SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

GIGA-BYTE Technology Co. Ltd.
(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X4 940)

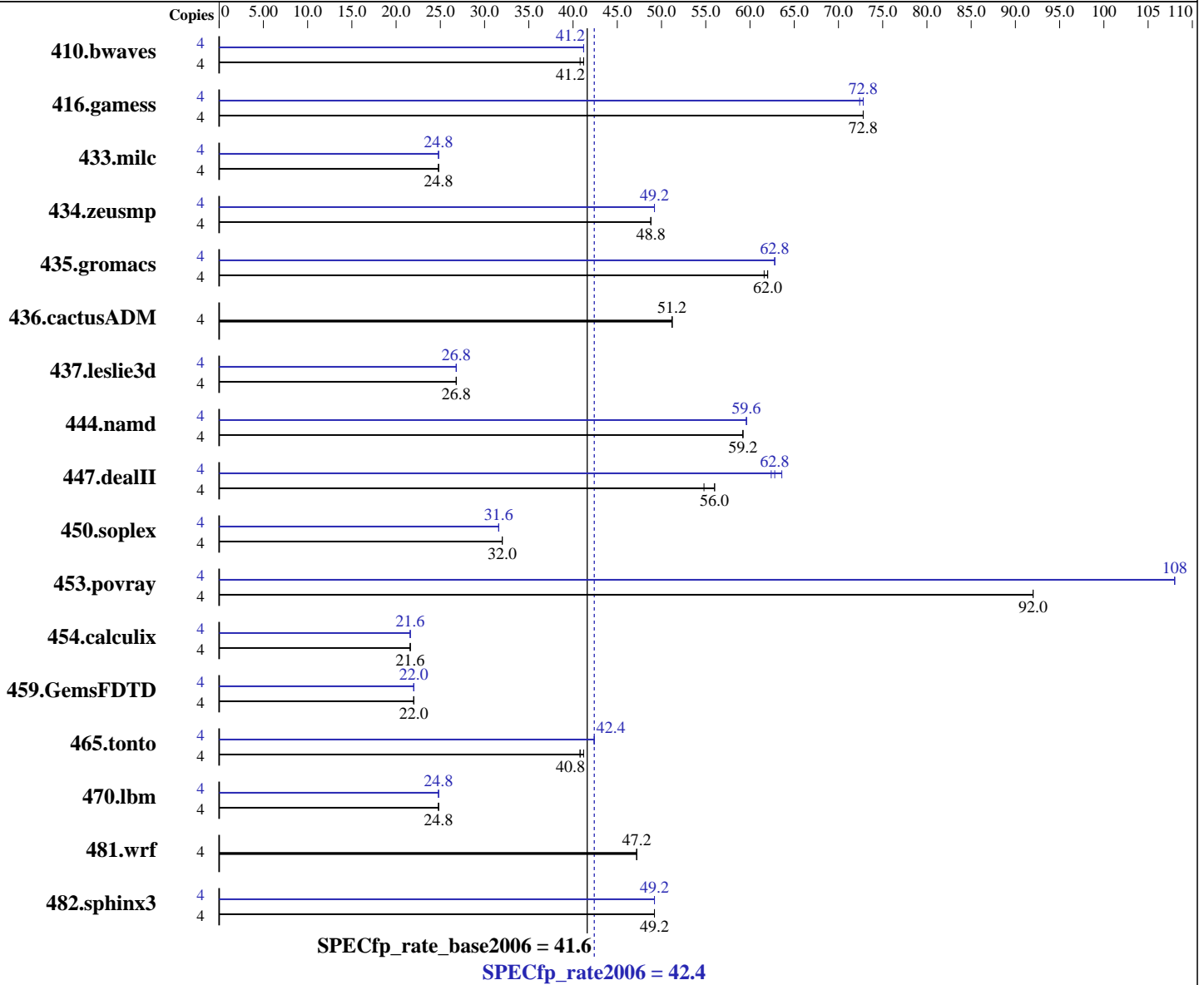$SPECfp^{®}\_rate2006 =$ 42.4

$SPECfp\_rate\_base2006 =$ 41.6

CPU2006 license: 13	**Test date:** May-2009
Test sponsor: Intel Corporation	**Hardware Availability:** Jan-2009
Tested by: Intel Corporation	**Software Availability:** Nov-2008

SPECfp_rate_base2006 = 41.6

SPECfp_rate2006 = 42.4

Hardware

CPU Name:	AMD Phenom II X4 940
CPU Characteristics:	
CPU MHz:	3000
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

Continued on next page

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 Intel Visual Fortran Compiler Professional 11.0 for IA32 Build 20080930 Package ID: w_cprof_p_11.0.054 Microsoft Visual Studio 2008 (for libraries)
Auto Parallel:	No
File System:	NTFS

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

GIGA-BYTE Technology Co. Ltd.
(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X4 940)

