



SPEC® CINT2006 Result

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GIGA-BYTE Technology Co. Ltd.

(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom X4 9350e)

SPECint®_rate2006 = 38.5

SPECint_rate_base2006 = 37.6

CPU2006 license: 13

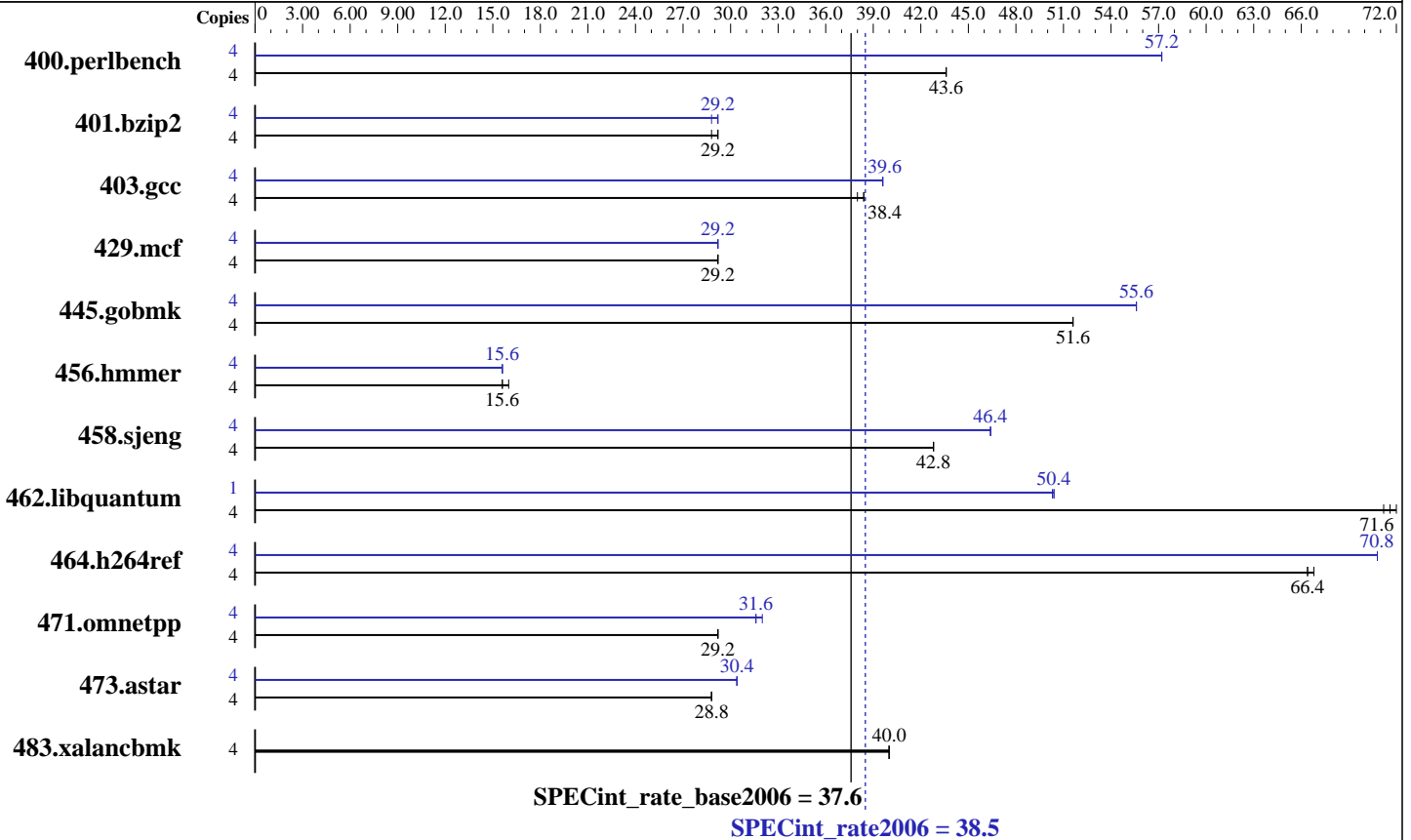
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jan-2009

Hardware Availability: Jun-2008

Software Availability: Nov-2008



Hardware

CPU Name: AMD Phenom X4 9350e
 CPU Characteristics:
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 512 KB I+D on chip per core
 L3 Cache: 2 MB I+D on chip per chip
 Other Cache: None
 Memory: 4 GB (4x1GB DDR2-800 CL5)
 Disk Subsystem: Seagate 320 GB SATA, 7200RPM
 Other Hardware: None

Software

Operating System: Windows Vista Ultimate w/ SP1 (64-bit)
 Compiler: Intel C++ Compiler Professional 11.0 for IA32
 Build 20080930 Package ID: w_cproc_p_11.0.054
 Microsoft Visual Studio 2008 (for libraries)
 Auto Parallel: Yes
 File System: NTFS
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32-bit
 Other Software: SmartHeap Library Version 8.1 from
<http://www.microquill.com/>



