# SPEC® CINT2006 Result

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## Intel Corporation

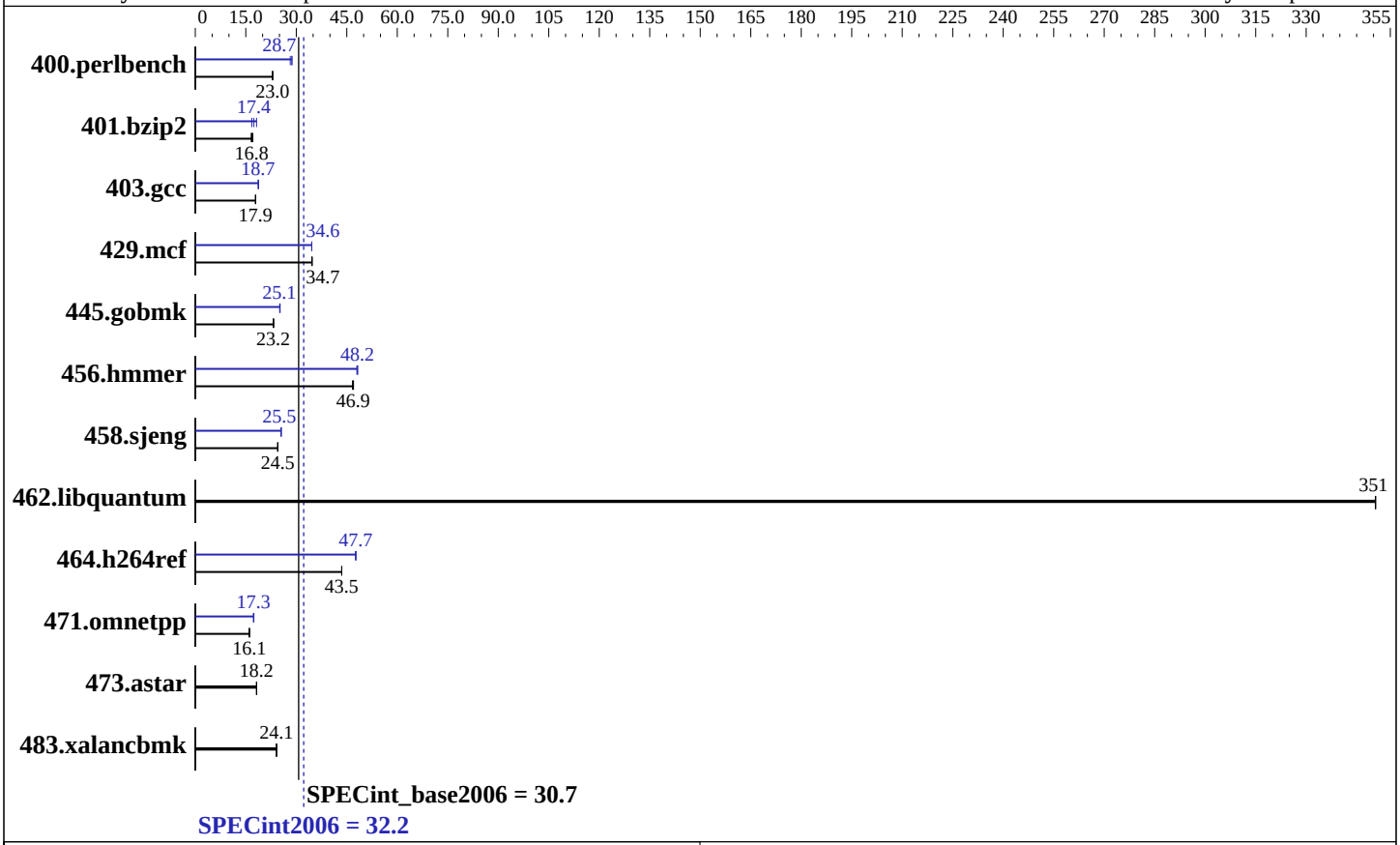
## Intel DH57JG Motherboard (Intel Core i5-650)

SPECint®2006 = 32.2

SPECint_base2006 = 30.7

**CPU2006 license:** 13
**Test sponsor:** Intel Corporation
**Tested by:** Intel Corporation

**Test date:** Jul-2011
**Hardware Availability:** Jan-2010
**Software Availability:** Apr-2011




### Hardware

| | |
|---|---|
| CPU Name: | Intel Core i5-650 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.46 GHz |
| CPU MHz: | 3200 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 2 cores/chip, 2 threads/core |
| CPU(s) orderable: | 1 chip |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |
| L3 Cache: | 4 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 4 GB (2 x 2 GB 2Rx8 PC3-10600U-9) |
| Disk Subsystem: | Seagate 1 TB SATA, 7200 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Windows 7 Ultimate (64-bit) |
| Compiler: | Intel C++ Compiler XE for Intel64<br>Version 12.0.3.176 Build 20110309<br>Microsoft Visual Studio 2008 Professional SP1 (for libraries) |
| Auto Parallel: | Yes |
| File System: | NTFS |
| System State: | Default |
| Base Pointers: | 32/64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | SmartHeap Library Version 9.01 from http://www.microquill.com/ |

