



SPEC® CINT2006 Result

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Intel Corporation

SPECint®2006 = 55.7

Intel DH87MC motherboard (Intel Core i5-4570)

SPECint_base2006 = 53.7

CPU2006 license: 13

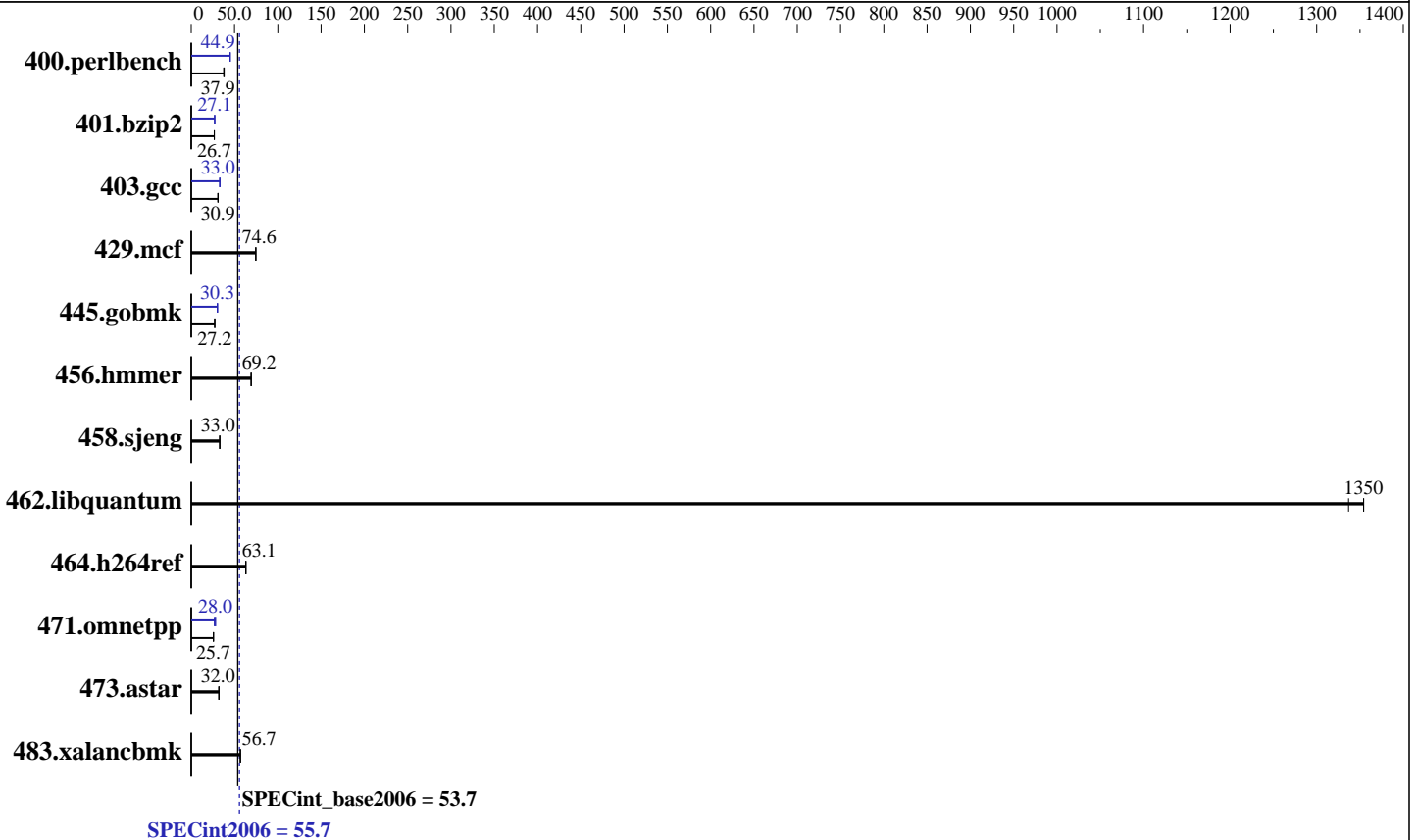
Test date: Jul-2013

Test sponsor: Intel Corporation

Hardware Availability: Jun-2013

Tested by: Intel Corporation

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	<u>258</u>	<u>37.9</u>	217	45.1	218	44.9	<u>218</u>	<u>44.9</u>
401.bzip2	362	26.7	<u>362</u>	<u>26.7</u>	363	26.6	<u>356</u>	<u>27.1</u>	355	27.2	356	27.1
403.gcc	<u>260</u>	<u>30.9</u>	260	31.0	260	30.9	<u>244</u>	<u>33.0</u>	244	33.0	243	33.1
429.mcf	<u>122</u>	<u>74.6</u>	122	74.6	122	74.6	<u>122</u>	<u>74.6</u>	122	74.6	122	74.6
445.gobmk	385	27.2	<u>385</u>	<u>27.2</u>	385	27.2	<u>346</u>	<u>30.3</u>	347	30.3	346	30.3
456.hammer	134	69.4	135	69.2	<u>135</u>	<u>69.2</u>	134	69.4	135	69.2	<u>135</u>	<u>69.2</u>
458.sjeng	<u>367</u>	<u>33.0</u>	367	33.0	368	32.9	<u>367</u>	<u>33.0</u>	367	33.0	368	32.9
462.libquantum	15.3	1350	15.5	1340	<u>15.3</u>	<u>1350</u>	15.3	1350	15.5	1340	<u>15.3</u>	<u>1350</u>
464.h264ref	350	63.2	<u>351</u>	<u>63.1</u>	351	63.0	350	63.2	<u>351</u>	<u>63.1</u>	351	63.0
471.omnetpp	<u>243</u>	<u>25.7</u>	243	25.7	243	25.7	<u>223</u>	<u>28.0</u>	223	28.1	235	26.7
473.astar	<u>219</u>	<u>32.0</u>	219	32.1	220	31.9	<u>219</u>	<u>32.0</u>	219	32.1	220	31.9
483.xalancbmk	<u>122</u>	<u>56.7</u>	122	56.6	121	56.9	<u>122</u>	<u>56.7</u>	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
```

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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.hmmmer: -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



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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

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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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