



# SPEC® CINT2006 Result

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## Intel Corporation

SPECint®\_rate2006 = 51.3

Intel DH61WW motherboard (Intel Pentium G620)

SPECint\_rate\_base2006 = 46.6

CPU2006 license: 13

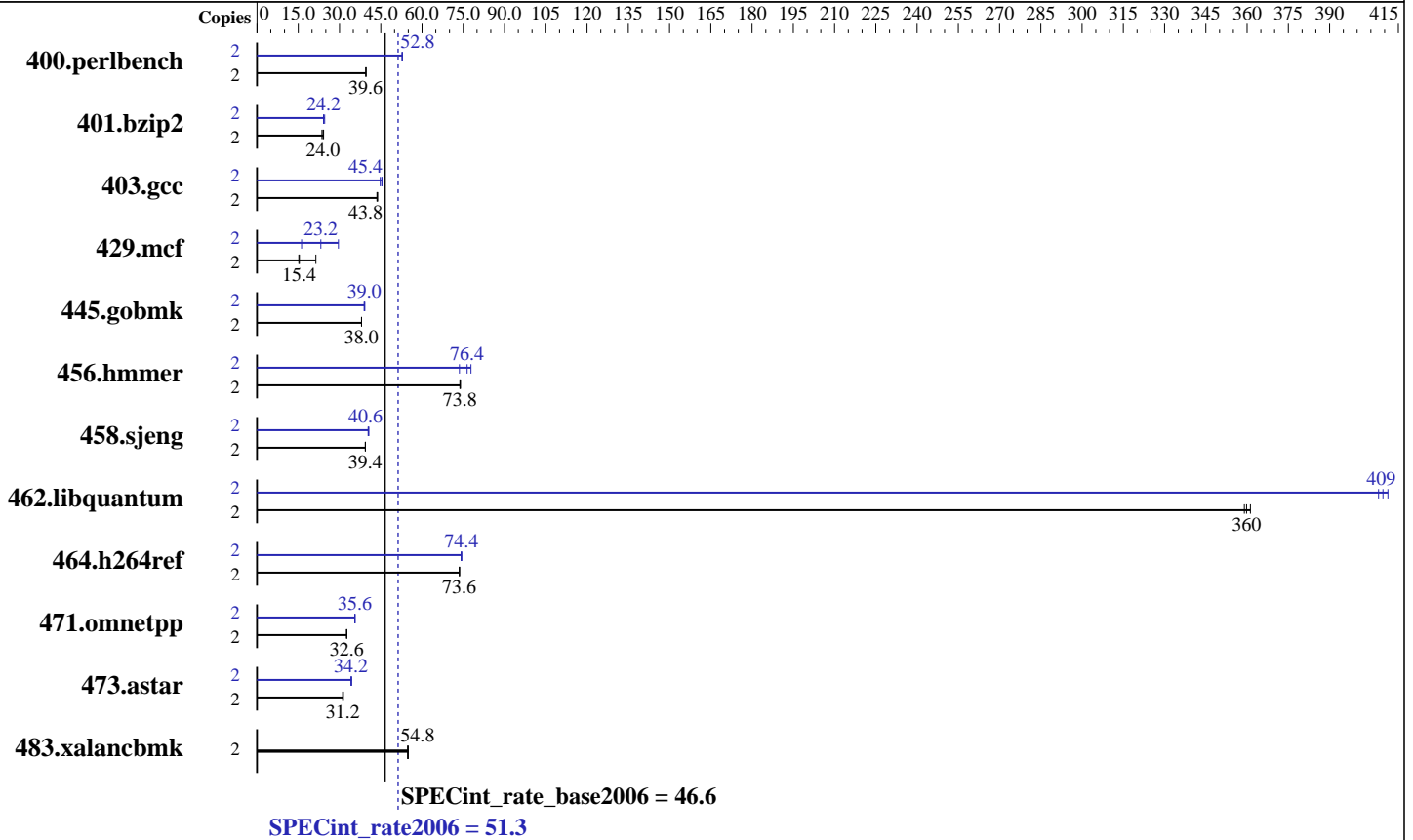
Test date: Dec-2011

Test sponsor: Intel Corporation

Hardware Availability: May-2011

Tested by: Intel Corporation

Software Availability: Sep-2011



### Hardware

CPU Name: Intel Pentium G620  
 CPU Characteristics:  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 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: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 2 GB (2 x 1 GB 1Rx16 PC3-10600U-9, running at 1066 MHz and CL7)  
 Disk Subsystem: 1 TB Seagate SATA, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Microsoft Windows 7 Ultimate 6.1.7601 Service Pack 1 Build 7601  
 Compiler: C/C++: Version 12.1.0.229 of Intel C++ Studio XE for Windows;  
 Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 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 9.01 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	2	493	39.6	492	39.6	<b>493</b>	<b>39.6</b>	2	<b>370</b>	<b>52.8</b>	370	52.8	370	52.8
401.bzip2	2	<b>805</b>	<b>24.0</b>	795	24.2	821	23.6	2	785	24.6	800	24.2	<b>798</b>	<b>24.2</b>
403.gcc	2	<b>368</b>	<b>43.8</b>	368	43.8	369	43.6	2	359	44.8	355	45.4	<b>355</b>	<b>45.4</b>
429.mcf	2	1195	15.2	<b>1190</b>	<b>15.4</b>	852	21.4	2	1119	16.2	616	29.6	<b>785</b>	<b>23.2</b>
445.gobmk	2	<b>552</b>	<b>38.0</b>	553	38.0	552	38.0	2	<b>537</b>	<b>39.0</b>	536	39.2	537	39.0
456.hammer	2	253	73.8	252	74.0	<b>253</b>	<b>73.8</b>	2	240	77.8	<b>244</b>	<b>76.4</b>	254	73.6
458.sjeng	2	<b>613</b>	<b>39.4</b>	614	39.4	613	39.4	2	598	40.4	597	40.6	<b>597</b>	<b>40.6</b>
462.libquantum	2	115	359	115	361	<b>115</b>	<b>360</b>	2	<b>101</b>	<b>409</b>	101	411	102	408
464.h264ref	2	602	73.6	601	73.6	<b>601</b>	<b>73.6</b>	2	<b>595</b>	<b>74.4</b>	595	74.4	596	74.2
471.omnetpp	2	384	32.6	<b>384</b>	<b>32.6</b>	384	32.6	2	350	35.6	351	35.6	<b>351</b>	<b>35.6</b>
473.astar	2	<b>449</b>	<b>31.2</b>	449	31.2	448	31.4	2	<b>410</b>	<b>34.2</b>	409	34.4	410	34.2
483.xalancbmk	2	252	54.8	<b>251</b>	<b>54.8</b>	251	55.0	2	252	54.8	<b>251</b>	<b>54.8</b>	251	55.0

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Compiler Invocation Notes

ipsxe-comp-vars batch file invoked with ia32

## 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:\SPEC12.1\Docs\sysinfo  
\$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
running on CltE06995A30C92 Thu Dec 29 02:05:53 2011

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 Ultimate

OS Version : 6.1.7601 Service Pack 1 Build 7601

System Manufacturer: INTEL\_

System Model : DH61WW\_

Processor(s) : 1 Processor(s) Installed.

[01]: Intel64 Family 6 Model 42 Stepping 7 GenuineIntel ~2600 Mhz

BIOS Version : Intel Corp. BEH6110H.86A.0016.2011.0118.1128, 1/18/2011

Total Physical Memory: 1,956 MB

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## Platform Notes (Continued)

```
Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 512
L3CacheSize   : 3072
MaxClockSpeed : 2600
Name          : Intel(R) Pentium(R) CPU G620 @ 2.60GHz
NumberOfCores : 2
NumberOfLogicalProcessors: 2
```

(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 -Qvc9 -Qstd=c99

