# SPEC® CINT2006 Result
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## Intel Corporation

Intel DQ87PG motherboard (Intel Celeron G1820)

$SPECint®2006 =$ 37.8
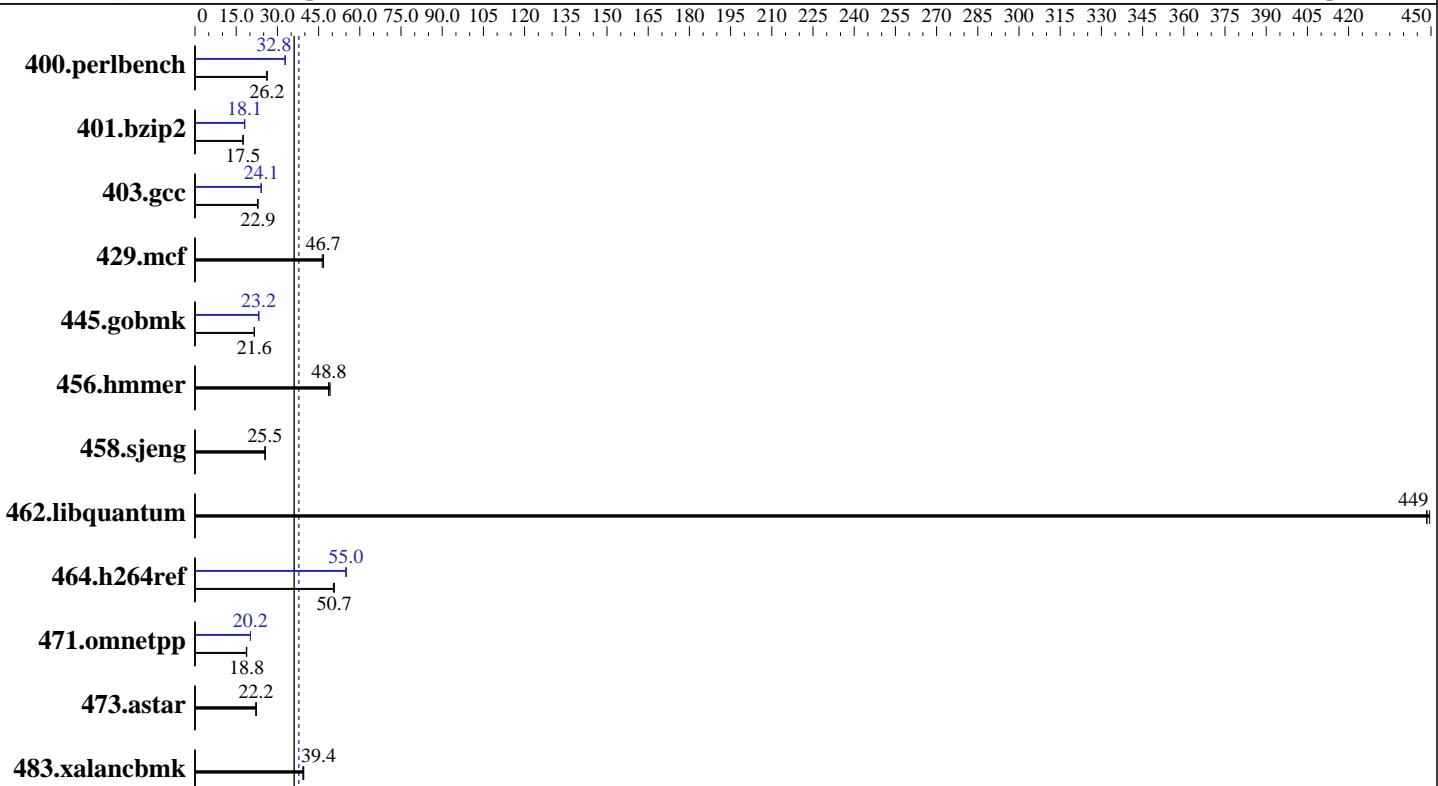
$SPECint\_base2006 =$ 36.1

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

**Test date:** Feb-2014
**Hardware Availability:** Dec-2013
**Software Availability:** Apr-2013



| | |
|---|---|
| 400.perlbench | 32.8 / 26.2 |
| 401.bzip2 | 18.1 / 17.5 |
| 403.gcc | 24.1 / 22.9 |
| 429.mcf | 46.7 |
| 445.gobmk | 23.2 / 21.6 |
| 456.hmmer | 48.8 |
| 458.sjeng | 25.5 |
| 462.libquantum | 449 |
| 464.h264ref | 55.0 / 50.7 |
| 471.omnetpp | 20.2 / 18.8 |
| 473.astar | 22.2 |
| 483.xalancbmk | 39.4 |

