# SPEC® CINT2006 Result



## HITACHI

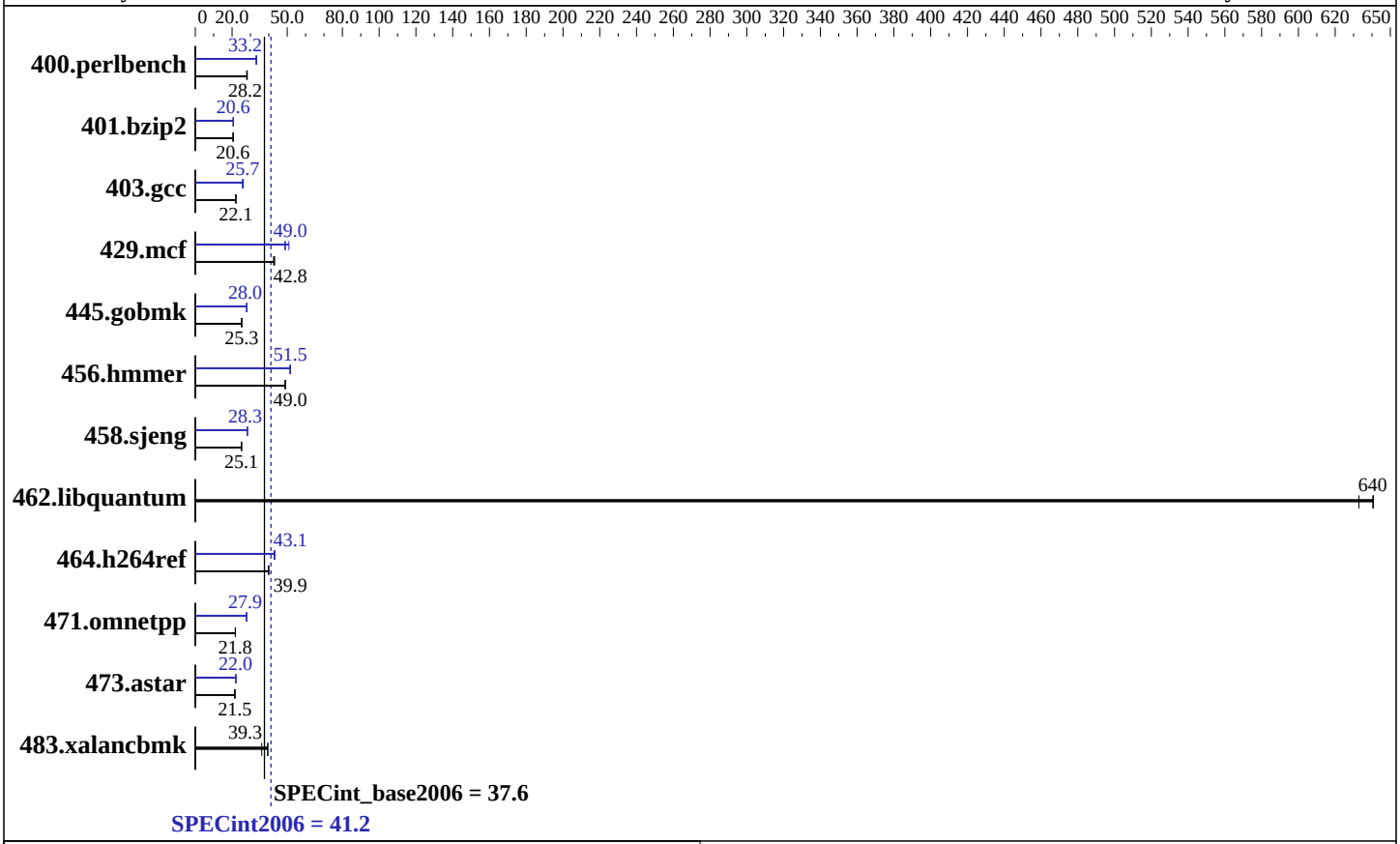
## BladeSymphony BS2000 (Intel Xeon X5680)

