SPEC® CINT2006 Result

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Intel Corporation

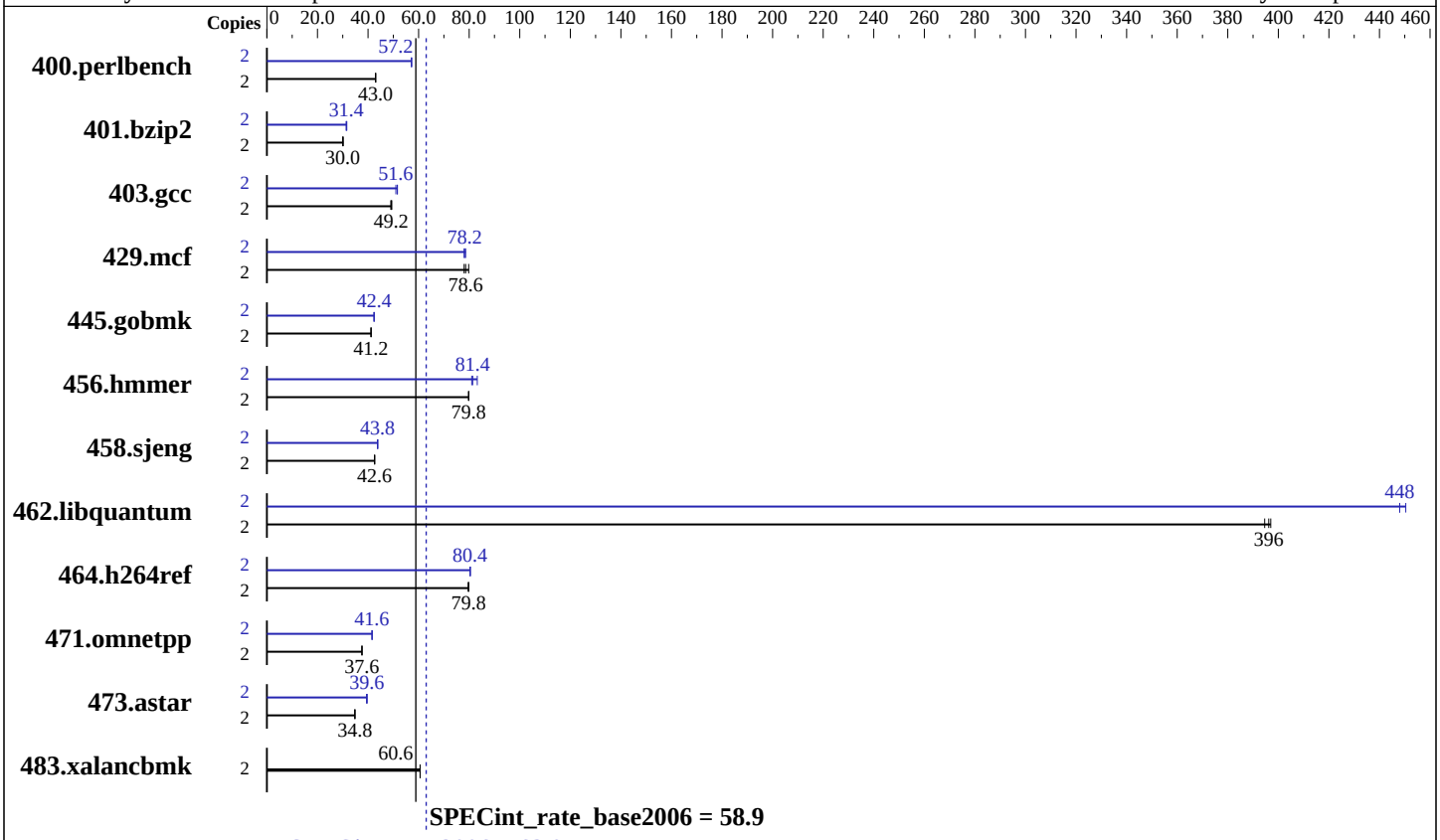
Intel DH61WW motherboard (Intel Pentium G840)

SPECint®_rate2006 = 63.0

SPECint_rate_base2006 = 58.9

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

Test date: Dec-2011
Hardware Availability: May-2011
Software Availability: Sep-2011



Hardware

CPU Name:	Intel Pentium G840
CPU Characteristics:	
CPU MHz:	2800
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:	4 GB (2 x 2 GB 2Rx8 PC3-10600U-9)
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	455	43.0	455	43.0	**455**	**43.0**	2	342	57.2	**342**	**57.2**	342	57.2
401.bzip2	2	**641**	**30.0**	637	30.2	642	30.0	2	**614**	**31.4**	615	31.4	612	31.6
403.gcc	2	329	49.0	**328**	**49.2**	325	49.4	2	316	51.0	312	51.6	**312**	**51.6**
429.mcf	2	228	79.8	**232**	**78.6**	234	78.0	2	232	78.6	234	78.0	**233**	**78.2**
445.gobmk	2	510	41.2	509	41.2	**509**	**41.2**	2	496	42.4	**496**	**42.4**	496	42.4
456.hmmer	2	**234**	**79.8**	234	79.8	234	79.8	2	231	81.0	**230**	**81.4**	224	83.2
458.sjeng	2	568	42.6	568	42.6	**568**	**42.6**	2	552	43.8	553	43.8	**552**	**43.8**
462.libquantum	2	105	395	**105**	**396**	104	397	2	**92.5**	**448**	92.0	450	92.5	448
464.h264ref	2	557	79.6	555	79.8	**555**	**79.8**	2	551	80.4	**551**	**80.4**	551	80.4
471.omnetpp	2	333	37.6	**333**	**37.6**	333	37.6	2	301	41.6	301	41.6	**301**	**41.6**
473.astar	2	403	34.8	403	34.8	**403**	**34.8**	2	**355**	**39.6**	355	39.6	356	39.4
483.xalancbmk	2	**228**	**60.6**	227	60.6	228	60.6	2	**228**	**60.6**	227	60.6	228	60.6

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 Wed Dec 21 07:07:24 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 ~2800 Mhz
BIOS Version  : Intel Corp. BEH6110H.86A.0016.2011.0118.1128, 1/18/2011
Total Physical Memory: 4,004 MB
```

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Platform Notes (Continued)

```
Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 512
L3CacheSize   : 3072
MaxClockSpeed : 2800
Name          : Intel(R) Pentium(R) CPU G840 @ 2.80GHz
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
```

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.bzip2: `-QxSSE4.2`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias /F512000000`

Continued on next page

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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