



# SPEC<sup>®</sup> CINT2006 Result

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## Supermicro Motherboard B7DBE

SPECint<sup>®</sup>\_rate2006 = 136

SPECint\_rate\_base2006 = 124

CPU2006 license: 001176

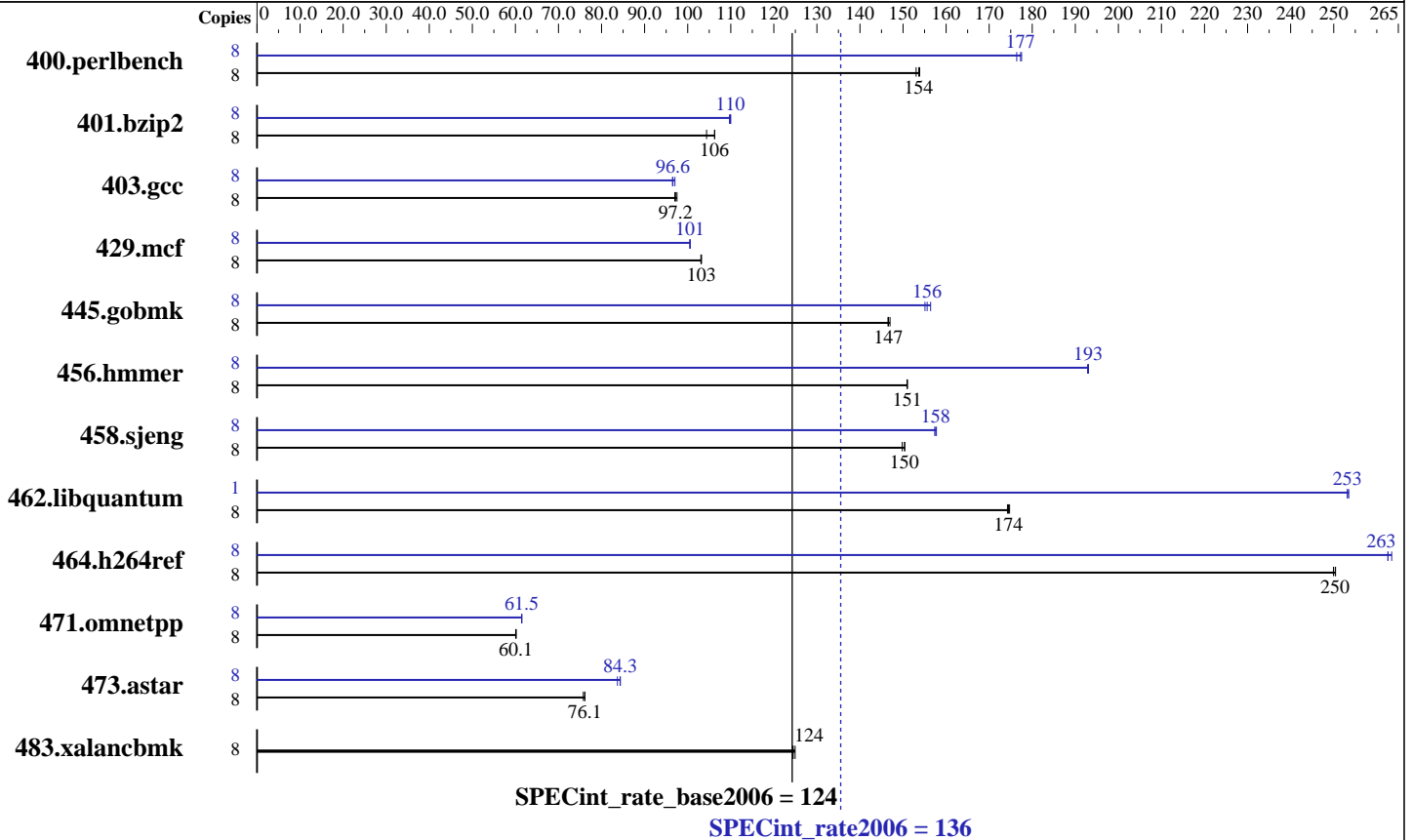
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Feb-2009

