SPEC® CINT2006 Result

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Intel Corporation

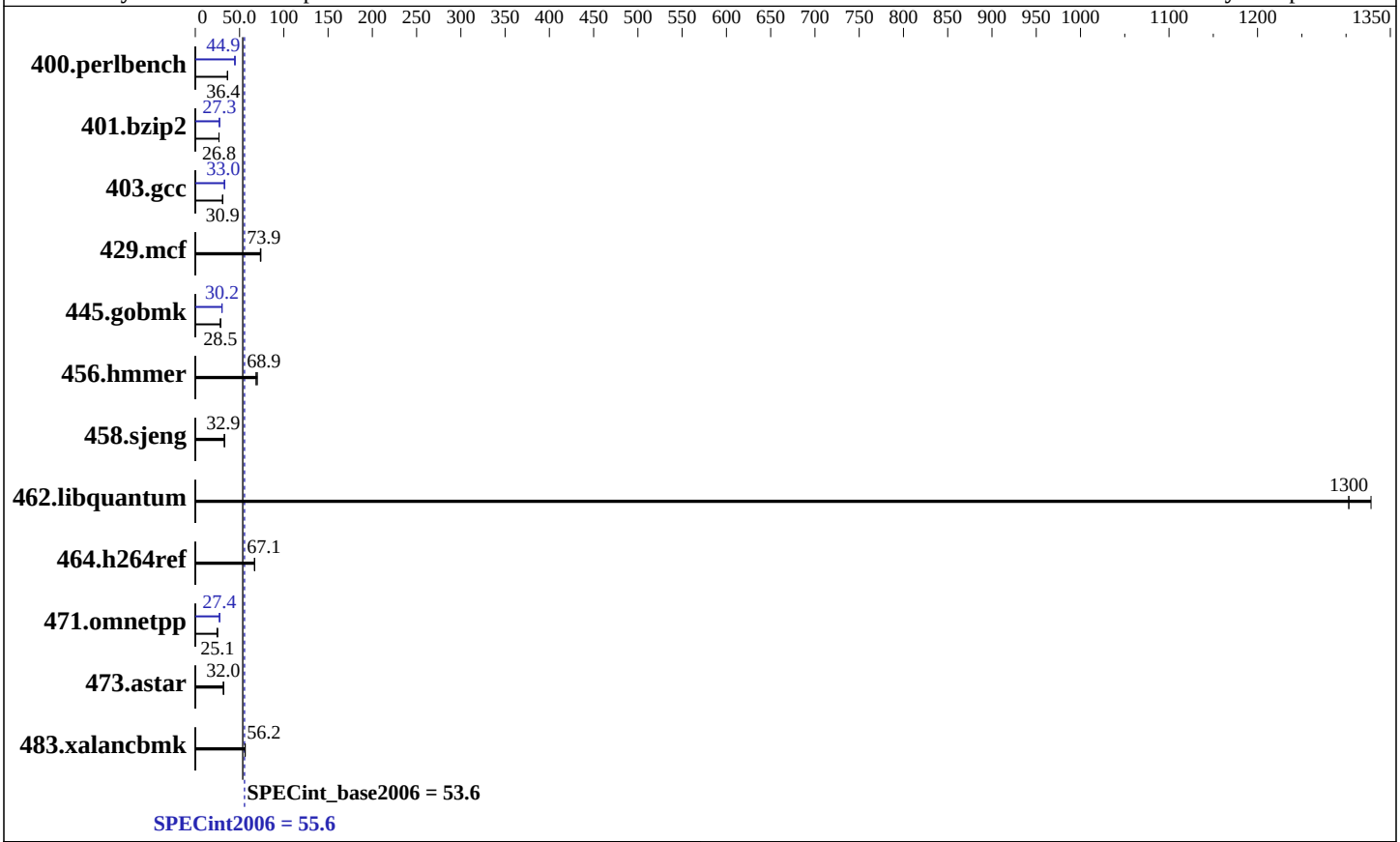
Intel DQ87PG motherboard (Intel Core i5-4670K)

SPECint®2006 = 55.6

SPECint_base2006 = 53.6

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

Test date: Oct-2013
Hardware Availability: Jul-2013
Software Availability: Apr-2013



Hardware

CPU Name:	Intel Core i5-4670K
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 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:	6 MB I+D on chip per chip
Other Cache:	None
Memory:	4 GB (2 x 2 GB 1Rx8 PC3-12800U-11)
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	**268**	**36.4**	269	36.4	268	36.4	219	44.5	217	44.9	**218**	**44.9**
401.bzip2	361	26.7	**360**	**26.8**	360	26.8	353	27.3	**354**	**27.3**	354	27.3
403.gcc	260	30.9	260	30.9	**260**	**30.9**	**244**	**33.0**	244	33.0	244	33.0
429.mcf	**123**	**73.9**	124	73.5	123	74.0	**123**	**73.9**	124	73.5	123	74.0
445.gobmk	369	28.5	368	28.5	**368**	**28.5**	348	30.1	347	30.2	**347**	**30.2**
456.hmmer	**136**	**68.9**	133	70.1	136	68.7	**136**	**68.9**	133	70.1	136	68.7
458.sjeng	**367**	**32.9**	368	32.9	367	33.0	**367**	**32.9**	368	32.9	367	33.0
462.libquantum	**15.9**	**1300**	15.9	1300	15.6	1330	**15.9**	**1300**	15.9	1300	15.6	1330
464.h264ref	330	67.1	**330**	**67.1**	331	66.8	330	67.1	**330**	**67.1**	331	66.8
471.omnetpp	**249**	**25.1**	248	25.2	255	24.5	229	27.3	228	27.5	**228**	**27.4**
473.astar	**220**	**32.0**	219	32.0	222	31.6	**220**	**32.0**	219	32.0	222	31.6
483.xalancbmk	122	56.5	**123**	**56.2**	123	56.2	122	56.5	**123**	**56.2**	123	56.2

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 Clt7C05070FB382 Sat Oct  5 03:27:24 2013

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 ~3401 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
```

Continued on next page

Platform Notes (Continued)

```
 L2CacheSize   : 1024
 L3CacheSize   : 6144
 MaxClockSpeed : 3401
 Name          : Intel(R) Core(TM) i5-4670K CPU @ 3.40GHz
 NumberOfCores : 4
 NumberOfLogicalProcessors: 4

 (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
```

Continued on next page

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:
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel
-Qauto-ilp32 /F512000000

C++ benchmarks:
-QxCORE-AVX2 -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: -QxCORE-AVX2(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

Continued on next page

Peak Optimization Flags (Continued)

401.bzip2: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias -Qauto-ilp32 /F512000000

403.gcc: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F512000000

429.mcf: basepeak = yes

445.gobmk: -QxCORE-AVX2(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: basepeak = yes

C++ benchmarks:

471.omnetpp: -QxCORE-AVX2(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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