SPEC® CINT2006 Result

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Intel Corporation

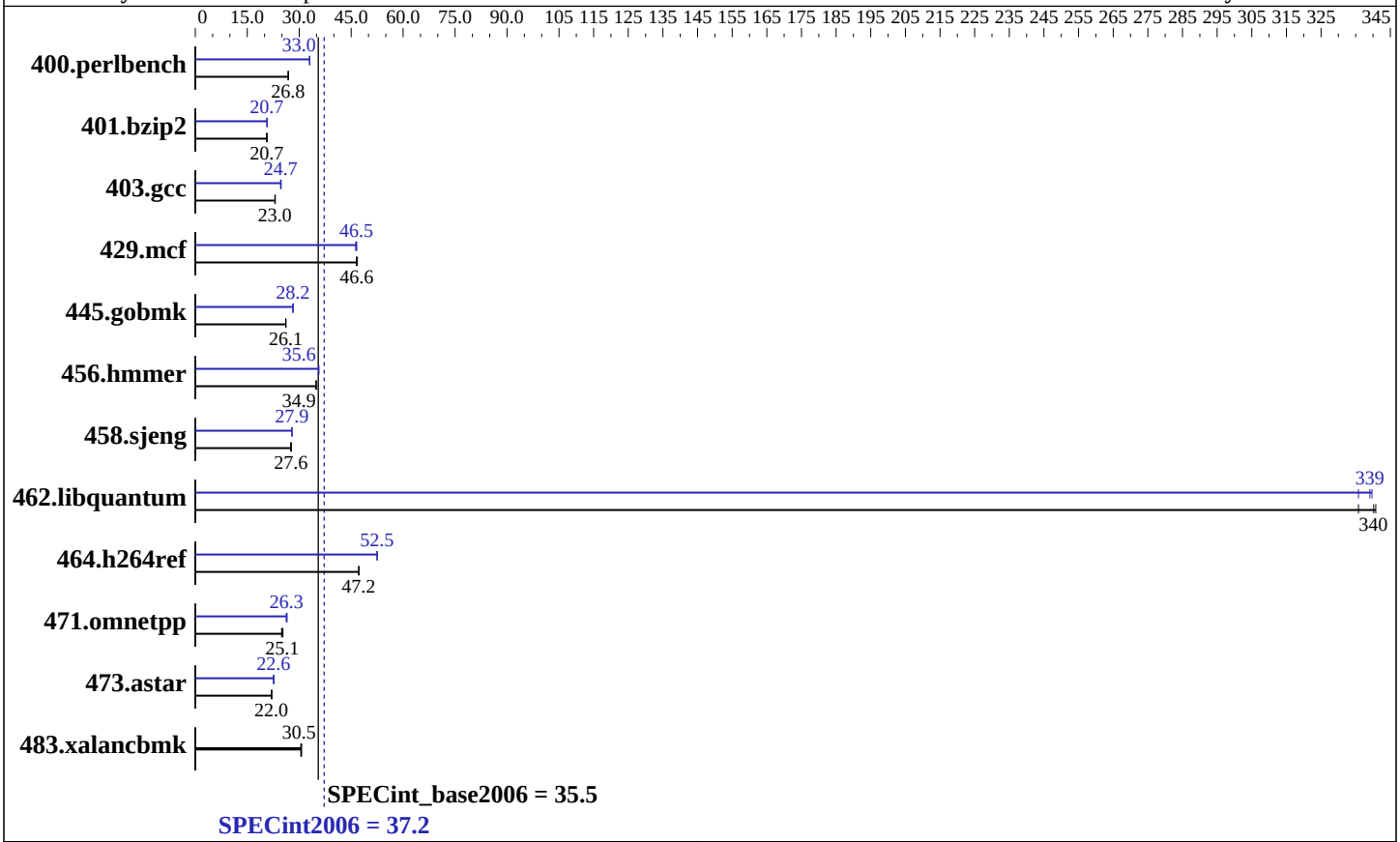
Intel DX58SO motherboard (Intel Core i7-980X)

SPECint®2006 = 37.2

SPECint_base2006 = 35.5

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

Test date: Mar-2010
Hardware Availability: Mar-2010
Software Availability: Oct-2009



Hardware

CPU Name:	Intel Core i7-980X
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3333
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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	12 GB (3x4GB Samsung M378B5273BH1-CF8 DDR3-1066 CL7)
Disk Subsystem:	Intel X25-M 160GB SSD
Other Hardware:	None

Software

Operating System:	Windows 7 Ultimate (64-bit)
Compiler:	Intel C++ Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cproc_p_11.1.045 Microsoft Visual Studio 2008 Professional SP1 (for libraries)
Auto Parallel:	Yes
File System:	NTFS
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	None SmartHeap Library Version 8.1 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	364	26.9	**365**	**26.8**	365	26.8	296	33.0	296	33.0	**296**	**33.0**
401.bzip2	467	20.7	**467**	**20.7**	468	20.6	**466**	**20.7**	466	20.7	465	20.7
403.gcc	348	23.1	**350**	**23.0**	350	23.0	324	24.8	328	24.6	**326**	**24.7**
429.mcf	195	46.8	**196**	**46.6**	196	46.5	197	46.3	**196**	**46.5**	196	46.6
445.gobmk	401	26.2	**401**	**26.1**	402	26.1	372	28.2	**372**	**28.2**	372	28.2
456.hmmer	**268**	**34.9**	268	34.9	267	34.9	**262**	**35.6**	262	35.7	262	35.6
458.sjeng	438	27.6	**438**	**27.6**	438	27.7	**434**	**27.9**	434	27.9	434	27.9
462.libquantum	61.7	336	**60.9**	**340**	60.8	341	61.7	336	61.0	340	**61.1**	**339**
464.h264ref	469	47.2	**469**	**47.2**	469	47.2	422	52.5	422	52.5	**422**	**52.5**
471.omnetpp	**249**	**25.1**	251	24.9	247	25.3	236	26.5	237	26.3	**237**	**26.3**
473.astar	319	22.0	318	22.1	**319**	**22.0**	310	22.7	311	22.6	**311**	**22.6**
483.xalancbmk	225	30.7	226	30.5	**226**	**30.5**	225	30.7	226	30.5	**226**	**30.5**

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

General Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter
```

Base Compiler Invocation

C benchmarks:

```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:

```
icl -Qvc9
```

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

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Base Portability Flags (Continued)

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

C++ benchmarks:
-QxSSE4.2 -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 -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

Peak Portability Flags

Same as Base Portability Flags

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
-Qauto-ilp32 /F512000000 shlW64M.lib

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Peak Optimization Flags (Continued)

400.perlbench (continued):
-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
-Qauto-ilp32 /F512000000

403.gcc: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qauto-ilp32 /F512000000

429.mcf: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
-Qauto-ilp32 /F512000000

445.gobmk: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O2 -Qprec-div- -Qansi-alias -Qauto-ilp32
/F512000000

456.hmmer: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
-Qauto-ilp32 /F512000000

458.sjeng: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto-ilp32 /F512000000

462.libquantum: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
-Qparallel -Qpar-schedule-static:32768 -Qansi-alias
-Qauto-ilp32 /F512000000

464.h264ref: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
-Qauto-ilp32 /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 -Qauto-ilp32 /F512000000
shlW64M.lib -link /FORCE:MULTIPLE

473.astar: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qansi-alias
-Qopt-ra-region-strategy=routine -Qauto-ilp32 /F512000000
shlW64M.lib -link /FORCE:MULTIPLE

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-ic11.0-winx64-revA.20100302.01.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.01.xml`

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Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 05:22:43 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 30 March 2010.