Hardware Availability: Nov-2008

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon E5440  
 CPU Characteristics: Quad Core, 2.83 GHz, 1333 MHz System Bus  
 CPU MHz: 2833  
 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 x 2GB DDR2-667 ECC Reg CL5, FBDIMM)  
 Disk Subsystem: 80 GB SATA, 7200RPM  
 Other Hardware: None

### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64) SP2, Kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l\_cproc\_p\_11.0.066  
 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	511	153	<u>509</u>	<u>154</u>	508	154	8	<u>441</u>	<u>177</u>	443	176	440	178
401.bzip2	8	740	104	<u>727</u>	<u>106</u>	727	106	8	702	110	<u>702</u>	<u>110</u>	704	110
403.gcc	8	<u>663</u>	<u>97.2</u>	664	97.0	660	97.5	8	668	96.5	664	97.0	<u>667</u>	<u>96.6</u>
429.mcf	8	<u>707</u>	<u>103</u>	708	103	707	103	8	<u>726</u>	<u>101</u>	726	100	725	101
445.gobmk	8	571	147	<u>572</u>	<u>147</u>	573	147	8	<u>539</u>	<u>156</u>	537	156	541	155
456.hammer	8	495	151	494	151	<u>494</u>	<u>151</u>	8	<u>387</u>	<u>193</u>	387	193	387	193
458.sjeng	8	644	150	646	150	<u>644</u>	<u>150</u>	8	614	158	615	157	<u>614</u>	<u>158</u>
462.libquantum	8	<u>950</u>	<u>174</u>	949	175	951	174	1	81.7	253	81.8	253	<u>81.8</u>	<u>253</u>
464.h264ref	8	707	250	708	250	<u>707</u>	<u>250</u>	8	674	263	<u>674</u>	<u>263</u>	672	263
471.omnetpp	8	<u>831</u>	<u>60.1</u>	831	60.2	832	60.1	8	<u>813</u>	<u>61.5</u>	814	61.5	813	61.5
473.astar	8	<u>738</u>	<u>76.1</u>	738	76.1	741	75.8	8	<u>666</u>	<u>84.3</u>	666	84.4	671	83.7
483.xalancbmk	8	444	124	<u>443</u>	<u>124</u>	442	125	8	444	124	<u>443</u>	<u>124</u>	442	125

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.  
taskset was used to bind processes to cores except  
for 462.libquantum peak

### Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

### General Notes

OMP\_NUM\_THREADS set to number of processors  
KMP\_AFFINITY set to "physical,0"  
KMP\_STACKSIZE set to 64M  
Tested system can be used with CSE-161M-320B.  
To ensure system stability, SBE-710E-D28 - Enclosure chassis with two 1400W power supplies are required.  
Products description can be obtained at  
<http://www.supermicro.com/servers/blade/module/SBI-7125B-T1.cfm>  
<http://www.supermicro.com/servers/blade/enclosure/>

### Base Compiler Invocation

C benchmarks:  
icc

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## Base Compiler Invocation (Continued)

C++ benchmarks:  
icpc

## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:  
-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:  
-xSSE4.1 -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/11.0/066/bin/intel64/icc  
456.hmmer: /opt/intel/Compiler/11.0/066/bin/intel64/icc

C++ benchmarks:  
icpc



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## 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:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch  
401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -opt-prefetch -ansi-alias  
403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3  
429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -opt-prefetch  
445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo  
-no-prec-div -ansi-alias  
456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias  
458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4  
462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static  
-opt-malloc-options=3 -parallel -par-runtime-control  
-opt-prefetch  
464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap  
473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap

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## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.html>

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.01.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.01.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 00:35:53 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 3 June 2009.