SPEC® CINT2006 Result

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Intel Corporation

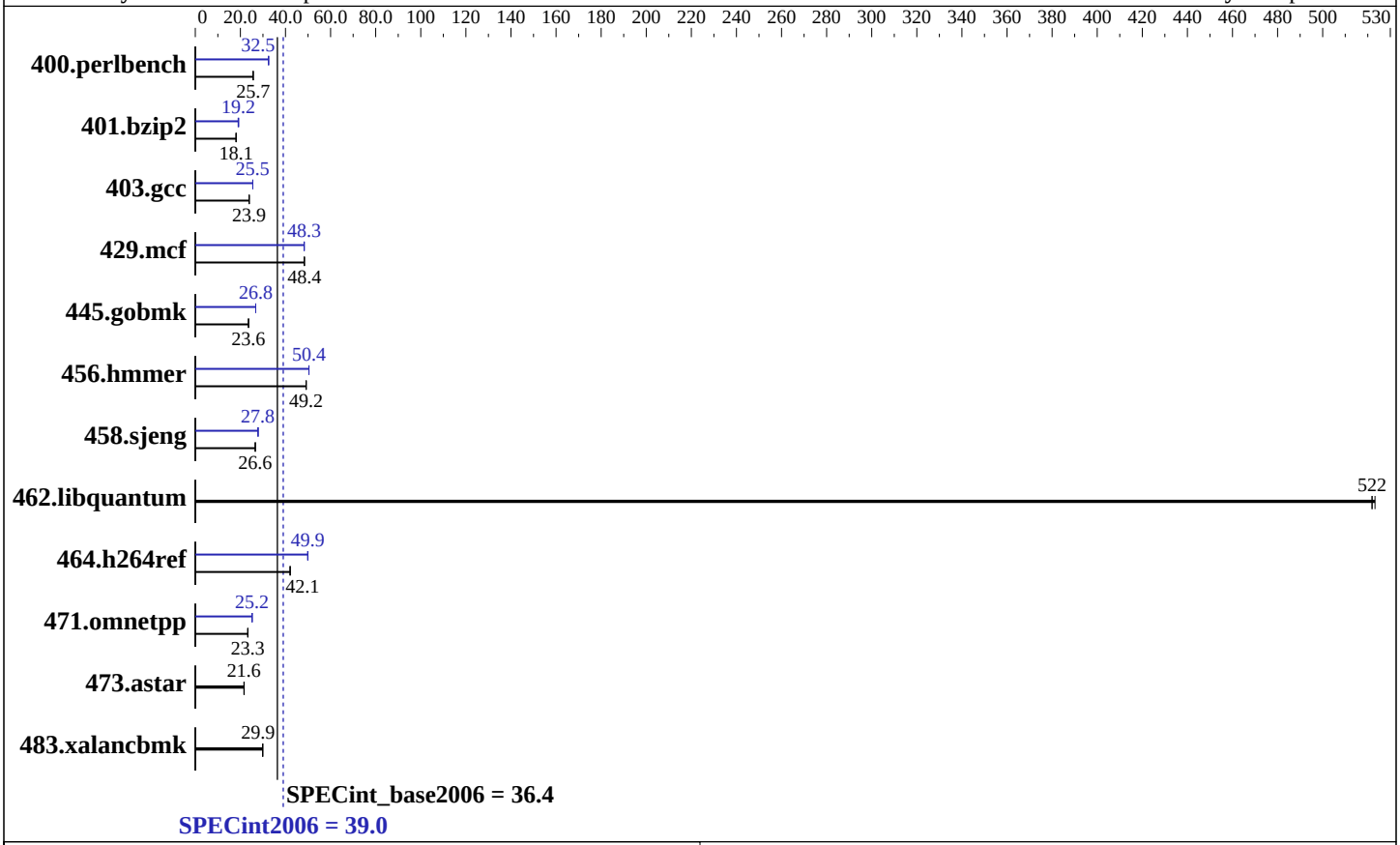
Intel DP55KG Motherboard (Intel Core i7-870)

SPECint®2006 = 39.0

SPECint_base2006 = 36.4

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 i7-870
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	2933
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:	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	382	25.6	**380**	**25.7**	380	25.7	301	32.5	301	32.5	**301**	**32.5**
401.bzip2	**533**	**18.1**	533	18.1	532	18.1	502	19.2	**503**	**19.2**	509	19.0
403.gcc	**337**	**23.9**	337	23.9	337	23.9	**316**	**25.5**	316	25.5	316	25.5
429.mcf	188	48.4	189	48.3	**188**	**48.4**	189	48.3	189	48.3	**189**	**48.3**
445.gobmk	445	23.6	445	23.6	**445**	**23.6**	392	26.8	391	26.8	**391**	**26.8**
456.hmmer	190	49.2	190	49.1	**190**	**49.2**	185	50.4	185	50.4	**185**	**50.4**
458.sjeng	455	26.6	**455**	**26.6**	455	26.6	**435**	**27.8**	434	27.9	435	27.8
462.libquantum	**39.7**	**522**	39.6	523	39.7	522	**39.7**	**522**	39.6	523	39.7	522
464.h264ref	526	42.0	526	42.1	**526**	**42.1**	443	49.9	443	49.9	**443**	**49.9**
471.omnetpp	**268**	**23.3**	268	23.3	269	23.3	248	25.2	**248**	**25.2**	248	25.2
473.astar	324	21.6	324	21.7	**324**	**21.6**	324	21.6	324	21.7	**324**	**21.6**
483.xalancbmk	**231**	**29.9**	231	29.9	231	29.9	**231**	**29.9**	231	29.9	231	29.9

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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