



# SPEC® CINT2006 Result

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## Intel Corporation

**SPECint®2006 = 35.7**

Supermicro X8DAI (Intel Xeon W3570, 3.2 GHz)

**SPECint\_base2006 = 32.2**

CPU2006 license: 13

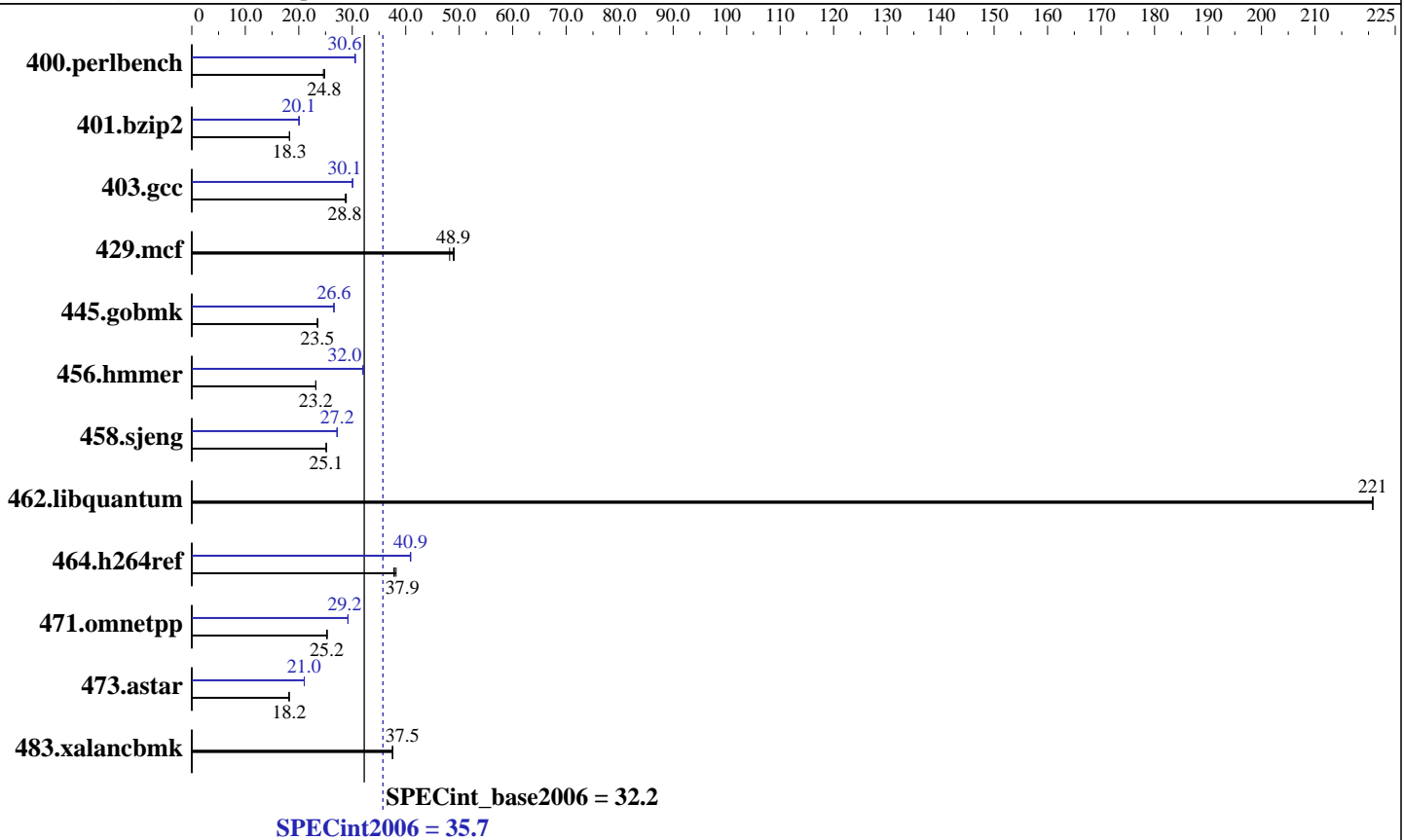
Test date: Mar-2009

Test sponsor: Intel Corporation

Hardware Availability: Mar-2009

Tested by: Intel Corporation

Software Availability: Feb-2009



**Hardware**

CPU Name: Intel Xeon W3570  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz  
 CPU MHz: 3200  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 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: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 12 GB (3 x 4GB DDR3-1333 CL9, IMHH4GP12A1F1C-13HT2)  
 Disk Subsystem: Western Digital Raptor WD740, 10k rpm, 74GB SATA  
 Other Hardware: None

**Software**

Operating System: SuSe Linux SLES10 SP2, Kernel 2.6.16.60-0.34-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux  
 Build 20090131 Package ID: l\_cproc\_p\_11.0.080, l\_cprof\_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: Binutils 2.18.50.0.7.20080502, SmartHeap V8.1



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	397	24.6	394	24.8	<b>394</b>	<b>24.8</b>	<b>320</b>	<b>30.6</b>	319	30.6	320	30.5
401.bzip2	<b>528</b>	<b>18.3</b>	528	18.3	528	18.3	481	20.1	481	20.0	<b>481</b>	<b>20.1</b>
403.gcc	279	28.9	<b>279</b>	<b>28.8</b>	281	28.7	268	30.1	<b>268</b>	<b>30.1</b>	268	30.0
429.mcf	189	48.2	186	49.0	<b>187</b>	<b>48.9</b>	189	48.2	186	49.0	<b>187</b>	<b>48.9</b>
445.gobmk	446	23.5	<b>446</b>	<b>23.5</b>	446	23.5	<b>395</b>	<b>26.6</b>	395	26.6	395	26.6
456.hammer	<b>402</b>	<b>23.2</b>	402	23.2	403	23.2	291	32.0	<b>291</b>	<b>32.0</b>	291	32.0
458.sjeng	482	25.1	<b>481</b>	<b>25.1</b>	480	25.2	<b>445</b>	<b>27.2</b>	445	27.2	445	27.2
462.libquantum	93.8	221	<b>93.8</b>	<b>221</b>	93.8	221	93.8	221	<b>93.8</b>	<b>221</b>	93.8	221
464.h264ref	579	38.2	585	37.8	<b>584</b>	<b>37.9</b>	542	40.9	541	40.9	<b>541</b>	<b>40.9</b>
471.omnetpp	247	25.3	248	25.2	<b>248</b>	<b>25.2</b>	214	29.2	214	29.2	<b>214</b>	<b>29.2</b>
473.astar	385	18.2	386	18.2	<b>386</b>	<b>18.2</b>	<b>334</b>	<b>21.0</b>	334	21.0	334	21.0
483.xalancbmk	184	37.5	<b>184</b>	<b>37.5</b>	184	37.6	184	37.5	<b>184</b>	<b>37.5</b>	184	37.6

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  
System can be built with an extended ATX case like SuperChassis  
743TQ-865B-SQ and an 885W power supply.

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

## Base Portability Flags

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



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## Base Optimization Flags

C benchmarks:

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

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
```



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## 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

401.bzp2: -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-calloc  
 -opt-malloc-options=3

429.mcf: basepeak = yes

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



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## 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-ic11.0-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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