



SPEC® CINT2006 Result

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Intel Corporation

SPECint®_rate2006 = 87.9

Intel DQ77MK motherboard (Intel Core i3-3220)

SPECint_rate_base2006 = 82.5

CPU2006 license: 13

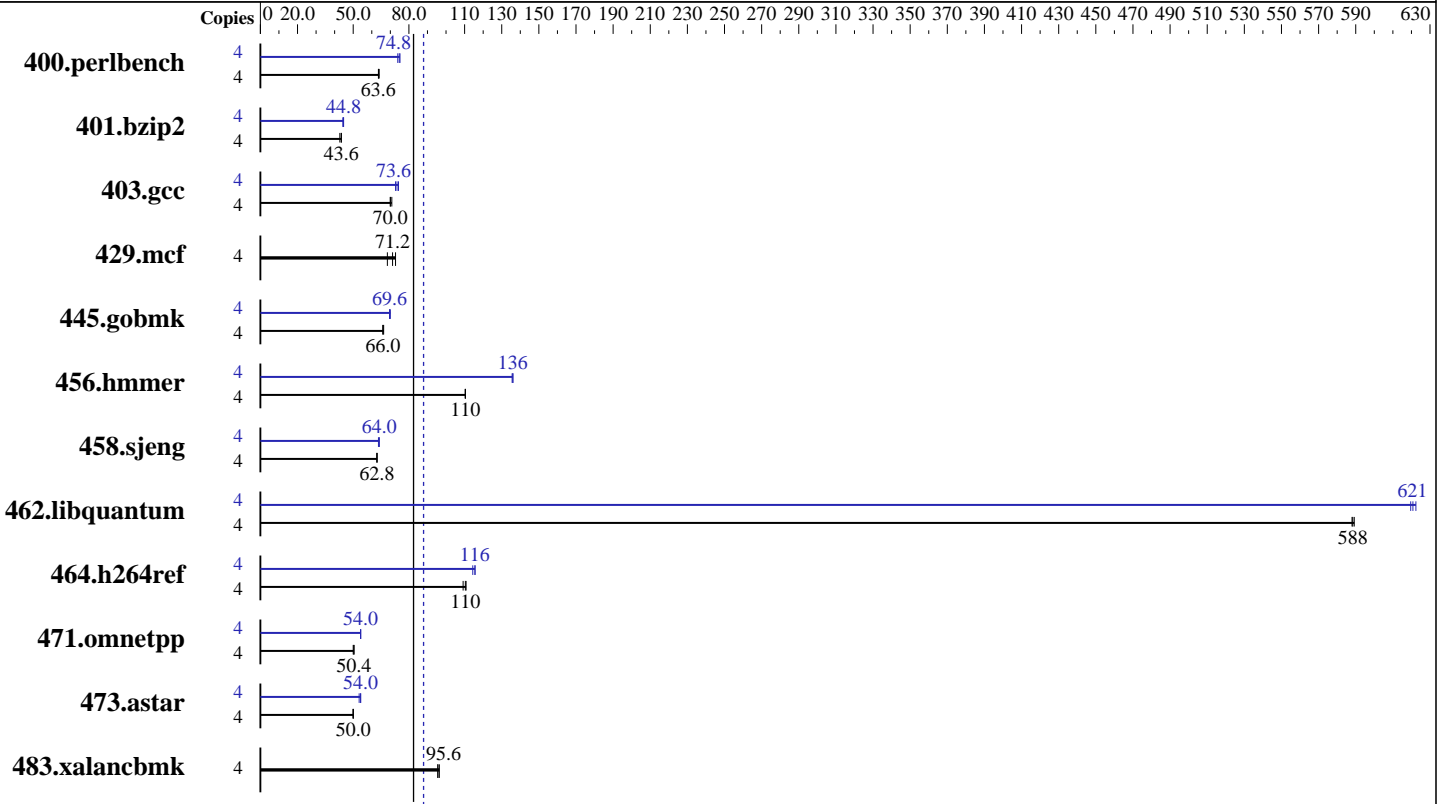
Test date: Dec-2013

Test sponsor: Intel Corporation

Hardware Availability: Sep-2013

Tested by: Intel Corporation

Software Availability: Apr-2013



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Hardware

CPU Name: Intel Core i3-3220
 CPU Characteristics:
 CPU MHz: 3300
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core
 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: 3 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: No
 File System: NTFS
 System State: Default
 Base Pointers: 32-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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	613	63.6	<u>613</u>	<u>63.6</u>	612	64.0	4	<u>523</u>	<u>74.8</u>	521	75.2	529	74.0
401.bzip2	4	904	42.8	<u>885</u>	<u>43.6</u>	884	43.6	4	873	44.4	<u>860</u>	<u>44.8</u>	858	44.8
403.gcc	4	455	70.8	461	70.0	<u>459</u>	<u>70.0</u>	4	433	74.4	441	72.8	<u>439</u>	<u>73.6</u>
429.mcf	4	535	68.4	<u>513</u>	<u>71.2</u>	501	72.8	4	535	68.4	<u>513</u>	<u>71.2</u>	501	72.8
445.gobmk	4	637	66.0	632	66.4	<u>635</u>	<u>66.0</u>	4	<u>602</u>	<u>69.6</u>	602	69.6	599	70.0
456.hammer	4	338	110	338	110	<u>338</u>	<u>110</u>	4	275	136	276	136	<u>275</u>	<u>136</u>
458.sjeng	4	769	62.8	<u>769</u>	<u>62.8</u>	770	62.8	4	<u>757</u>	<u>64.0</u>	757	64.0	759	63.6
462.libquantum	4	141	588	<u>141</u>	<u>588</u>	141	589	4	133	622	<u>134</u>	<u>621</u>	134	620
464.h264ref	4	<u>802</u>	<u>110</u>	798	111	811	109	4	765	116	773	114	<u>767</u>	<u>116</u>
471.omnetpp	4	<u>498</u>	<u>50.4</u>	499	50.0	497	50.4	4	464	54.0	<u>464</u>	<u>54.0</u>	464	54.0
473.astar	4	560	50.0	<u>563</u>	<u>50.0</u>	563	50.0	4	522	54.0	<u>522</u>	<u>54.0</u>	528	53.2
483.xalancbmk	4	<u>288</u>	<u>95.6</u>	287	96.4	288	95.6	4	<u>288</u>	<u>95.6</u>	287	96.4	288	95.6

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 32-bit binaries with the command:
"ipsxe-comp-vars.bat ia32 vs2010" (shortcut provided in the Intel(r) Parallel Studio XE 2013 program folder)

Submit Notes

Processes were bound to specific processors using the start command with the /affinity switch. The config file option 'submit' was used to generate the affinity mask for each process.

Platform Notes

Sysinfo program C:\SPEC13.1\Docs\sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c
running on Clt7054D217ADD3 Sat Dec 7 23:26:25 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 : DQ77MK_
Processor(s) : 1 Processor(s) Installed.

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Platform Notes (Continued)

[01]: Intel64 Family 6 Model 58 Stepping 9 GenuineIntel ~3300 Mhz
BIOS Version : Intel Corp. MKQ7710H.86A.0054.2012.1120.1444, 11/20/2012
Total Physical Memory: 3,912 MB

Trying 'wmic cpu get /value'

```
DeviceID      : CPU0
L2CacheSize  : 512
L3CacheSize  : 3072
MaxClockSpeed : 3300
Name         : Intel(R) Core(TM) i3-3220 CPU @ 3.30GHz
NumberOfCores : 2
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

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

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



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Base Optimization Flags