C++ benchmarks:  
icl -Qvc9

## 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:  
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

C++ benchmarks:  
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features  
/F512000000 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 -Qvc9 -Qstd=c99

456.hmmer: C:\Program Files (x86)\Intel\Composer XE 2011 SP1.229/bin/intel64/icl.exe

458.sjeng: C:\Program Files (x86)\Intel\Composer XE 2011 SP1.229/bin/intel64/icl.exe

462.libquantum: C:\Program Files (x86)\Intel\Composer XE 2011 SP1.229/bin/intel64/icl.exe  
-Qstd=c99

C++ benchmarks (except as noted below):

icl -Qvc9

473.astar: C:\Program Files (x86)\Intel\Composer XE 2011 SP1.229/bin/intel64/icl.exe

## Peak Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32

456.hmmer: -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:

400.perlbench: -QxSSE4.2(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.bz2: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias  
/F512000000

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## Peak Optimization Flags (Continued)

403.gcc: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

429.mcf: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch  
/F512000000

445.gobmk: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O2 -Qprec-div- -Qansi-alias /F512000000

456.hmmer: -Qauto-ilp32 -QxSSE4.2(pass 2) -Qprof\_gen(pass 1)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch  
/F512000000

458.sjeng: -Qauto-ilp32 -QxSSE4.2(pass 2) -Qprof\_gen(pass 1)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4  
/F512000000

462.libquantum: -Qauto-ilp32 -QxSSE4.2 -Qipo -O3 -Qprec-div-  
-Qopt-prefetch /F512000000

464.h264ref: -QxSSE4.2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias /F512000000

C++ benchmarks:

471.omnetpp: -QxSSE4.2(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 -QxSSE4.2 -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

456.hmmer: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2011 SP1.229/compiler/lib/intel64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64  
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib  
-link -LIBPATH:C:/Program Files (x86)/Microsoft SDKs/Windows/v7.0A/lib/x64

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## Peak Other Flags (Continued)

```
458.sjeng: -link -LIBPATH:C:\Program Files (x86)\Intel\Composer XE 2011 SP1.229/compiler/lib/intel64
          -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64
          -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/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 2011 SP1.229/compiler/lib/intel64
                -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64
                -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/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 2011 SP1.229/compiler/lib/intel64
           -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/VC/lib/AMD64
           -link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 9.0/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-ic12.1-official-windows.20120117.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-windows.20120117.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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