



SPEC® CINT2006 Result

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ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

SPECint®_rate2006 = 178

ASUS Z170MPLUS motherboard (Intel Core i5-6400)

SPECint_rate_base2006 = 171

CPU2006 license: 13

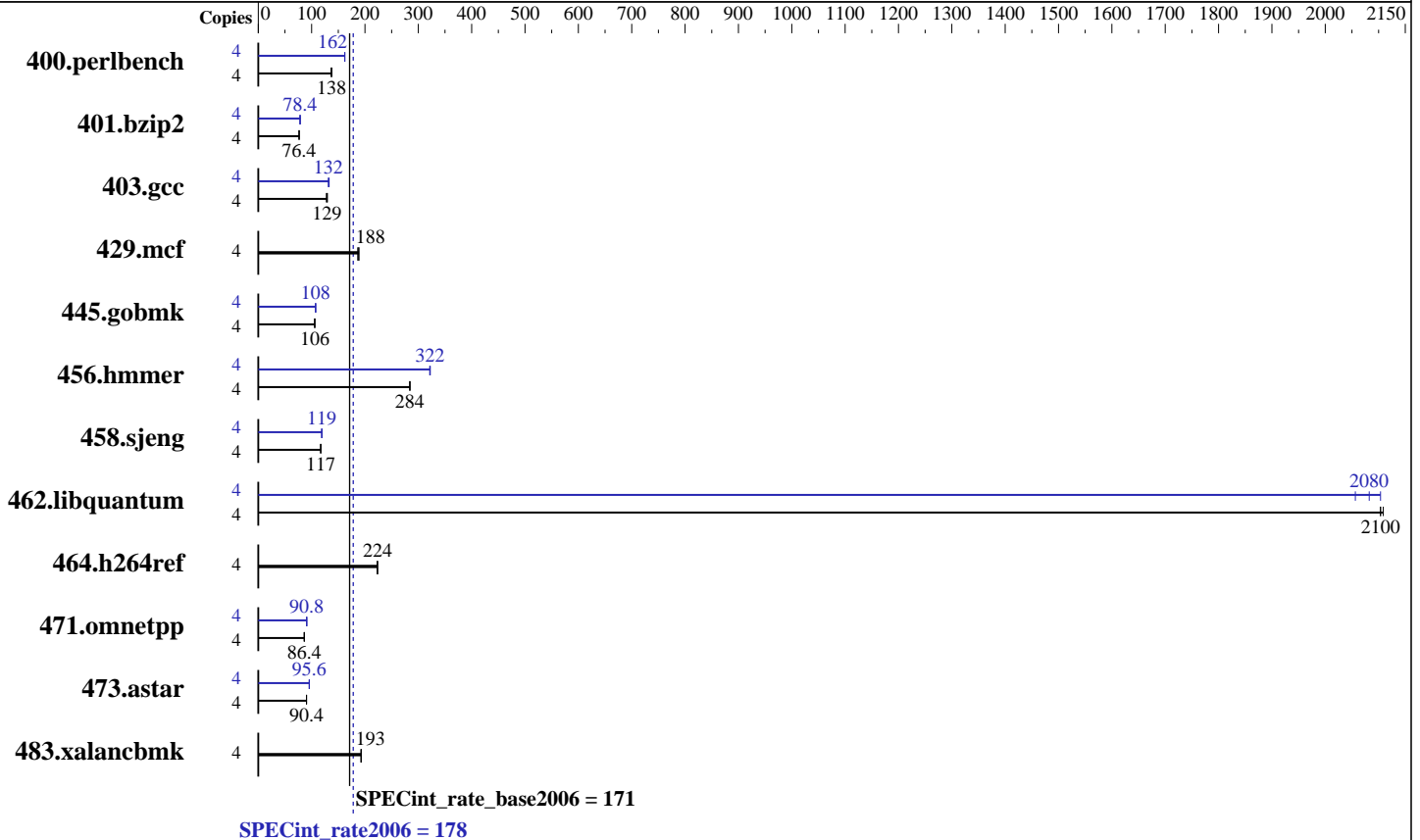
Test date: Oct-2015

Test sponsor: Intel Corporation

Hardware Availability: Sep-2015

Tested by: Intel Corporation

Software Availability: Aug-2015



Hardware

CPU Name: Intel Core i5-6400
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
 CPU MHz: 2700
 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 2Rx4 PC4-2133P-U)
 Disk Subsystem: 1 TB Seagate SATA HDD, 7200 RPM
 Other Hardware: None