SPECint®2006 = 41.2

SPECint_base2006 = 37.6

**CPU2006 license:** 872
**Test sponsor:** HITACHI
**Tested by:** HITACHI

**Test date:** Apr-2010
**Hardware Availability:** Apr-2010
**Software Availability:** Dec-2009




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5680 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.6 GHz |
| CPU MHz: | 3333 |
| FPU: | Integrated |
| CPU(s) enabled: | 12 cores, 2 chips, 6 cores/chip |
| CPU(s) orderable: | 1, 2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |
| L3 Cache: | 12 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 48 GB(6 x 8 GB PC3-10600R running at 1333 MHz, 2 rank) |
| Disk Subsystem: | 4 x 147 GB 10000 rpm SAS |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 5.4.3, Advanced Platform, Kernel 2.6.18-164.9.1.el5 on an x86_64 |
| Compiler: | Intel C++ Compiler 11.1 for Linux Build 20091012 Package ID: l_cproc_p_11.1.059 |
| Auto Parallel: | Yes |
| File System: | ext3 |
| System State: | Multi-user run level 3 |
| Base Pointers: | 64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V8.1 |

## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 350 | 27.9 | 346 | 28.3 | **347** | **28.2** | 293 | 33.3 | **294** | **33.2** | 295 | 33.1 |
| 401.bzip2 | 471 | 20.5 | 467 | 20.7 | **469** | **20.6** | 466 | 20.7 | **468** | **20.6** | 469 | 20.6 |
| 403.gcc | 365 | 22.0 | **365** | **22.1** | 365 | 22.1 | 308 | 26.2 | **313** | **25.7** | 314 | 25.7 |
| 429.mcf | 211 | 43.2 | 214 | 42.6 | **213** | **42.8** | **186** | **49.0** | 187 | 48.7 | 179 | 50.9 |
| 445.gobmk | 416 | 25.2 | **415** | **25.3** | 415 | 25.3 | **374** | **28.0** | 374 | 28.0 | 377 | 27.8 |
| 456.hmmer | 191 | 48.8 | 190 | 49.1 | **190** | **49.0** | **181** | **51.5** | 181 | 51.5 | 180 | 51.8 |
| 458.sjeng | **481** | **25.1** | 481 | 25.1 | 481 | 25.1 | 427 | 28.3 | 427 | 28.4 | **427** | **28.3** |
| 462.libquantum | 32.7 | 633 | **32.4** | **640** | 32.3 | 641 | 32.7 | 633 | **32.4** | **640** | 32.3 | 641 |
| 464.h264ref | 555 | 39.9 | 554 | 40.0 | **555** | **39.9** | **513** | **43.1** | 512 | 43.3 | 516 | 42.8 |
| 471.omnetpp | 286 | 21.8 | **287** | **21.8** | 287 | 21.8 | **224** | **27.9** | 224 | 27.9 | 224 | 27.8 |
| 473.astar | **327** | **21.5** | 324 | 21.6 | 327 | 21.4 | 317 | 22.2 | **319** | **22.0** | 320 | 22.0 |
| 483.xalancbmk | 191 | 36.1 | **175** | **39.3** | 175 | 39.5 | 191 | 36.1 | **175** | **39.3** | 175 | 39.5 |

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 stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
```

## Platform Notes

```
BIOS Settings:
Intel HT Technology = Disabled
```

## Base Compiler Invocation

C benchmarks:

```
icc -m64
```

C++ benchmarks:

```
icpc -m64
```

## Base Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`

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## Base Portability Flags (Continued)

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/bsc/smartheap/lib -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 -m64

471.omnetpp: icpc -m32

## Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_X64
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_LP64 -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-calloc
-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: basepeak = yes

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

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/bsc/smartheap/lib -lsmartheap

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## Peak Optimization Flags (Continued)

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/bsc/smartheap/lib -lsmartheap64`

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-ic11.1-linux64-revE.20100427.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.20100427.xml`



For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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