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## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 426 | 22.9 | 425 | 23.0 | **425** | **23.0** | **341** | **28.7** | 340 | 28.7 | 346 | 28.2 |
| 401.bzip2 | 580 | 16.6 | **575** | **16.8** | 564 | 17.1 | 530 | 18.2 | 573 | 16.8 | **553** | **17.4** |
| 403.gcc | 449 | 17.9 | 450 | 17.9 | **449** | **17.9** | 430 | 18.7 | 429 | 18.8 | **430** | **18.7** |
| 429.mcf | 264 | 34.6 | **263** | **34.7** | 263 | 34.7 | 263 | 34.6 | **263** | **34.6** | 263 | 34.6 |
| 445.gobmk | 451 | 23.2 | 451 | 23.3 | **451** | **23.2** | 419 | 25.1 | **417** | **25.1** | 416 | 25.2 |
| 456.hmmer | 198 | 47.0 | 200 | 46.7 | **199** | **46.9** | 195 | 48.0 | 194 | 48.2 | **194** | **48.2** |
| 458.sjeng | 494 | 24.5 | **494** | **24.5** | 494 | 24.5 | 474 | 25.5 | 475 | 25.5 | **475** | **25.5** |
| 462.libquantum | 59.1 | 351 | **59.1** | **351** | 59.1 | 351 | 59.1 | 351 | **59.1** | **351** | 59.1 | 351 |
| 464.h264ref | 509 | 43.5 | **508** | **43.5** | 508 | 43.5 | **464** | **47.7** | 465 | 47.6 | 464 | 47.7 |
| 471.omnetpp | **389** | **16.1** | 389 | 16.1 | 390 | 16.0 | 361 | 17.3 | 360 | 17.4 | **361** | **17.3** |
| 473.astar | 387 | 18.2 | 386 | 18.2 | **387** | **18.2** | 387 | 18.2 | 386 | 18.2 | **387** | **18.2** |
| 483.xalancbmk | **286** | **24.1** | 285 | 24.2 | 286 | 24.1 | **286** | **24.1** | 285 | 24.2 | 286 | 24.1 |

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

## General Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter
```

## Base Compiler Invocation

C benchmarks:

```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc9
```

## Base Portability Flags

400.perlbench: -DSPEC_CPU_P64 -DSPEC_CPU_WIN64_X64
-DSPEC_CPU_NO_NEED_VA_COPY
401.bzip2: -DSPEC_CPU_P64
403.gcc: -DSPEC_CPU_P64 -DSPEC_CPU_WIN64
429.mcf: -DSPEC_CPU_P64
445.gobmk: -DSPEC_CPU_P64
456.hmmer: -DSPEC_CPU_P64
458.sjeng: -DSPEC_CPU_P64

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## Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_P64
464.h264ref: -DSPEC_CPU_P64 -DWIN32 -DSPEC_CPU_NO_INTTYPES
471.omnetpp: -DSPEC_CPU_P64 -DSPEC_CPU_WIN64
473.astar: -DSPEC_CPU_P64
483.xalancbmk: -DSPEC_CPU_P64 -Qoption,cpp,--no_wchar_t_keyword

## Base Optimization Flags

C benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel
-Qauto-ilp32 /F512000000

C++ benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
-Qauto-ilp32 /F512000000 shlW64M.lib -link /FORCE:MULTIPLE

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

400.perlbench: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F512000000 shlW64M.lib

Continued on next page

# Peak Optimization Flags (Continued)

400.perlbench (continued):
-link /FORCE:MULTIPLE

401.bzip2: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias -Qauto-ilp32 /F512000000

403.gcc: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F512000000

429.mcf: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F512000000

445.gobmk: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O2 -Qprec-div- -Qansi-alias -Qauto-ilp32 /F512000000

456.hmmer: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qauto-ilp32 /F512000000

458.sjeng: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto-ilp32 /F512000000

462.libquantum: basepeak = yes

464.h264ref: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qauto-ilp32 /F512000000

C++ benchmarks:

471.omnetpp: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-ra-region-strategy=block -Qauto-ilp32 /F512000000 shlW64M.lib -link /FORCE:MULTIPLE

473.astar: basepeak = yes

483.xalancbmk: 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-ic12-winx64-revC.html
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.xml
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.xml


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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 22:07:53 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 August 2011.