SPEC® CINT2006 Result

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Intel Corporation

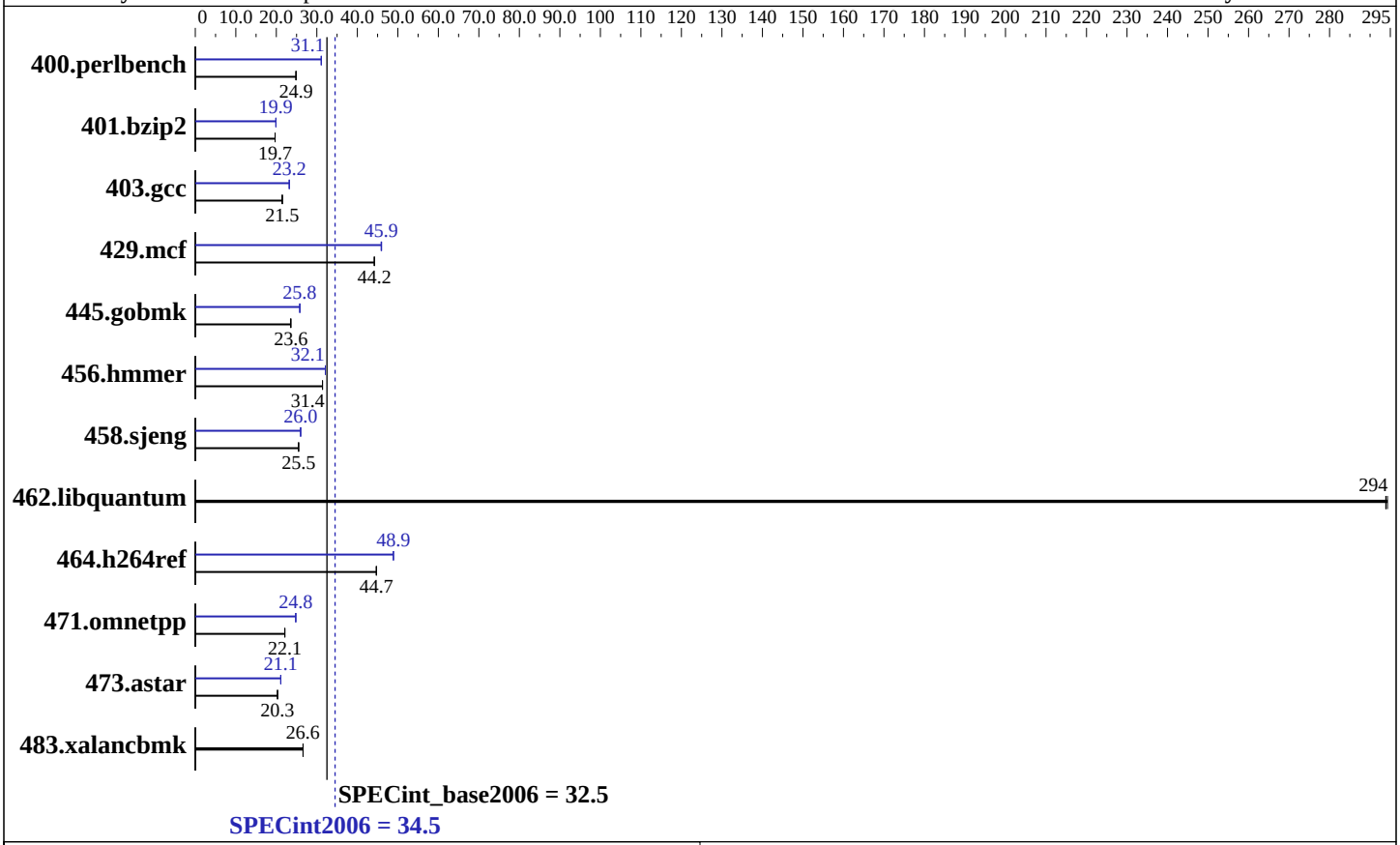
Supermicro X8DAI (Intel Xeon W3570, 3.2 GHz)

SPECint®2006 = 34.5

SPECint_base2006 = 32.5

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

Test date: Mar-2009
Hardware Availability: Mar-2009
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon W3570
CPU Characteristics:	Intel Turbo Boost Technology up to 3.46 GHz
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1, 2 chips
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:	12 GB (3 x 4GB DDR3-1333 CL9, IMHH4GP12A1F1C-13H T2)
Disk Subsystem:	Western Digital Raptor WD740, 10k rpm, 74GB SATA
Other Hardware:	None

Software

Operating System:	Windows* XP* Professional x64 Edition SP2 Build 3790
Compiler:	Intel C++ Compiler Professional 11.0 for Intel 64 Build 20090131 Package ID: w_cproc_p_11.0.072 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 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	393	24.9	393	24.8	**393**	**24.9**	**314**	**31.1**	314	31.1	314	31.1
401.bzip2	491	19.7	**491**	**19.7**	491	19.7	485	19.9	**485**	**19.9**	485	19.9
403.gcc	375	21.5	**375**	**21.5**	376	21.4	**347**	**23.2**	347	23.2	347	23.2
429.mcf	206	44.2	**206**	**44.2**	206	44.2	198	46.0	**199**	**45.9**	199	45.9
445.gobmk	445	23.6	**445**	**23.6**	446	23.5	407	25.8	**407**	**25.8**	407	25.8
456.hmmer	297	31.4	297	31.4	**297**	**31.4**	291	32.1	**291**	**32.1**	291	32.1
458.sjeng	475	25.5	475	25.5	**475**	**25.5**	**466**	**26.0**	466	26.0	466	26.0
462.libquantum	**70.5**	**294**	70.4	294	70.5	294	**70.5**	**294**	70.4	294	70.5	294
464.h264ref	496	44.7	**496**	**44.7**	495	44.7	452	48.9	452	48.9	**452**	**48.9**
471.omnetpp	282	22.1	282	22.1	**282**	**22.1**	252	24.8	**252**	**24.8**	252	24.8
473.astar	346	20.3	346	20.3	**346**	**20.3**	333	21.1	**333**	**21.1**	333	21.1
483.xalancbmk	260	26.6	260	26.6	**260**	**26.6**	260	26.6	260	26.6	**260**	**26.6**

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

General Notes

```
OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter
System can be built with an extended ATX case like SuperChassis
743TQ-865B-SQ and an 885W power supply.
```

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

Continued on next page

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
-Qpar-runtime-control -Qvec-guard-write -Qauto-ilp32 /F512000000

C++ benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
-Qauto-ilp32 /F512000000 shlW64Mt.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
/F512000000

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Peak Optimization Flags (Continued)

401.bzip2: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias
/F512000000

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

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

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

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

458.sjeng: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 /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 /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 /F512000000 shlW64Mt.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 /F512000000 shlW64Mt.lib
-link /FORCE:MULTIPLE

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.html
http://www.spec.org/cpu2006/flags/Intel-Winx64-Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.xml
http://www.spec.org/cpu2006/flags/Intel-Winx64-Platform.xml

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