GIGA-BYTE Technology Co. Ltd. (Test Sponsor: Intel Corporation)
Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X3 710)

**SPECint®2006 = 16.0**
**SPECint_base2006 = 15.1**

**CPU2006 license:** 13  
**Test date:** May-2009

**Test sponsor:** Intel Corporation  
**Hardware Availability:** Feb-2009

**Tested by:** Intel Corporation  
**Software Availability:** Nov-2008

### Hardware

- **CPU Name:** AMD Phenom II X3 710
- **CPU Characteristics:**
  - **CPU MHz:** 2600
  - **FPU:** Integrated
  - **CPU(s) enabled:** 3 cores, 1 chip, 3 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:** 6 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 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, 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

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
483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword
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## Base Optimization Flags

**C benchmarks:**
```
/arch:SSE2 -Qipo -O3 -Qprec-div -Qopt-prefetch -Qparallel
-Qpar-runtime-control -Qvec-guard-write /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.xalancbmk: -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
```

```
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 /F512000000
```

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Peak Optimization Flags (Continued)

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

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

456.hmmer: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div -Qunroll2 -Qansi-alias /F512000000

458.sjeng: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div -Qunroll4 /F512000000

462.libquantum: basepeak = yes

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

The flags file that was used to format this result can be browsed at

You can also download the XML flags source by saving the following link:
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For other inquiries, please contact webmaster@spec.org.

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