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Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|----------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 4 | 898 | 43.6 | 898 | 43.6 | 900 | 43.6 | 4 | 684 | 57.2 | 684 | 57.2 | 683 | 57.2 |
| 401.bzip2 | 4 | 1336 | 28.8 | 1324 | 29.2 | 1325 | 29.2 | 4 | 1330 | 29.2 | 1333 | 28.8 | 1326 | 29.2 |
| 403.gcc | 4 | 841 | 38.4 | 837 | 38.4 | 846 | 38.0 | 4 | 816 | 39.6 | 815 | 39.6 | 816 | 39.6 |
| 429.mcf | 4 | 1250 | 29.2 | 1249 | 29.2 | 1250 | 29.2 | 4 | 1249 | 29.2 | 1252 | 29.2 | 1247 | 29.2 |
| 445.gobmk | 4 | 814 | 51.6 | 813 | 51.6 | 813 | 51.6 | 4 | 754 | 55.6 | 755 | 55.6 | 755 | 55.6 |
| 456.hammer | 4 | 2372 | 15.6 | 2361 | 16.0 | 2376 | 15.6 | 4 | 2407 | 15.6 | 2410 | 15.6 | 2411 | 15.6 |
| 458.sjeng | 4 | 1133 | 42.8 | 1133 | 42.8 | 1132 | 42.8 | 4 | 1043 | 46.4 | 1043 | 46.4 | 1043 | 46.4 |
| 462.libquantum | 4 | 1161 | 71.2 | 1158 | 71.6 | 1154 | 72.0 | 1 | 412 | 50.3 | 411 | 50.4 | 411 | 50.4 |
| 464.h264ref | 4 | 1330 | 66.4 | 1330 | 66.4 | 1329 | 66.8 | 4 | 1251 | 70.8 | 1251 | 70.8 | 1251 | 70.8 |
| 471.omnetpp | 4 | 853 | 29.2 | 854 | 29.2 | 853 | 29.2 | 4 | 786 | 32.0 | 786 | 31.6 | 787 | 31.6 |
| 473.astar | 4 | 974 | 28.8 | 974 | 28.8 | 973 | 28.8 | 4 | 928 | 30.4 | 928 | 30.4 | 929 | 30.4 |
| 483.xalancbmk | 4 | 692 | 40.0 | 691 | 40.0 | 692 | 40.0 | 4 | 692 | 40.0 | 691 | 40.0 | 692 | 40.0 |

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

Submit Notes

The config file option 'submit' was used.

General Notes

Tested systems can be used with Shin-G ATX case, Antec NeoPower 480W power supply
Binaries were built on Windows Vista Ultimate (32-bit)
OMP_NUM_THREADS set to number of logical processors as seen by the OS
KMP_AFFINITY set to physical,0
submit disabled for 462.libquantum peak

Base Compiler Invocation

C benchmarks:
icl -Qvc9 -Qc99
C++ benchmarks:
icl -Qvc9

Base Portability Flags

403.gcc: -DSPEC_CPU_WIN32
464.h264ref: -DSPEC_CPU_NO_INTTYPES -DWIN32

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Base Portability Flags (Continued)

483.xalanbmk: -Qoption,cpp,--no_wchar_t_keyword

Base Optimization Flags

C benchmarks:

/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

C++ benchmarks:

/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
/F512000000 shlw32m.lib -link /FORCE:MULTIPLE

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks:

icl -Qvc9 -Qc99

C++ benchmarks:

icl -Qvc9

Peak Portability Flags

403.gcc: -DSPEC_CPU_WIN32

464.h264ref: -DSPEC_CPU_NO_INTTYPES -DWIN32

483.xalanbmk: -Qoption,cpp,--no_wchar_t_keyword

Peak Optimization Flags

C benchmarks:

400.perlbench: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
/F512000000 shlw32m.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

401.bzip2: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias
/F512000000

403.gcc: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

429.mcf: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F512000000

445.gobmk: /arch:SSE2 -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O2 -Qprec-div- -Qansi-alias /F512000000

456.hmmer: /arch:SSE2 -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qunroll12 -Qansi-alias /F512000000

458.sjeng: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll14 /F512000000

462.libquantum: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
-Qparallel -Qpar-runtime-control -Qvec-guard-write
/F512000000

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qansi-alias
-Qopt-ra-region-strategy=block /F512000000 shlw32m.lib
-link /FORCE:MULTIPLE

473.astar: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qansi-alias
-Qopt-ra-region-strategy=routine /F512000000 shlw32m.lib
-link /FORCE:MULTIPLE

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-ic11.0-win32-revA.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.xml>

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For other inquiries, please contact webmaster@spec.org.

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