



# SPEC® CINT2006 Result

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## Supermicro

(Test Sponsor: Intel Corporation)

Supermicro X7DB8+ (Intel Xeon processor E5410, 2.33 GHz)

SPECint®\_rate2006 = 115

SPECint\_rate\_base2006 = 94.4

CPU2006 license: 13

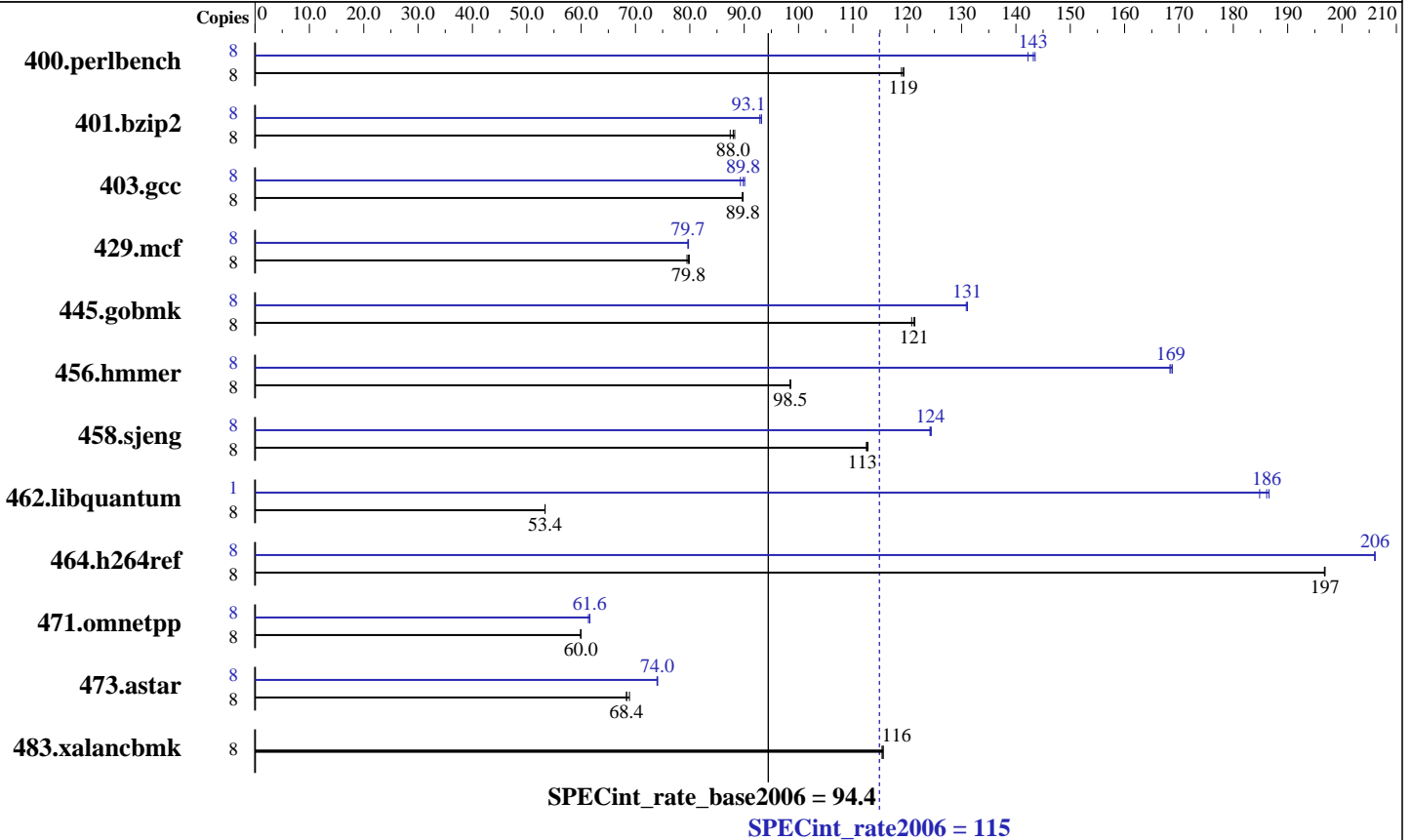
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5410  
 CPU Characteristics: Quad Core, 2.33 GHz  
 CPU MHz: 2333  
 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							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	<b>655</b>	<b>119</b>	655	119	657	119	8	550	142	<b>546</b>	<b>143</b>	545	144
401.bzip2	8	883	87.4	875	88.3	<b>877</b>	<b>88.0</b>	8	<b>829</b>	<b>93.1</b>	831	92.9	828	93.2
403.gcc	8	<b>717</b>	<b>89.8</b>	717	89.8	718	89.6	8	715	90.1	721	89.3	<b>717</b>	<b>89.8</b>
429.mcf	8	<b>915</b>	<b>79.8</b>	918	79.5	913	79.9	8	916	79.7	915	79.8	<b>916</b>	<b>79.7</b>
445.gobmk	8	691	121	<b>692</b>	<b>121</b>	695	121	8	641	131	<b>641</b>	<b>131</b>	640	131
456.hmmer	8	758	98.5	<b>758</b>	<b>98.5</b>	758	98.5	8	442	169	443	168	<b>443</b>	<b>169</b>
458.sjeng	8	861	112	858	113	<b>860</b>	<b>113</b>	8	<b>779</b>	<b>124</b>	778	124	779	124
462.libquantum	8	<b>3107</b>	<b>53.4</b>	3106	53.4	3107	53.3	1	112	185	<b>111</b>	<b>186</b>	111	187
464.h264ref	8	<b>899</b>	<b>197</b>	899	197	900	197	8	<b>859</b>	<b>206</b>	859	206	859	206
471.omnetpp	8	<b>834</b>	<b>60.0</b>	835	59.9	834	60.0	8	<b>812</b>	<b>61.6</b>	815	61.3	812	61.6
473.astar	8	815	68.9	<b>822</b>	<b>68.4</b>	822	68.4	8	758	74.1	759	74.0	<b>759</b>	<b>74.0</b>
483.xalancbmk	8	479	115	<b>478</b>	<b>116</b>	478	116	8	479	115	<b>478</b>	<b>116</b>	478	116

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: Disabled

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

The taskset utility was used to bind processes to cores

## 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:

```
-fast -inline-calloc -opt-malloc-options=3
```

C++ benchmarks:

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

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.hmmr: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

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

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>



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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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