SPECint_base2006 = 36.1
SPECint2006 = 37.8

## Hardware

| | |
|---|---|
| CPU Name: | Intel Celeron G1820 |
| CPU Characteristics: | |
| CPU MHz: | 2700 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 2 cores/chip |
| 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: | 2 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 4 GB (2 x 2 GB 1Rx8 PC3-12800U-11, running at 1333 MHz and CL9) |
| Disk Subsystem: | 250 GB Seagate SATA HDD, 7200 RPM |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | Microsoft Windows 7 Enterprise 6.1.7601 Service Pack 1 Build 7601 |
| Compiler: | C/C++: Version 13.1.1.171 of Intel C++ Studio XE for Windows; Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1 |
| Auto Parallel: | Yes |
| File System: | NTFS |
| System State: | Default |
| Base Pointers: | 32/64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | SmartHeap Library Version 10.0 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 | 374 | 26.1 | 372 | 26.3 | **373** | **26.2** | 297 | 32.9 | 298 | 32.8 | **298** | **32.8** |
| 401.bzip2 | 553 | 17.5 | **551** | **17.5** | 550 | 17.5 | 533 | 18.1 | 535 | 18.0 | **535** | **18.1** |
| 403.gcc | 352 | 22.9 | **352** | **22.9** | 352 | 22.8 | 334 | 24.1 | **334** | **24.1** | 334 | 24.1 |
| 429.mcf | 195 | 46.8 | **195** | **46.7** | 197 | 46.3 | 195 | 46.8 | **195** | **46.7** | 197 | 46.3 |
| 445.gobmk | 485 | 21.6 | **485** | **21.6** | 485 | 21.6 | 452 | 23.2 | **452** | **23.2** | 452 | 23.2 |
| 456.hmmer | 192 | 48.6 | 190 | 49.2 | **191** | **48.8** | 192 | 48.6 | 190 | 49.2 | **191** | **48.8** |
| 458.sjeng | 473 | 25.6 | **474** | **25.5** | 474 | 25.5 | 473 | 25.6 | **474** | **25.5** | 474 | 25.5 |
| 462.libquantum | 46.1 | 450 | **46.2** | **449** | 46.2 | 449 | 46.1 | 450 | **46.2** | **449** | 46.2 | 449 |
| 464.h264ref | 439 | 50.4 | **437** | **50.7** | 436 | 50.7 | 402 | 55.1 | **402** | **55.0** | 403 | 54.9 |
| 471.omnetpp | 335 | 18.7 | 333 | 18.8 | **333** | **18.8** | 310 | 20.2 | **310** | **20.2** | 310 | 20.2 |
| 473.astar | **317** | **22.2** | 315 | 22.3 | 317 | 22.2 | **317** | **22.2** | 315 | 22.3 | 317 | 22.2 |
| 483.xalancbmk | 175 | 39.3 | **175** | **39.4** | 174 | 39.6 | 175 | 39.3 | **175** | **39.4** | 174 | 39.6 |

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

## Compiler Invocation Notes

```
To compile these binaries, the Intel Compiler 13.1 was set up to
generate 64-bit binaries with the command:
"ipsxe-comp-vars.bat intel64 vs2010" (shortcut provided in the Intel(r)
Parallel Studio XE 2013 program folder)
```

## Platform Notes

```
Sysinfo program C:\SPEC13.1/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on Clt00224D4FB715 Wed Feb 12 04:39:57 2014

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

Trying 'systeminfo'
OS Name        : Microsoft Windows 7 Enterprise
OS Version     : 6.1.7601 Service Pack 1 Build 7601
System Manufacturer: INTEL_
System Model   : DQ87PG__
Processor(s)   : 1 Processor(s) Installed.
    [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~2700 Mhz
BIOS Version   : Intel(R) Corp. PGQ8710H.86A.0036.2013.0702.1908, 7/2/2013
Total Physical Memory: 3,749 MB

Trying 'wmic cpu get /value'
DeviceID       : CPU0
```

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## Platform Notes (Continued)

```
  L2CacheSize    : 512
  L3CacheSize    : 2048
  MaxClockSpeed  : 2700
  Name           : Intel(R) Celeron(R) CPU G1820 @ 2.70GHz
  NumberOfCores  : 2
  NumberOfLogicalProcessors: 2

  (End of data from sysinfo program)
 BIOS: SATA mode set to RAID
 Windows Disk Driver: Intel Rapid Storage Technology 12.5.0.1066
 Windows Chipset Driver: Intel Chipset Driver 9.4.0.1027
```

## Component Notes

```
 Tested systems can be used with Shin-G ATX case,
 PC Power and Cooling 1200W power supply
 Micron MT8JTF25664AZ-1G6 Series Memory DIMMs
```

## General Notes

```
 OMP_NUM_THREADS set to number of processors cores
 KMP_AFFINITY set to granularity=fine,scatter
 Binaries compiled on a system with 1x Intel Core i7-860 CPU
 + 8GB memory using Windows 7 Enterprise 64-bit
```

## Base Compiler Invocation

C benchmarks:
```
    icl -Qvc10 -Qstd=c99
```

C++ benchmarks:
```
    icl -Qvc10
```

## 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
   462.libquantum: -DSPEC_CPU_P64
      464.h264ref: -DSPEC_CPU_P64 -DWIN32 -DSPEC_CPU_NO_INTTYPES
```

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# Base Portability Flags (Continued)

```
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 -Qvc10 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc10
```

# 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
                        -link /FORCE:MULTIPLE
```

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# Peak Optimization Flags (Continued)

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: basepeak = yes

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: basepeak = yes

458.sjeng: basepeak = yes

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 file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic13.1-official-windows.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic13.1-official-windows.xml

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

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