



SPEC® CINT2006 Result

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Gigabyte Technology Co., Ltd.

(Test Sponsor: Intel Corporation)

SPECint®_rate2006 = 293

GigaByte x79-UP4 motherboard (Intel Core i7-4960X)

SPECint_rate_base2006 = 280

CPU2006 license: 13

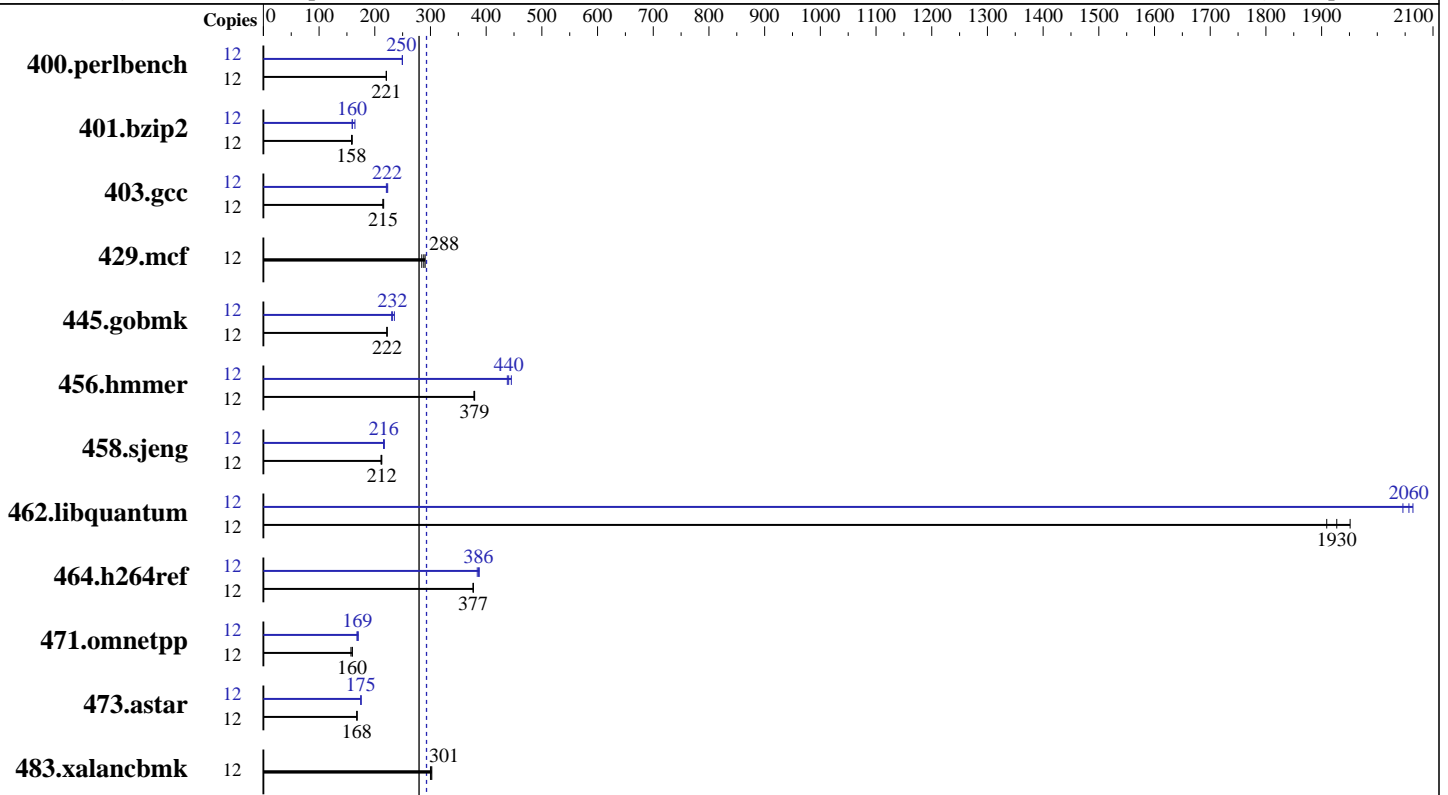
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Aug-2013

Hardware Availability: Sep-2013

Software Availability: Apr-2013



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Hardware

CPU Name: Intel Core i7-4960X
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
 CPU MHz: 3600
 FPU: Integrated
 CPU(s) enabled: 6 cores, 1 chip, 6 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: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (4 x 4 GB 2Rx4 PC3-12800U-11)
 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: 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	12	531	221	530	221	<u>530</u>	<u>221</u>	12	471	250	<u>470</u>	<u>250</u>	469	250
401.bzip2	12	731	158	726	160	<u>731</u>	<u>158</u>	12	724	160	704	164	<u>723</u>	<u>160</u>
403.gcc	12	<u>450</u>	<u>215</u>	451	215	447	216	12	<u>435</u>	<u>222</u>	433	223	437	221
429.mcf	12	<u>380</u>	<u>288</u>	385	284	377	290	12	<u>380</u>	<u>288</u>	385	284	377	290
445.gobmk	12	567	222	<u>567</u>	<u>222</u>	568	222	12	546	230	<u>543</u>	<u>232</u>	535	235
456.hammer	12	296	378	<u>295</u>	<u>379</u>	295	379	12	252	445	256	438	<u>255</u>	<u>440</u>
458.sjeng	12	686	211	684	212	<u>685</u>	<u>212</u>	12	<u>673</u>	<u>216</u>	673	216	670	217
462.libquantum	12	130	1910	127	1950	<u>129</u>	<u>1930</u>	12	<u>121</u>	<u>2060</u>	122	2050	121	2060
464.h264ref	12	<u>706</u>	<u>377</u>	704	377	706	377	12	686	388	<u>687</u>	<u>386</u>	691	384
471.omnetpp	12	469	160	<u>471</u>	<u>160</u>	475	157	12	447	168	441	170	<u>442</u>	<u>169</u>
473.astar	12	<u>502</u>	<u>168</u>	500	168	503	168	12	482	175	<u>482</u>	<u>175</u>	480	175
483.xalancbmk	12	276	300	274	302	<u>275</u>	<u>301</u>	12	276	300	274	302	<u>275</u>	<u>301</u>

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:\Users\PECA_W~1\Desktop\CPU200~1.APR/Docs/sysinfo
\$Rev: 6775 \$ \$Date: 2011-08-16 # \$ \8787f7622badcf24e01c368b1db4377c
running on Clt38607738DA9E Sun Aug 4 00:45:58 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: Gigabyte Technology Co., Ltd.
System Model : To be filled by O.E.M.
Processor(s) : 1 Processor(s) Installed.

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Platform Notes (Continued)

[01]: Intel64 Family 6 Model 62 Stepping 4 GenuineIntel ~3601 Mhz
BIOS Version : American Megatrends Inc. F4, 7/1/2013
Total Physical Memory: 16,307 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0

L2CacheSize : 256

L3CacheSize : 15360

MaxClockSpeed : 3601

Name : Intel(R) Core(TM) i7-4960X CPU @ 3.60GHz

NumberOfCores : 6

NumberOfLogicalProcessors: 12

(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 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

Base Optimization Flags

C benchmarks:

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

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Base Optimization Flags (Continued)

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.hmmmer: 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.hmmmer: -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

Peak Optimization Flags

C benchmarks:

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Peak Optimization Flags (Continued)

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:

403.gcc: -Dalloca=_alloca

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Peak Other Flags (Continued)

```
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.20130924.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.20130924.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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