



# SPEC® CINT2006 Result

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## Intel Corporation

Supermicro X7DB+ (Intel Xeon processor E5320, 1.86 GHz)

SPECint®2006 = 14.2

SPECint\_base2006 = 12.9

CPU2006 license: 13

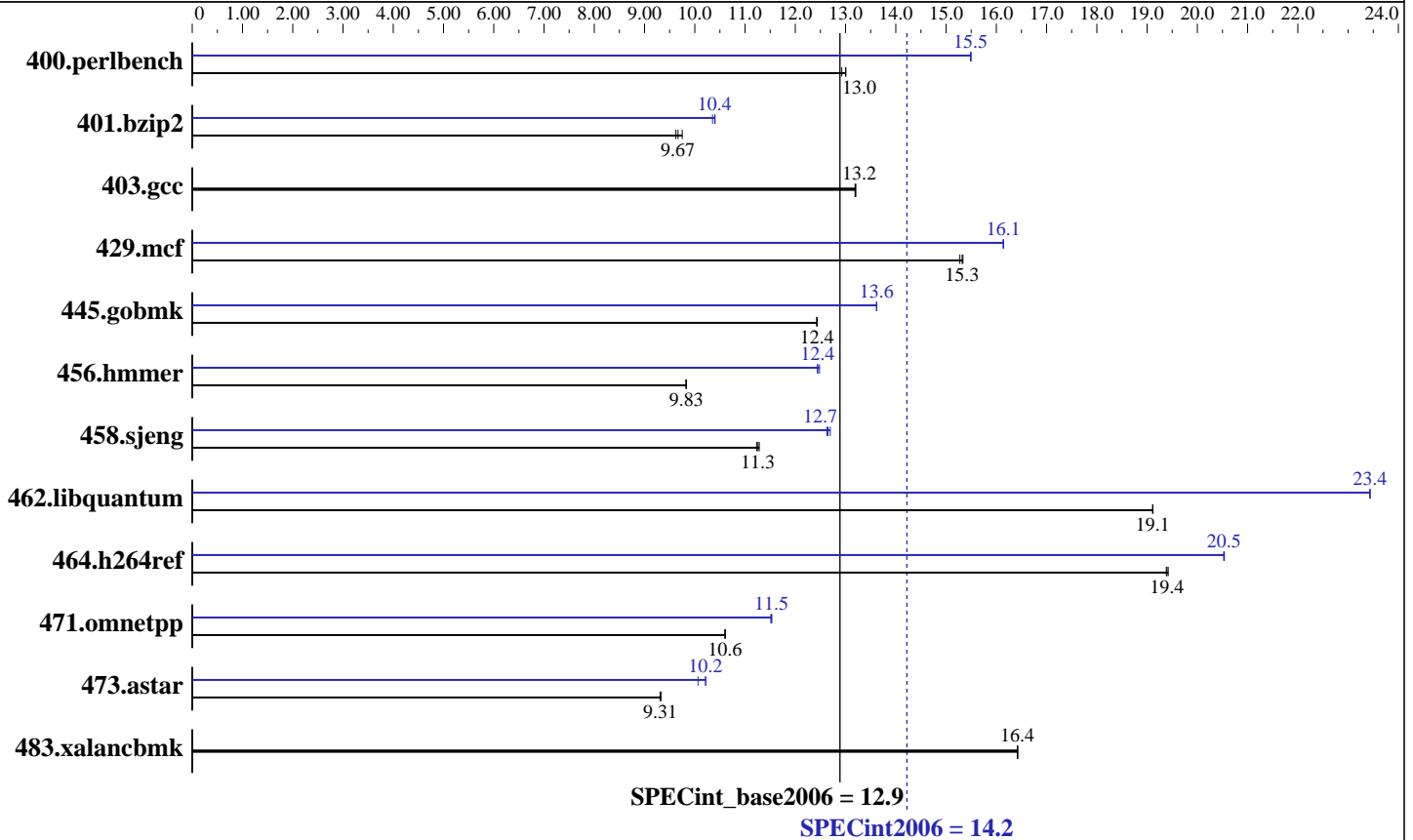
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: May-2007

Hardware Availability: Sep-2007

Software Availability: Jun-2007



### Hardware

CPU Name: Intel Xeon E5320  
 CPU Characteristics: Quad Core, 1.86 GHz  
 CPU MHz: 1866  
 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: 8 MB I+D on chip per chip, 4 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (8 \* 2GB Samsung DDR2 4200F, 2 rank, CL4-4-4, ECC)  
 Disk Subsystem: Seagate, SCSI, 73GB, 10Krpm, 1 disk only  
 Other Hardware: None

### Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86\_64  
 Compiler: Intel C++ Compiler for Linux32 version 10.0 Build 20070426 Package ID: l\_cc\_p\_10.0.023  
 Auto Parallel: No  
 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	756	12.9	751	13.0	<u>751</u>	<u>13.0</u>	631	15.5	630	15.5	<u>631</u>	<u>15.5</u>
401.bzip2	990	9.75	1003	9.62	<u>998</u>	<u>9.67</u>	<u>928</u>	<u>10.4</u>	928	10.4	932	10.4
403.gcc	610	13.2	<b>610</b>	<b>13.2</b>	610	13.2	610	13.2	<b>610</b>	<b>13.2</b>	610	13.2
429.mcf	<u>595</u>	<u>15.3</u>	595	15.3	597	15.3	<u>565</u>	<u>16.1</u>	565	16.1	565	16.1
445.gobmk	844	12.4	<b>844</b>	<b>12.4</b>	844	12.4	770	13.6	770	13.6	<b>770</b>	<b>13.6</b>
456.hmmer	950	9.82	<u>949</u>	<u>9.83</u>	949	9.83	<u>750</u>	<u>12.4</u>	750	12.4	747	12.5
458.sjeng	1072	11.3	1077	11.2	<b>1075</b>	<b>11.3</b>	<u>956</u>	<u>12.7</u>	953	12.7	958	12.6
462.libquantum	<b>1084</b>	<b>19.1</b>	1084	19.1	1084	19.1	884	23.4	<b>884</b>	<b>23.4</b>	884	23.4
464.h264ref	1140	19.4	<b>1141</b>	<b>19.4</b>	1142	19.4	1078	20.5	1077	20.5	<b>1078</b>	<b>20.5</b>
471.omnetpp	<u>590</u>	<u>10.6</u>	590	10.6	589	10.6	543	11.5	542	11.5	<u>542</u>	<u>11.5</u>
473.astar	754	9.31	<b>754</b>	<b>9.31</b>	753	9.33	698	10.1	<b>687</b>	<b>10.2</b>	687	10.2
483.xalancbmk	420	16.4	420	16.4	<b>420</b>	<b>16.4</b>	420	16.4	420	16.4	<b>420</b>	<b>16.4</b>

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

ulimit -s unlimited used to set stack size to unlimited

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.xalancbmk: -DSPEC\_CPU\_LINUX



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## Base Optimization Flags

C benchmarks:

-fast

C++ benchmarks:

-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/spec/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/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/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

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

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

456.hmmer: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

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

462.libquantum: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -Ob0  
-prefetch -opt-streaming-stores always

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec\_div -ansi-alias -Wl,-z,muldefs  
-L/spec/cpu2006.1.0/lib -lsmartheap

473.astar: Same as 471.omnetpp

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.20090715.00.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.20090715.00.xml>



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

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