SPEC® CINT2006 Result

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Intel Corporation

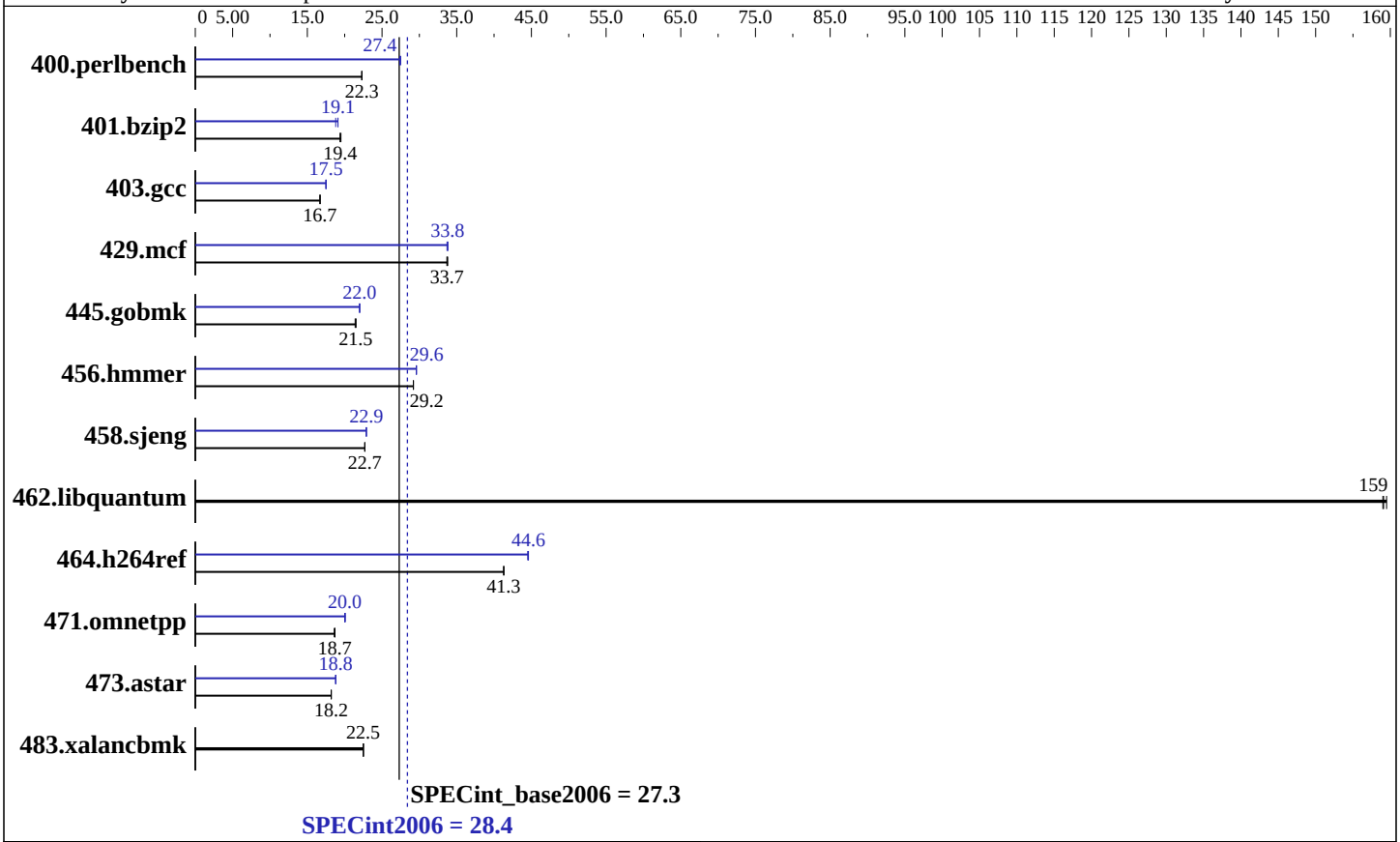
Asus P5E3 Pro motherboard (Intel Core 2 Extreme QX9770)

SPECint®2006 = 28.4

SPECint_base2006 = 27.3

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

Test date: Feb-2010
Hardware Availability: Jun-2009
Software Availability: Oct-2009



Hardware

CPU Name:	Intel Core 2 Extreme QX9770
CPU Characteristics:	
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	4 GB (2x2GB Micron MT16JTF25664AZ-1G4 DDR3-1333 CL9)
Disk Subsystem:	Intel X25-M 80GB SSD
Other Hardware:	None

Software

Operating System:	Windows Vista Ultimate w/ SP1 (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	438	22.3	438	22.3	**438**	**22.3**	356	27.5	356	27.4	**356**	**27.4**
401.bzip2	499	19.4	494	19.5	**497**	**19.4**	506	19.1	515	18.8	**506**	**19.1**
403.gcc	481	16.7	481	16.7	**481**	**16.7**	461	17.5	**461**	**17.5**	461	17.5
429.mcf	270	33.7	**270**	**33.7**	270	33.8	270	33.8	**270**	**33.8**	271	33.7
445.gobmk	488	21.5	**488**	**21.5**	489	21.4	477	22.0	477	22.0	**477**	**22.0**
456.hmmer	319	29.2	**319**	**29.2**	319	29.2	**315**	**29.6**	315	29.6	315	29.6
458.sjeng	533	22.7	**533**	**22.7**	533	22.7	528	22.9	528	22.9	**528**	**22.9**
462.libquantum	130	159	**130**	**159**	130	160	130	159	**130**	**159**	130	160
464.h264ref	536	41.3	536	41.3	**536**	**41.3**	497	44.6	497	44.5	**497**	**44.6**
471.omnetpp	**335**	**18.7**	334	18.7	335	18.6	312	20.1	313	20.0	**312**	**20.0**
473.astar	385	18.2	**386**	**18.2**	386	18.2	373	18.8	373	18.8	**373**	**18.8**
483.xalancbmk	307	22.5	**306**	**22.5**	306	22.5	307	22.5	**306**	**22.5**	306	22.5

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
System was configured with an ATI 5970 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:
`-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qauto-ilp32 /F512000000`

C++ benchmarks:
`-QxSSE4.1 -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: -QxSSE4.1(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: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias -Qauto-ilp32 /F512000000

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

429.mcf: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F512000000

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

456.hmmer: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qauto-ilp32 /F512000000

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

462.libquantum: basepeak = yes

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

C++ benchmarks:

471.omnetpp: -QxSSE4.1(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: -QxSSE4.1(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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