	<b><u>796</u></b>	<b><u>27.8</u></b>	795	27.9
471.omnetpp	452	13.8	455	13.7	<b><u>453</u></b>	<b><u>13.8</u></b>	418	14.9	<b><u>417</u></b>	<b><u>15.0</u></b>	416	15.0
473.astar	<b><u>555</u></b>	<b><u>12.6</u></b>	555	12.6	553	12.7	503	14.0	<b><u>505</u></b>	<b><u>13.9</u></b>	507	13.9
483.xalanbmk	313	22.1	<b><u>313</u></b>	<b><u>22.1</u></b>	313	22.1	313	22.1	<b><u>313</u></b>	<b><u>22.1</u></b>	313	22.1

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

## General Notes

Bios settings:

Hardware Prefetcher: Enabled

Adjacent Sector Prefetch: Enabled

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode

## 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



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## Base Optimization Flags

C benchmarks:

-fast -vec-guard-write -parallel -par-runtime-control

C++ benchmarks:

-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/spec/users/rahul/cpu2006.1.0/lib -lsmarheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:

icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

Continued on next page



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## Peak Optimization Flags (Continued)

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive  
-auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch  
-opt-streaming-stores always -vec-guard-write  
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs  
-L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs  
-L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap

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-ic10-ia32-intel64-linux-flags.20090714.36.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.36.xml>

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

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