SPEC® CINT2006 Result

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Intel Corporation

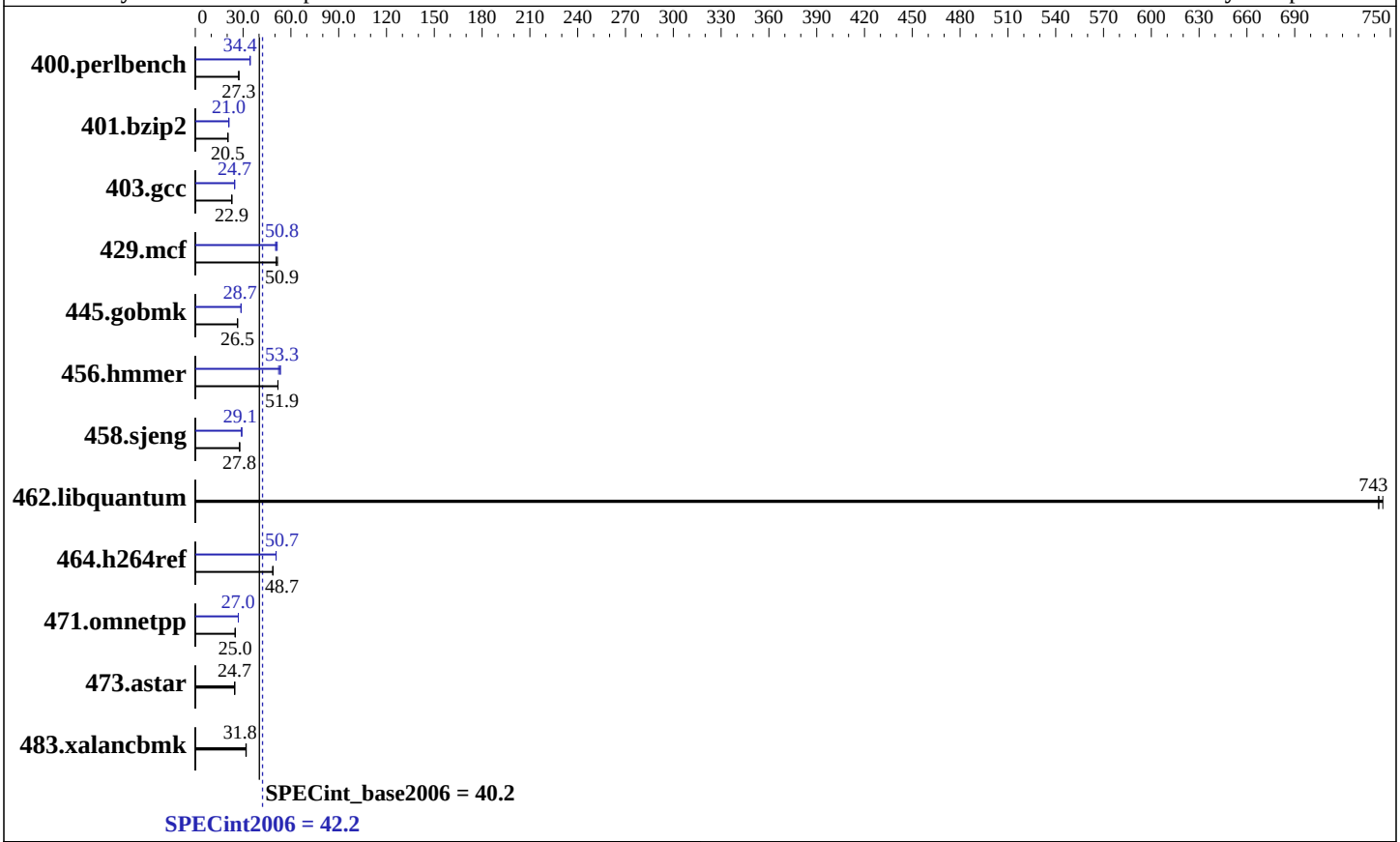
Intel DX58SO2 Motherboard (Intel Core i7-990X)

SPECint®2006 = 42.2

SPECint_base2006 = 40.2

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

Test date: Jul-2011
Hardware Availability: Mar-2011
Software Availability: Apr-2011



Hardware

CPU Name:	Intel Core i7-990X
CPU Characteristics:	Intel Turbo Boost Technology up to 3.73 GHz
CPU MHz:	3466
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 (3 x 4 GB 2Rx8 PC3-8600U-9)
Disk Subsystem:	Seagate 1 TB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	Windows 7 Ultimate (64-bit)
Compiler:	Intel C++ Compiler XE for Intel64 Version 12.0.3.163 Build 20110217 Microsoft Visual Studio 2008 Professional SP1 (for libraries)
Auto Parallel:	Yes
File System:	NTFS
System State:	Default
Base Pointers:	32/64-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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	358	27.3	357	27.3	**358**	**27.3**	284	34.4	284	34.4	**284**	**34.4**
401.bzip2	**471**	**20.5**	473	20.4	470	20.5	457	21.1	461	21.0	**460**	**21.0**
403.gcc	352	22.9	**352**	**22.9**	352	22.9	328	24.6	326	24.7	**326**	**24.7**
429.mcf	**179**	**50.9**	180	50.8	177	51.6	177	51.4	181	50.4	**179**	**50.8**
445.gobmk	396	26.5	**396**	**26.5**	396	26.5	365	28.8	**365**	**28.7**	365	28.7
456.hmmer	180	51.9	180	51.8	**180**	**51.9**	178	52.3	175	53.4	**175**	**53.3**
458.sjeng	**435**	**27.8**	435	27.8	435	27.8	416	29.1	**416**	**29.1**	416	29.1
462.libquantum	**27.9**	**743**	27.8	745	27.9	743	**27.9**	**743**	27.8	745	27.9	743
464.h264ref	454	48.7	**454**	**48.7**	454	48.7	436	50.7	437	50.7	**436**	**50.7**
471.omnetpp	248	25.2	**250**	**25.0**	250	25.0	**231**	**27.0**	232	27.0	231	27.0
473.astar	**285**	**24.7**	286	24.6	283	24.8	**285**	**24.7**	286	24.6	283	24.8
483.xalancbmk	216	32.0	217	31.8	**217**	**31.8**	216	32.0	217	31.8	**217**	**31.8**

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
System was configured with an ATI HD5770 discrete graphics card
```

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`

Continued on next page

Base Portability Flags (Continued)

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:
-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:

Continued on next page

Peak Optimization Flags (Continued)

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 -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: basepeak = yes

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: 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-ic12-winx64-revB.20110808.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.20110808.xml

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