



# SPEC® CINT2006 Result

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## HITACHI

### SPECint®\_rate2006 = 81.8

### BladeSymphony BS320 (Intel Xeon X5260)

### SPECint\_rate\_base2006 = 69.4

CPU2006 license: 872

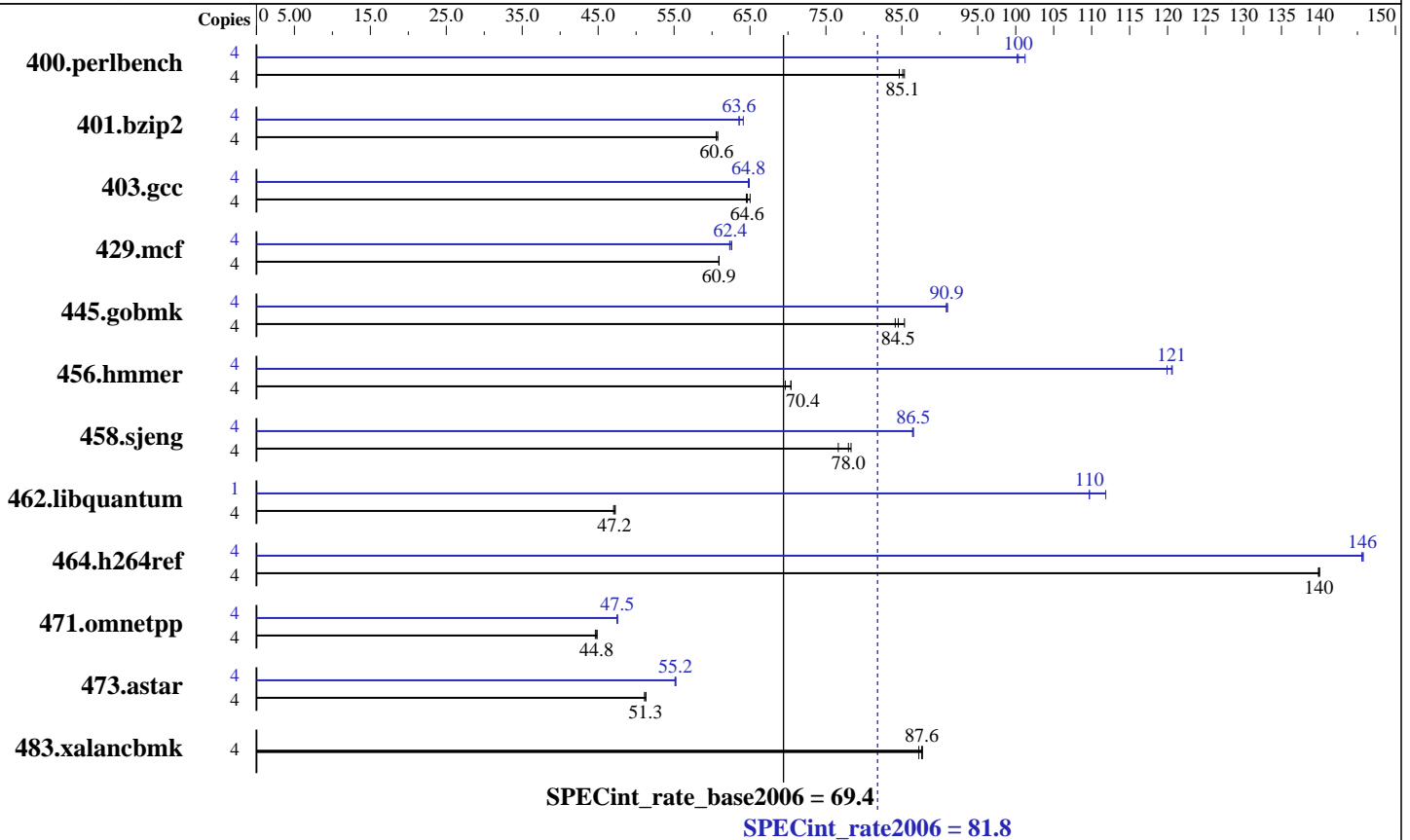
Test sponsor: HITACHI

Tested by: HITACHI

Test date: Feb-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007



#### Hardware

CPU Name: Intel Xeon X5260  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1, 2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB(4 x 4 GB PC2-5300F CAS 5-5-5)  
 Disk Subsystem: 1 x 147 GB 10000 rpm SAS  
 Other Hardware: None

#### Software

Operating System: Red Hat Enterprise Linux Server release 5.1 (Tikanga)  
 Kernel 2.6.18-53.el5 on an 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: ext3  
 System State: Multi-user run level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap library V8.1



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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	4	458	85.3	462	84.7	<u>459</u>	<u>85.1</u>	4	390	100	386	101	<u>389</u>	<u>100</u>
401.bzip2	4	637	60.6	635	60.8	<u>637</u>	<u>60.6</u>	4	607	63.6	602	64.1	<u>607</u>	<u>63.6</u>
403.gcc	4	499	64.5	495	65.0	<u>498</u>	<u>64.6</u>	4	496	64.9	<u>497</u>	<u>64.8</u>	497	64.8
429.mcf	4	599	60.9	<u>599</u>	<u>60.9</u>	599	60.9	4	<u>585</u>	<u>62.4</u>	583	62.6	585	62.3
445.gobmk	4	<u>496</u>	<u>84.5</u>	492	85.3	499	84.1	4	462	90.9	461	91.0	<u>462</u>	<u>90.9</u>
456.hammer	4	536	69.7	<u>530</u>	<u>70.4</u>	530	70.4	4	309	121	311	120	<u>310</u>	<u>121</u>
458.sjeng	4	632	76.6	<u>621</u>	<u>78.0</u>	618	78.3	4	559	86.5	560	86.4	<u>560</u>	<u>86.5</u>
462.libquantum	4	1762	47.0	<u>1757</u>	<u>47.2</u>	1754	47.3	1	189	110	<u>189</u>	<u>110</u>	185	112
464.h264ref	4	<u>633</u>	<u>140</u>	632	140	633	140	4	608	146	<u>608</u>	<u>146</u>	607	146
471.omnetpp	4	<u>558</u>	<u>44.8</u>	557	44.9	560	44.6	4	526	47.5	526	47.5	<u>526</u>	<u>47.5</u>
473.astar	4	550	51.1	548	51.3	<u>548</u>	<u>51.3</u>	4	509	55.1	<u>509</u>	<u>55.2</u>	508	55.2
483.xalancbmk	4	<u>315</u>	<u>87.6</u>	316	87.2	315	87.7	4	<u>315</u>	<u>87.6</u>	316	87.2	315	87.7

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

## General Notes

'/bin/taskset' used to bind processes to CPUs  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to physical,0

## 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

## Base Optimization Flags

C benchmarks:  
-fast -inline-calloc -opt-malloc-options=3

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## Base Optimization Flags (Continued)

C++ benchmarks:

```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/home/bsc/smartheap/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:

```
400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
-prefetch
```

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## Peak Optimization Flags (Continued)

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.hmmmer: -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/home/bsc/smartheap/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/home/bsc/smartheap/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-ic10.1-INT-ia32-linux-flags.20090713.01.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090713.01.xml>



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

Tested with SPEC CPU2006 v1.0.1.  
Report generated on Tue Jul 22 15:49:49 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 5 March 2008.