C benchmarks:

-QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

C++ benchmarks:

-QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
/F512000000 shlw32M.lib -link /FORCE:MULTIPLE

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icl -Qvc10 -Qstd=c99

456.hmmr: C:\Program Files (x86)\Intel\Composer XE 2013.171\bin\intel64\icl.exe

458.sjeng: C:\Program Files (x86)\Intel\Composer XE 2013.171\bin\intel64\icl.exe

462.libquantum: C:\Program Files (x86)\Intel\Composer XE 2013.171\bin\intel64\icl.exe
-Qstd=c99

C++ benchmarks (except as noted below):

icl -Qvc10

473.astar: C:\Program Files (x86)\Intel\Composer XE 2013.171\bin\intel64\icl.exe

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 -DSPEC_CPU_NO_INTTYPES

473.astar: -DSPEC_CPU_P64

483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword



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Peak Optimization Flags

C benchmarks:

400.perlbench: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qansi-alias -Qopt-prefetch /F512000000
shlW32M.lib -link /FORCE:MULTIPLE

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

403.gcc: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qopt-prefetch /F512000000

429.mcf: basepeak = yes

445.gobmk: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O2 -Qprec-div- -Qansi-alias /F512000000

456.hmmer: -Qauto-ilp32 -QxAVX(pass 2) -Qprof_gen(pass 1)
-Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F512000000

458.sjeng: -Qauto-ilp32 -QxAVX(pass 2) -Qprof_gen(pass 1)
-Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4
/F512000000

462.libquantum: -Qauto-ilp32 -QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F512000000

464.h264ref: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qunroll2 -Qansi-alias /F512000000

C++ benchmarks:

471.omnetpp: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qansi-alias
-Qopt-ra-region-strategy=block /F512000000 shlW32M.lib
-link /FORCE:MULTIPLE

473.astar: -Qauto-ilp32 -QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F512000000 shlW64M.lib -link /FORCE:MULTIPLE

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

Continued on next page



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Peak Other Flags (Continued)

403.gcc: -Dalloca=_alloca

456.hmmr: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013.171/compiler/lib/intel64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib/AMD64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

458.sjeng: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013.171/compiler/lib/intel64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib/AMD64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

462.libquantum: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013.171/compiler/lib/intel64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib/AMD64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

C++ benchmarks:

473.astar: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2013.171/compiler/lib/intel64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib/AMD64
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 10.0/VC/lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

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

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