



SPEC® CINT2006 Result

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GIGA-BYTE Technology Co. Ltd.

(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom X4 9750)

SPECint®2006 = 13.2

SPECint_base2006 = 12.6

CPU2006 license: 13

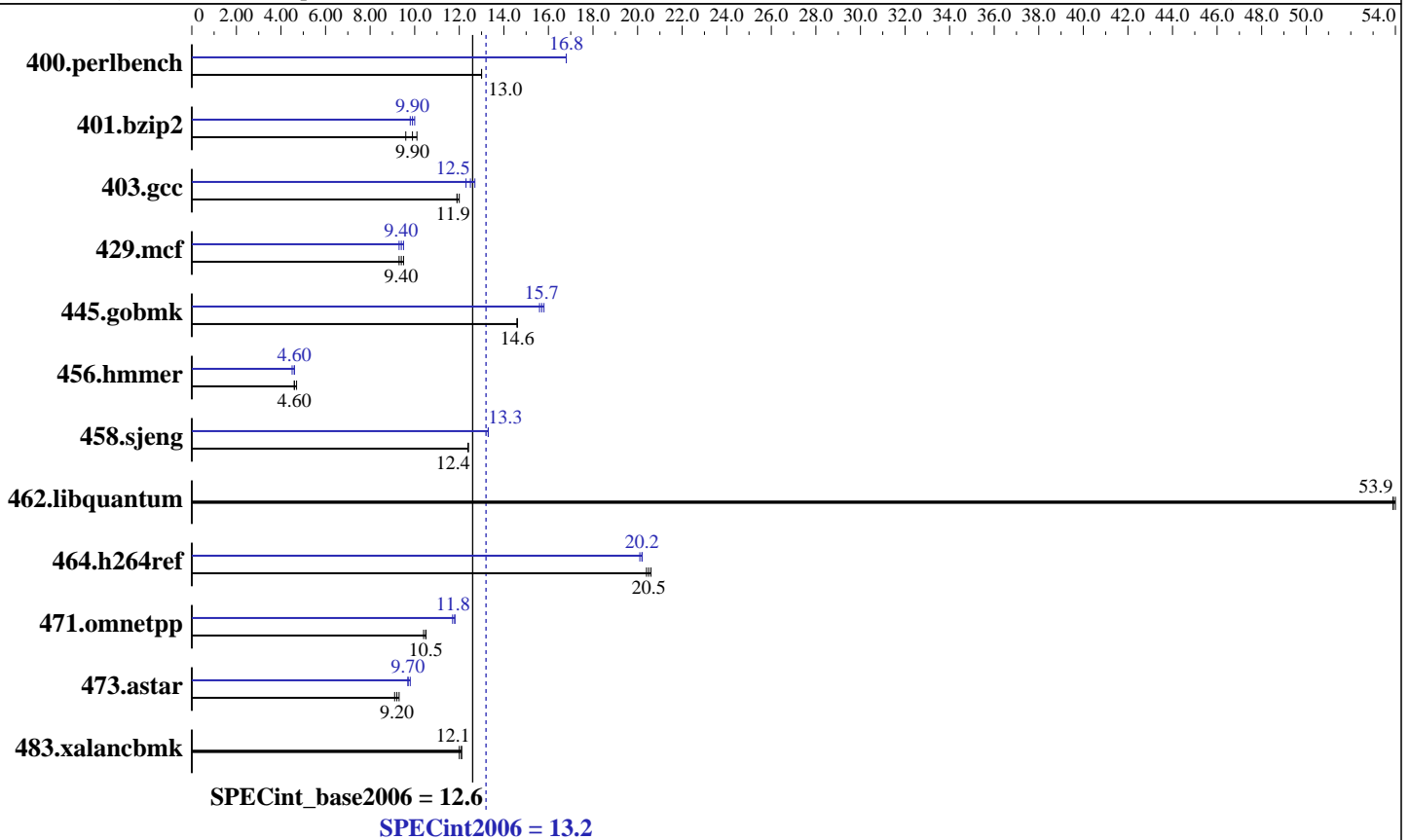
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jan-2009

Hardware Availability: Apr-2008

Software Availability: Nov-2008



Hardware

CPU Name: AMD Phenom X4 9750
 CPU Characteristics:
 CPU MHz: 2400
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	751	13.0	749	13.0	<u>750</u>	<u>13.0</u>	580	16.8	<u>581</u>	<u>16.8</u>	581	16.8
401.bzip2	957	10.1	<u>973</u>	<u>9.90</u>	1004	9.60	<u>972</u>	<u>9.90</u>	966	10.0	980	9.80
403.gcc	<u>678</u>	<u>11.9</u>	671	12.0	679	11.9	635	12.7	656	12.3	<u>645</u>	<u>12.5</u>
429.mcf	<u>969</u>	<u>9.40</u>	980	9.30	962	9.50	965	9.50	<u>968</u>	<u>9.40</u>	976	9.30
445.gobmk	716	14.6	<u>718</u>	<u>14.6</u>	718	14.6	671	15.6	<u>669</u>	<u>15.7</u>	666	15.8
456.hammer	2038	4.60	<u>2031</u>	<u>4.60</u>	1994	4.70	<u>2031</u>	<u>4.60</u>	2051	4.50	2024	4.60
458.sjeng	976	12.4	975	12.4	<u>975</u>	<u>12.4</u>	909	13.3	911	13.3	<u>910</u>	<u>13.3</u>
462.libquantum	384	54.0	<u>384</u>	<u>53.9</u>	384	53.9	384	54.0	<u>384</u>	<u>53.9</u>	384	53.9
464.h264ref	1083	20.4	1074	20.6	<u>1078</u>	<u>20.5</u>	1101	20.1	<u>1097</u>	<u>20.2</u>	1096	20.2
471.omnetpp	593	10.5	600	10.4	<u>597</u>	<u>10.5</u>	<u>531</u>	<u>11.8</u>	529	11.8	535	11.7
473.astar	773	9.10	<u>765</u>	<u>9.20</u>	751	9.30	725	9.70	<u>721</u>	<u>9.70</u>	717	9.80
483.xalancbmk	574	12.0	<u>572</u>	<u>12.1</u>	571	12.1	574	12.0	<u>572</u>	<u>12.1</u>	571	12.1

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.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
```

```
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

<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.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 01:33:03 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 23 June 2009.