SPEC® CINT2006 Result

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Gigabyte Technology Co., Ltd.

(Test Sponsor: Intel Corporation)

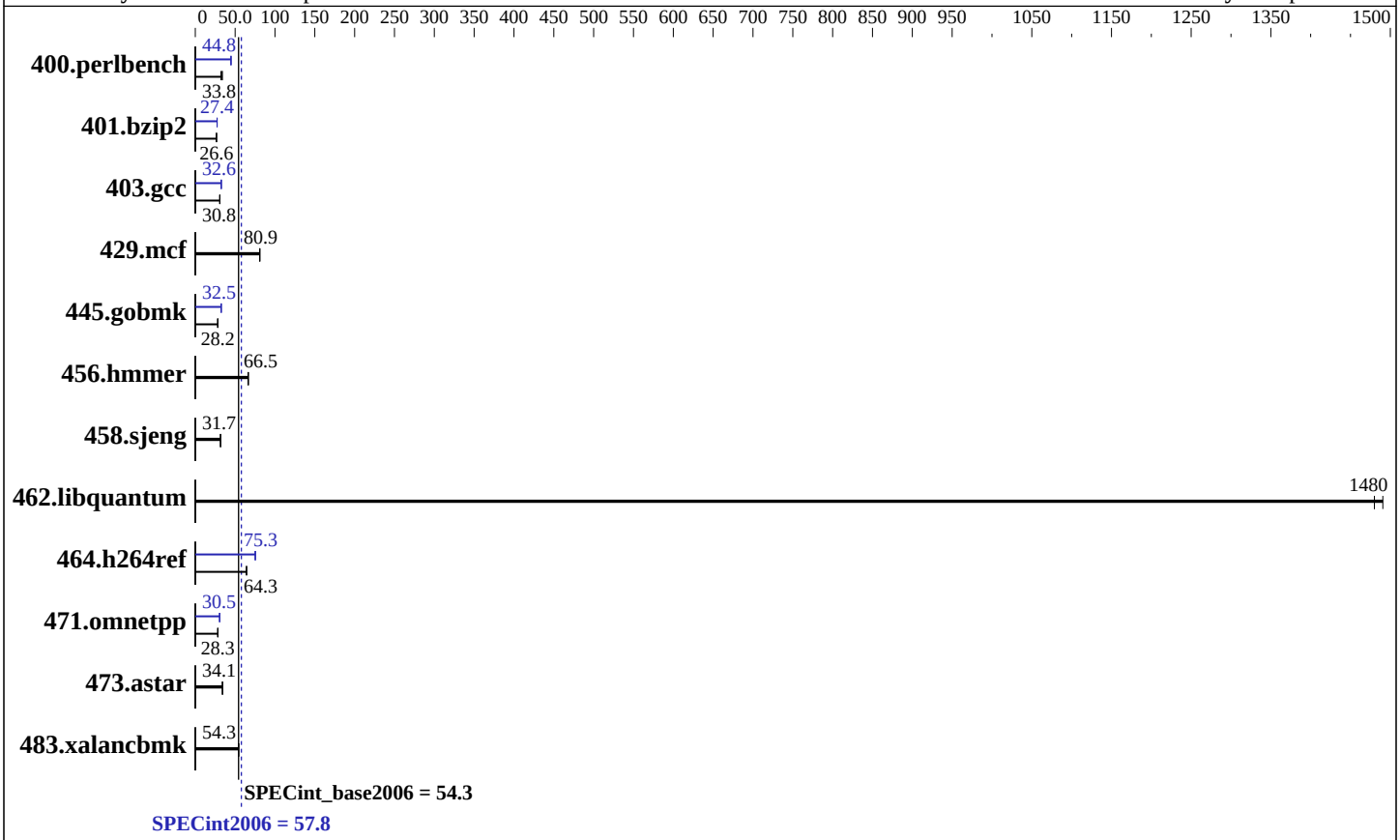
GigaByte x79-UP4 motherboard (Intel Core i7-4960X)

SPECint®2006 = 57.8

SPECint_base2006 = 54.3

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

Test date: Aug-2013
Hardware Availability: Sep-2013
Software Availability: Apr-2013



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:	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	304	32.1	289	33.8	**289**	**33.8**	218	44.8	**218**	**44.8**	218	44.8
401.bzip2	**363**	**26.6**	363	26.6	363	26.6	**353**	**27.4**	353	27.4	353	27.3
403.gcc	**262**	**30.8**	262	30.7	262	30.8	247	32.6	**247**	**32.6**	247	32.6
429.mcf	113	80.9	**113**	**80.9**	113	81.0	113	80.9	**113**	**80.9**	113	81.0
445.gobmk	**372**	**28.2**	372	28.2	372	28.2	**322**	**32.5**	322	32.6	322	32.5
456.hmmer	**140**	**66.5**	140	66.5	141	66.4	**140**	**66.5**	140	66.5	141	66.4
458.sjeng	382	31.7	382	31.7	**382**	**31.7**	382	31.7	382	31.7	**382**	**31.7**
462.libquantum	**14.0**	**1480**	13.9	1490	14.0	1480	**14.0**	**1480**	13.9	1490	14.0	1480
464.h264ref	344	64.3	344	64.3	**344**	**64.3**	**294**	**75.3**	293	75.5	295	75.1
471.omnetpp	221	28.3	**221**	**28.3**	222	28.2	**205**	**30.5**	204	30.6	205	30.5
473.astar	206	34.1	**206**	**34.1**	206	34.1	206	34.1	**206**	**34.1**	206	34.1
483.xalancbmk	127	54.4	**127**	**54.3**	127	54.3	127	54.4	**127**	**54.3**	127	54.3

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 Clt38607738DA9E Sat Aug  3 15:04:42 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.
     [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
```

Continued on next page

Platform Notes (Continued)

```
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

```
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:
```
-QxAVX -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qauto-ilp32
/F512000000
```

C++ benchmarks:
```
-QxAVX -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: `-QxAVX`(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: `-QxAVX`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias -Qauto-ilp32 /F512000000`

403.gcc: `-QxAVX`(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: -QxAVX(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: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qauto-ilp32
/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 -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.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 other inquiries, please contact webmaster@spec.org.

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