



# SPEC® CINT2006 Result

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## Supermicro

**SPECint®2006 = 28.6**

Motherboard X8SIU-F (Intel Core i3-540, 3.06 GHz)

**SPECint\_base2006 = 26.3**

CPU2006 license: 001176

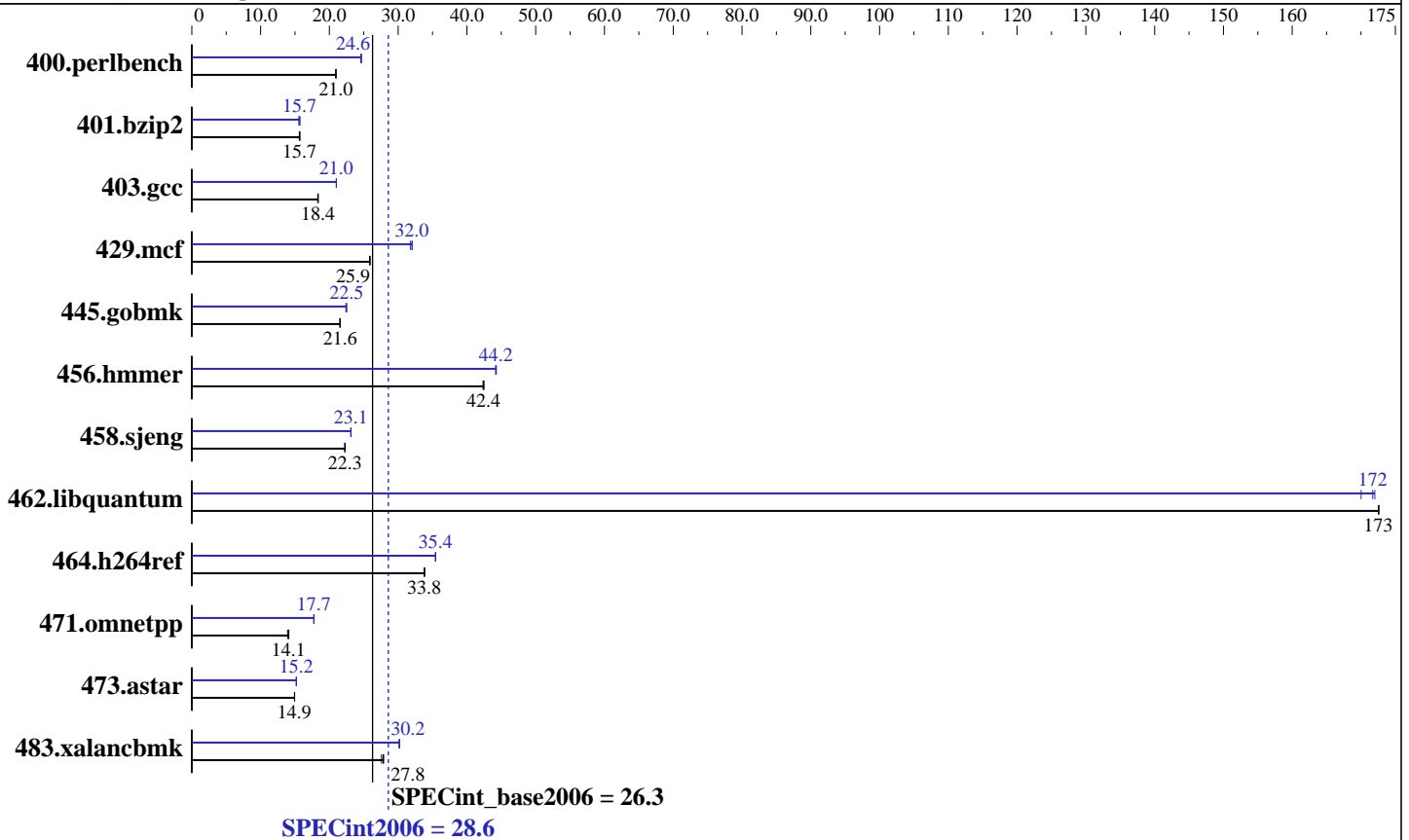
Test date: Jun-2010

Test sponsor: Supermicro

Hardware Availability: Apr-2010

Tested by: Supermicro

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Core i3-540  
 CPU Characteristics: 3067  
 CPU MHz: 3067  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 chip  
 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: 16 GB (4 x 4 GB 2Rx8 DDR3-1333 UDIMM, ECC, CL9)  
 Disk Subsystem: 1 x 160 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: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill 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	<b>466</b>	<b>21.0</b>	466	21.0	467	20.9	396	24.7	<b>396</b>	<b>24.6</b>	398	24.6
401.bzip2	618	15.6	614	15.7	<b>615</b>	<b>15.7</b>	620	15.6	<b>615</b>	<b>15.7</b>	614	15.7
403.gcc	438	18.4	<b>438</b>	<b>18.4</b>	440	18.3	<b>383</b>	<b>21.0</b>	383	21.0	383	21.0
429.mcf	353	25.9	352	25.9	<b>352</b>	<b>25.9</b>	285	32.0	<b>285</b>	<b>32.0</b>	287	31.8
445.gobmk	486	21.6	<b>487</b>	<b>21.6</b>	487	21.5	468	22.4	466	22.5	<b>466</b>	<b>22.5</b>
456.hammer	220	42.3	<b>220</b>	<b>42.4</b>	220	42.5	211	44.3	<b>211</b>	<b>44.2</b>	211	44.2
458.sjeng	544	22.2	543	22.3	<b>543</b>	<b>22.3</b>	524	23.1	<b>523</b>	<b>23.1</b>	522	23.2
462.libquantum	120	173	<b>120</b>	<b>173</b>	120	173	122	170	<b>121</b>	<b>172</b>	120	172
464.h264ref	654	33.9	<b>655</b>	<b>33.8</b>	655	33.8	624	35.5	<b>625</b>	<b>35.4</b>	625	35.4
471.omnetpp	443	14.1	<b>444</b>	<b>14.1</b>	449	13.9	352	17.8	<b>352</b>	<b>17.7</b>	352	17.7
473.astar	469	15.0	<b>470</b>	<b>14.9</b>	470	14.9	462	15.2	<b>462</b>	<b>15.2</b>	462	15.2
483.xalancbmk	250	27.6	<b>248</b>	<b>27.8</b>	247	27.9	<b>229</b>	<b>30.2</b>	229	30.1	229	30.2

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter

## Platform Notes

Fan speed set to Full Speed in BIOS Setup.  
As tested, the system used a Supermicro CSE-815TQ-330UB chassis.  
The chassis is bundled with a PWS-333-1H20 power supply, a SNK-P0046P heatsink,  
and 4 FAN-0086L4 cooling fans.

## General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

## Base Compiler Invocation

C benchmarks:  
icc -m64  
  
C++ benchmarks:  
icpc -m64



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## Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

```

## Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -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/libic11.1-64bit -lsmartheap64

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

429.mcf: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m32

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## Peak Compiler Invocation (Continued)

473.astar: icpc -m64

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
403.gcc: -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 -opt-prefetch  
401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div -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 -auto-ilp32  
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  
462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel  
-opt-prefetch -par-schedule-static=32768 -ansi-alias  
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

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## Peak Optimization Flags (Continued)

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

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: -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

## 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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Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 10:09:44 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 14 September 2010.