SPEC® CINT2006 Result

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Intel Corporation

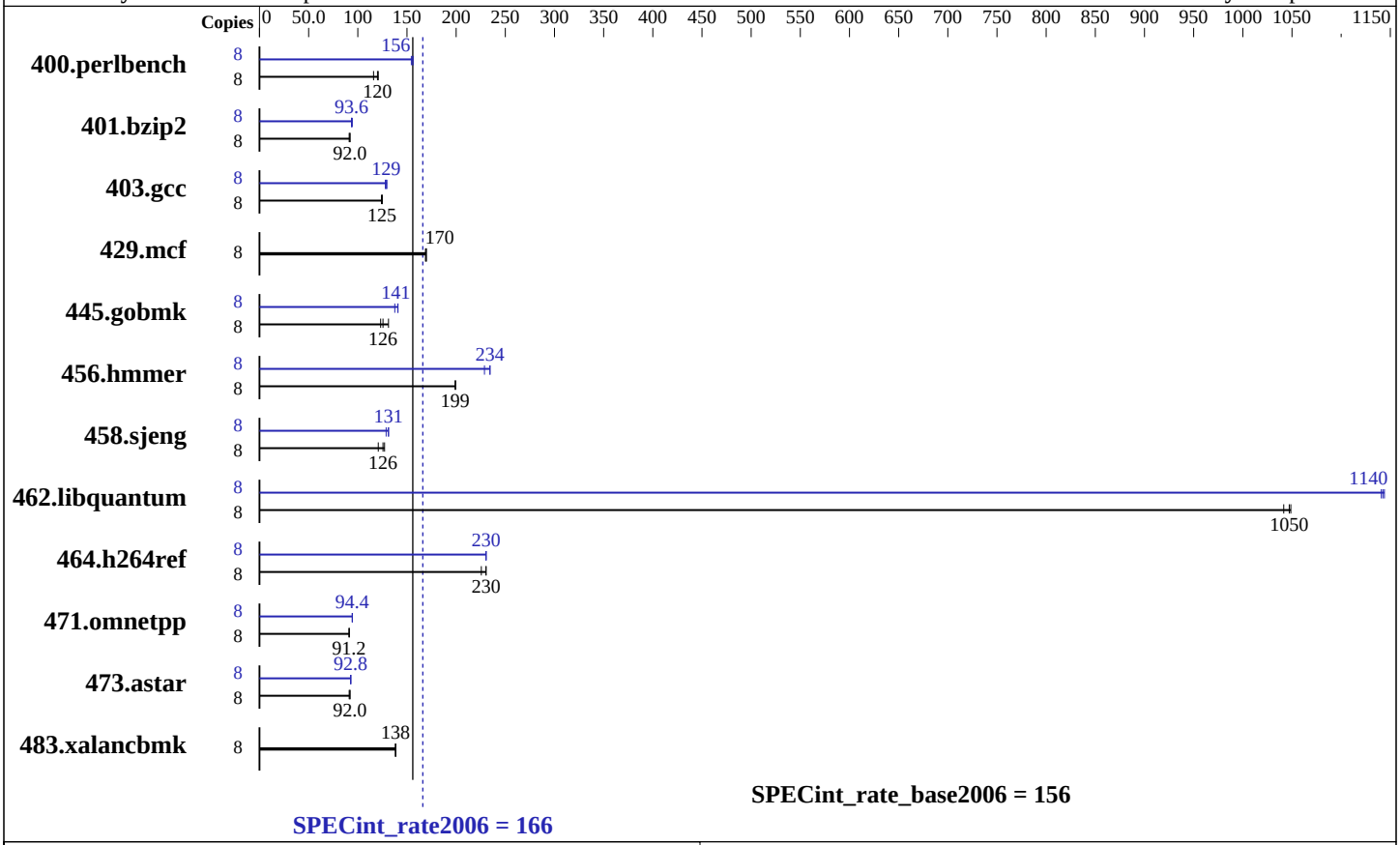
Intel DZ68DB motherboard (Intel Core i7-2600K)

SPECint®_rate2006 = 166

SPECint_rate_base2006 = 156

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

Test date: Aug-2011
Hardware Availability: May-2011
Software Availability: Apr-2011



Hardware

CPU Name:	Intel Core i7-2600K
CPU Characteristics:	Intel Turbo Boost Technology up to 3.8 GHz
CPU MHz:	3401
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 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:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 GB 2Rx8 PC3-10600U-9)
Disk Subsystem:	1 TB Seagate SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	Windows 7 Ultimate (64-bit) 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

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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	8	**653**	**120**	674	116	648	121	8	**502**	**156**	507	154	500	156
401.bzip2	8	840	92.0	847	91.2	**842**	**92.0**	8	828	93.6	**822**	**93.6**	820	94.4
403.gcc	8	519	124	516	125	**517**	**125**	8	**499**	**129**	498	130	503	128
429.mcf	8	432	169	430	170	**431**	**170**	8	432	169	430	170	**431**	**170**
445.gobmk	8	641	131	**667**	**126**	680	123	8	608	138	596	141	**597**	**141**
456.hmmer	8	**374**	**199**	374	199	374	199	8	318	234	326	229	**318**	**234**
458.sjeng	8	**772**	**126**	763	127	800	121	8	**738**	**131**	753	129	737	131
462.libquantum	8	159	1040	**158**	**1050**	158	1050	8	**145**	**1140**	145	1140	145	1140
464.h264ref	8	786	226	768	230	**769**	**230**	8	768	230	**768**	**230**	768	230
471.omnetpp	8	547	91.2	**547**	**91.2**	547	91.2	8	531	94.4	**531**	**94.4**	531	94.4
473.astar	8	612	92.0	**612**	**92.0**	613	91.2	8	605	92.8	603	92.8	**603**	**92.8**
483.xalancbmk	8	399	138	**399**	**138**	399	138	8	399	138	**399**	**138**	399	138

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

```
The config file option 'submit' was used.
 The start command with the /affinity switch was used to bind processes to cores
```

Platform Notes

```
 Sysinfo program D:\CPU200~1.17A/Docs/sysinfo
 $Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
 running on CltE06995ABEA80 Wed Aug 24 09:06:42 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  : DZ68DB__
 Processor(s)  : 1 Processor(s) Installed.
      [01]: Intel64 Family 6 Model 42 Stepping 7 GenuineIntel ~3401 Mhz
 BIOS Version  : Intel Corp. DBZ6810H.86A.0014.2011.0413.1049, 4/13/2011
 Total Physical Memory: 8,099 MB
```

Continued on next page

Platform Notes (Continued)

```
Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 1024
L3CacheSize   : 8192
MaxClockSpeed : 3401
Name          : Intel(R) Core(TM) i7-2600K CPU @ 3.40GHz
NumberOfCores : 4
NumberOfLogicalProcessors: 8

(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:
```
-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 -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: `-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`

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 /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 -QxSSE4.2 -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 -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

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

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Peak Other Flags (Continued)

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 files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-windows.html
http://www.spec.org/cpu2006/flags/Intel-Platform-Settings-V1.2-revA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-windows.xml
http://www.spec.org/cpu2006/flags/Intel-Platform-Settings-V1.2-revA.xml

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