Software

Operating System: Microsoft Windows 10 Pro
 10.0.10240 N/A Build 10240
 Compiler: C/C++: Version 16.0.0.110 of Intel C++ Studio XE for Windows;
 Libraries: Version 18.00.30723 of Microsoft Visual Studio 2013
 Auto Parallel: No
 File System: NTFS
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap Library Version 11.0 from <http://www.microquill.com/>



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	284	138	284	138	287	136	4	241	162	241	162	241	162
401.bzip2	4	504	76.4	501	76.8	505	76.4	4	492	78.4	490	78.8	494	78.0
403.gcc	4	252	128	250	129	248	130	4	245	132	242	133	245	132
429.mcf	4	194	188	196	186	193	189	4	194	188	196	186	193	189
445.gobmk	4	397	106	396	106	396	106	4	391	107	390	108	390	108
456.hammer	4	131	284	132	284	131	284	4	116	322	116	322	116	322
458.sjeng	4	413	117	414	117	414	117	4	406	119	406	119	407	119
462.libquantum	4	39.3	2110	39.4	2100	39.4	2100	4	39.4	2100	39.8	2080	40.3	2060
464.h264ref	4	398	223	396	224	396	224	4	398	223	396	224	396	224
471.omnetpp	4	290	86.0	290	86.4	290	86.4	4	275	90.8	275	90.8	275	90.8
473.astar	4	311	90.4	311	90.4	311	90.4	4	294	95.6	294	95.6	293	95.6
483.xalancbmk	4	143	193	143	193	143	193	4	143	193	143	193	143	193

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 16.0 was set up to generate 32-bit binaries with the command:
"ipsxe-comp-vars.bat ia32 vs2010" (shortcut provided in the Intel(r) Parallel Studio XE 2016 program folder)

Platform Notes

Sysinfo program C:\SPEC16.0\Docs\sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on DESKTOP-C8BQE08 Sat Oct 10 01:29:13 2015

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 10 Pro
OS Version    : 10.0.10240 N/A Build 10240
System Manufacturer: System manufacturer
System Model   : System Product Name
Processor(s)  : 1 Processor(s) Installed.
               [01]: Intel64 Family 6 Model 94 Stepping 3 GenuineIntel ~2701 Mhz
BIOS Version  : American Megatrends Inc. 0408, 8/28/2015
Total Physical Memory: 8,084 MB
```

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

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Platform Notes (Continued)

L2CacheSize : 1024
L3CacheSize : 6144
MaxClockSpeed : 2701
Name : Intel(R) Core(TM) i5-6400 CPU @ 2.70GHz
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

Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU
+ 64GB memory using Windows 8.1 Enterprise 64-bit

Base Compiler Invocation

C benchmarks:
icl -Qvc12 -Qstd=c99

C++ benchmarks:
icl -Qvc12

Base Portability Flags

403.gcc: -DSPEC_CPU_WIN32
464.h264ref: -DWIN32
483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword

Base Optimization Flags

C benchmarks:
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F256000000

C++ benchmarks:
-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
/F256000000 shlw32M.lib -link /FORCE:MULTIPLE



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Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icl -Qvc12 -Qstd=c99

C++ benchmarks (except as noted below):

icl -Qvc12

Peak Portability Flags

403.gcc: -DSPEC_CPU_WIN32
456.hmmr: -DSPEC_CPU_P64
458.sjeng: -DSPEC_CPU_P64
462.libquantum: -DSPEC_CPU_P64
464.h264ref: -DWIN32
473.astar: -DSPEC_CPU_P64
483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword

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
/F256000000 shlw32M.lib -link /FORCE:MULTIPLE

401.bz2: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias
/F256000000

403.gcc: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch /F256000000

429.mcf: basepeak = yes

445.gobmk: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O2 -Qprec-div- -Qansi-alias /F256000000

464.h264ref: basepeak = yes

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Peak Optimization Flags (Continued)

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 /F256000000 shlW32M.lib
             -link /FORCE:MULTIPLE
```

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-ic16.0-official-windows.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-windows.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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