SPEC® CINT2006 Result

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Intel Corporation

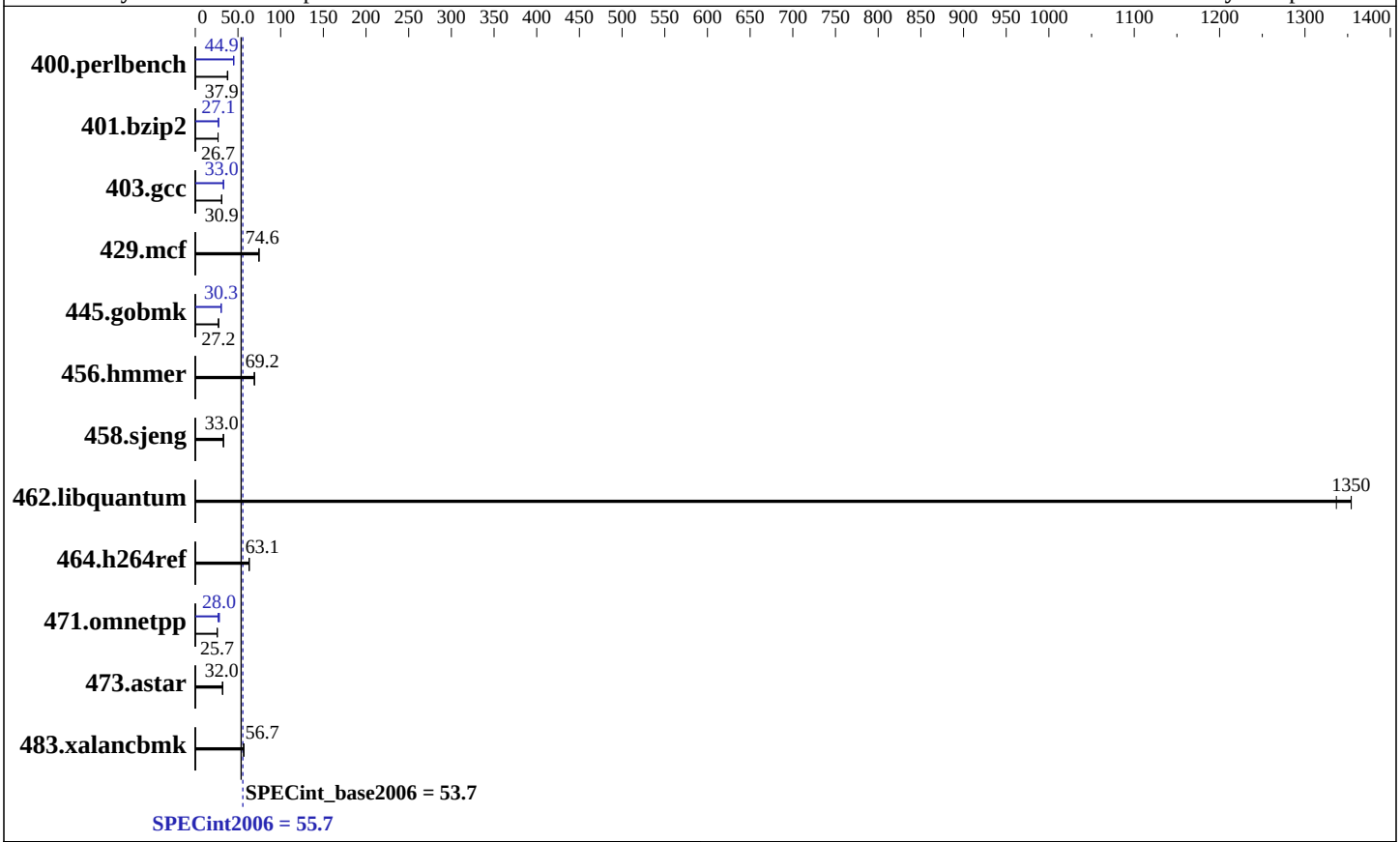
Intel DH87MC motherboard (Intel Core i5-4570)

SPECint®2006 = 55.7

SPECint_base2006 = 53.7

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

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



Hardware

CPU Name:	Intel Core i5-4570
CPU Characteristics:	Intel Turbo Boost Technology up to 3.6 GHz
CPU MHz:	3200
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:	8 GB (2 x 4 GB 2Rx8 PC3-12800U-9)
Disk Subsystem:	1 TB Seagate SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	Microsoft Windows 8 Pro 6.2.9200 N/A Build 9200
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	261	37.5	256	38.1	**258**	**37.9**	217	45.1	218	44.9	**218**	**44.9**
401.bzip2	362	26.7	**362**	**26.7**	363	26.6	**356**	**27.1**	355	27.2	356	27.1
403.gcc	**260**	**30.9**	260	31.0	260	30.9	**244**	**33.0**	244	33.0	243	33.1
429.mcf	**122**	**74.6**	122	74.6	122	74.6	**122**	**74.6**	122	74.6	122	74.6
445.gobmk	385	27.2	**385**	**27.2**	385	27.2	**346**	**30.3**	347	30.3	346	30.3
456.hmmer	134	69.4	135	69.2	**135**	**69.2**	134	69.4	135	69.2	**135**	**69.2**
458.sjeng	**367**	**33.0**	367	33.0	368	32.9	**367**	**33.0**	367	33.0	368	32.9
462.libquantum	15.3	1350	15.5	1340	**15.3**	**1350**	15.3	1350	15.5	1340	**15.3**	**1350**
464.h264ref	350	63.2	**351**	**63.1**	351	63.0	350	63.2	**351**	**63.1**	351	63.0
471.omnetpp	**243**	**25.7**	243	25.7	243	25.7	**223**	**28.0**	223	28.1	235	26.7
473.astar	**219**	**32.0**	219	32.1	220	31.9	**219**	**32.0**	219	32.1	220	31.9
483.xalancbmk	**122**	**56.7**	122	56.6	121	56.9	**122**	**56.7**	122	56.6	121	56.9

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:\Users\PECA_W~1\Desktop\CPU200~1.APR/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on HSW_9200 Sat Jul 13 03:14:36 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 8 Pro
OS Version    : 6.2.9200 N/A Build 9200
System Manufacturer: INTEL_
System Model  : DH87MC__
Processor(s)  : 1 Processor(s) Installed.
     [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~3201 Mhz
BIOS Version  : Intel Corp. MCH8710H.86A.0043.2013.0412.2225, 4/12/2013
Total Physical Memory: 7,864 MB

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

Continued on next page

Platform Notes (Continued)

```
L2CacheSize   : 1024
L3CacheSize   : 6144
MaxClockSpeed : 3201
Name          : Intel(R) Core(TM) i5-4570 CPU @ 3.20GHz
NumberOfCores : 4
NumberOfLogicalProcessors: 4

(End of data from sysinfo program)
```

Component Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
```

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
  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`

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`

Continued on next page

Peak Optimization Flags (Continued)

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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