



# SPEC® CINT2006 Result

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## Intel Corporation

SPECint®2006 = 42.2

Intel DX58SO2 Motherboard (Intel Core i7-990X)

SPECint\_base2006 = 40.2

CPU2006 license: 13

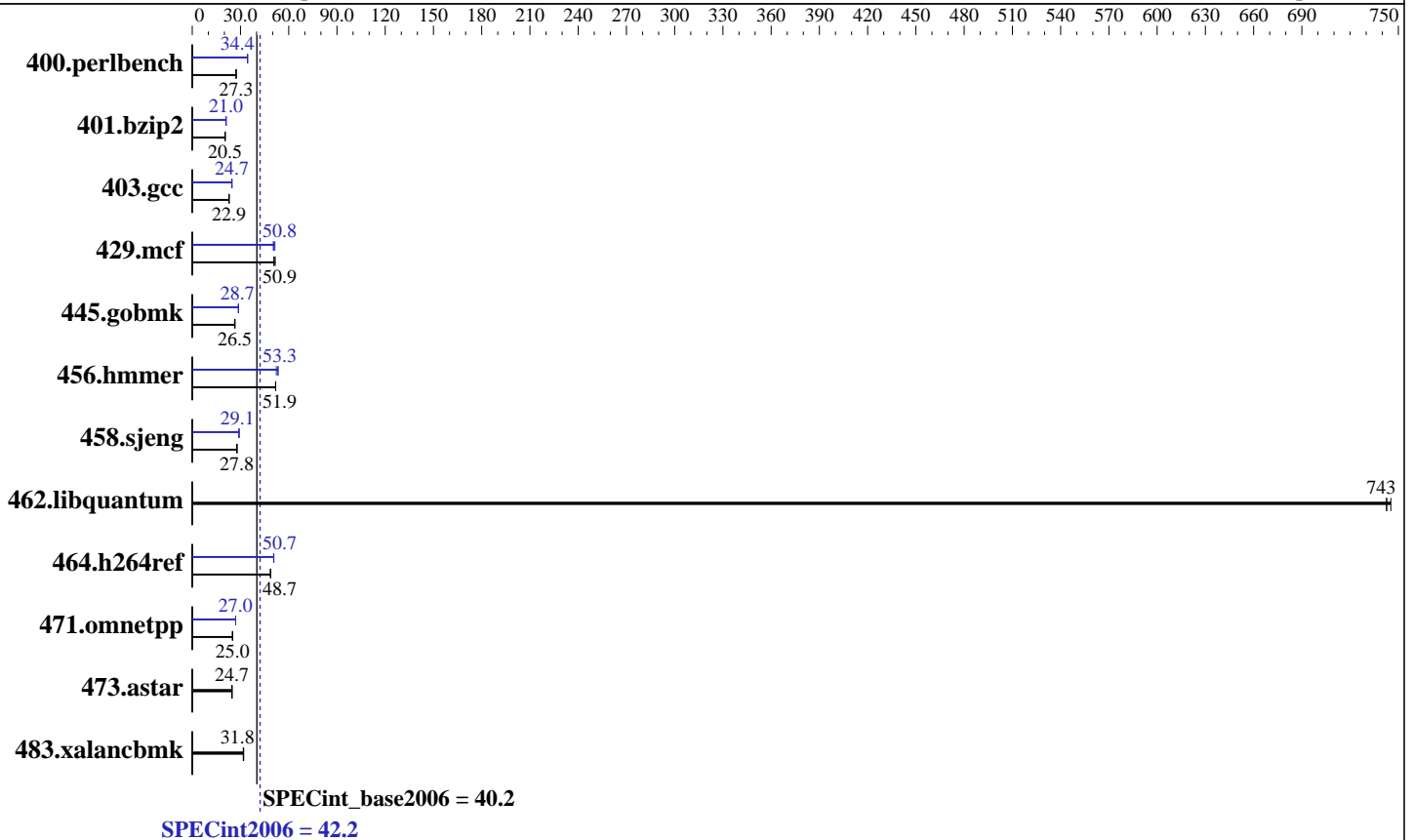
Test date: Jul-2011

Test sponsor: Intel Corporation

Hardware Availability: Mar-2011

Tested by: Intel Corporation

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	<b>358</b>	<b>27.3</b>	284	34.4	284	34.4	<b>284</b>	<b>34.4</b>
401.bzip2	<b>471</b>	<b>20.5</b>	473	20.4	470	20.5	457	21.1	461	21.0	<b>460</b>	<b>21.0</b>
403.gcc	352	22.9	<b>352</b>	<b>22.9</b>	352	22.9	328	24.6	326	24.7	<b>326</b>	<b>24.7</b>
429.mcf	<b>179</b>	<b>50.9</b>	180	50.8	177	51.6	177	51.4	181	50.4	<b>179</b>	<b>50.8</b>
445.gobmk	396	26.5	<b>396</b>	<b>26.5</b>	396	26.5	365	28.8	<b>365</b>	<b>28.7</b>	365	28.7
456.hmmer	180	51.9	180	51.8	<b>180</b>	<b>51.9</b>	178	52.3	175	53.4	<b>175</b>	<b>53.3</b>
458.sjeng	<b>435</b>	<b>27.8</b>	435	27.8	435	27.8	416	29.1	<b>416</b>	<b>29.1</b>	416	29.1
462.libquantum	<b>27.9</b>	<b>743</b>	27.8	745	27.9	743	<b>27.9</b>	<b>743</b>	27.8	745	27.9	743
464.h264ref	454	48.7	<b>454</b>	<b>48.7</b>	454	48.7	436	50.7	437	50.7	<b>436</b>	<b>50.7</b>
471.omnetpp	248	25.2	<b>250</b>	<b>25.0</b>	250	25.0	<b>231</b>	<b>27.0</b>	232	27.0	231	27.0
473.astar	<b>285</b>	<b>24.7</b>	286	24.6	283	24.8	<b>285</b>	<b>24.7</b>	286	24.6	283	24.8
483.xalancbmk	216	32.0	217	31.8	<b>217</b>	<b>31.8</b>	216	32.0	217	31.8	<b>217</b>	<b>31.8</b>

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

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## 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:

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## 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



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

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