SPECfp_rate2006 =	42.4
SPECfp_rate_base2006 =	41.6

CPU2006 license: 13		**Test date:**	May-2009
Test sponsor: Intel Corporation		**Hardware Availability:**	Jan-2009
Tested by: Intel Corporation		**Software Availability:**	Nov-2008

L3 Cache:	6 MB I+D on chip per chip	System State:	Default
Other Cache:	None	Base Pointers:	32-bit
Memory:	4 GB (4x1GB DDR2-800 CL5)	Peak Pointers:	32-bit
Disk Subsystem:	Seagate 320 GB SATA, 7200RPM	Other Software:	SmartHeap Library Version 8.1 from
Other Hardware:	None		http://www.microquill.com/

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1326	40.8	1316	41.2	**1317**	**41.2**	4	1318	41.2	**1316**	**41.2**	1316	41.2
416.gamess	4	**1076**	**72.8**	1076	72.8	1076	72.8	4	1079	72.8	**1079**	**72.8**	1079	72.4
433.milc	4	1481	24.8	1482	24.8	**1482**	**24.8**	4	1478	24.8	1479	24.8	**1478**	**24.8**
434.zeusmp	4	746	48.8	**744**	**48.8**	743	48.8	4	740	49.2	**741**	**49.2**	742	49.2
435.gromacs	4	462	62.0	463	61.6	**462**	**62.0**	4	**455**	**62.8**	456	62.8	455	62.8
436.cactusADM	4	931	51.2	932	51.2	**931**	**51.2**	4	931	51.2	932	51.2	**931**	**51.2**
437.leslie3d	4	**1411**	**26.8**	1411	26.8	1410	26.8	4	1411	26.8	**1411**	**26.8**	1411	26.8
444.namd	4	542	59.2	**542**	**59.2**	542	59.2	4	**540**	**59.6**	540	59.6	539	59.6
447.dealII	4	**817**	**56.0**	833	54.8	815	56.0	4	**729**	**62.8**	721	63.6	731	62.4
450.soplex	4	1046	32.0	**1041**	**32.0**	1040	32.0	4	1053	31.6	1050	31.6	**1052**	**31.6**
453.povray	4	231	92.0	**231**	**92.0**	232	92.0	4	197	108	**197**	**108**	197	108
454.calculix	4	1541	21.6	1540	21.6	**1541**	**21.6**	4	1541	21.6	1541	21.6	**1541**	**21.6**
459.GemsFDTD	4	1942	22.0	1943	22.0	**1942**	**22.0**	4	1944	22.0	**1944**	**22.0**	1944	22.0
465.tonto	4	963	40.8	**962**	**40.8**	960	41.2	4	932	42.4	**929**	**42.4**	926	42.4
470.lbm	4	**2222**	**24.8**	2222	24.8	2222	24.8	4	2222	24.8	**2222**	**24.8**	2222	24.8
481.wrf	4	945	47.2	943	47.2	**943**	**47.2**	4	945	47.2	943	47.2	**943**	**47.2**
482.sphinx3	4	1583	49.2	1587	49.2	**1584**	**49.2**	4	1586	49.2	**1586**	**49.2**	1582	49.2

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)

Base Compiler Invocation

C benchmarks:
    icl -Qvc9 -Qc99

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

GIGA-BYTE Technology Co. Ltd.
(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X4 940)

$SPECfp\_rate2006 =$ 42.4

$SPECfp\_rate\_base2006 =$ 41.6

CPU2006 license: 13		**Test date:**	May-2009
Test sponsor: Intel Corporation		**Hardware Availability:**	Jan-2009
Tested by: Intel Corporation		**Software Availability:**	Nov-2008

Base Compiler Invocation (Continued)

C++ benchmarks:
```
icl -Qvc9
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc9 -Qc99 ifort
```

Base Portability Flags

```
436.cactusADM: -Qlowercase /assume:underscore
    444.namd: -TP
  447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
  453.povray: -DSPEC_CPU_WINDOWS_ICL
 454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
     481.wrf: -DSPEC_CPU_WINDOWS_ICL
```

Base Optimization Flags

C benchmarks:
```
/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
```

C++ benchmarks:
```
/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
/F1000000000 shlw32m.lib          -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
```

Benchmarks using both Fortran and C:
```
/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
```

Peak Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qc99
```

C++ benchmarks:
```
icl -Qvc9
```

Fortran benchmarks:
```
ifort
```

Continued on next page

GIGA-BYTE Technology Co. Ltd.
(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X4 940)

SPECfp_rate2006 =   42.4

SPECfp_rate_base2006 = 41.6

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: May-2009

Hardware Availability: Jan-2009

Software Availability: Nov-2008

Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
```
icl -Qvc9 -Qc99 ifort
```

Peak Portability Flags

```
   436.cactusADM: -Qlowercase /assume:underscore
      444.namd: -TP
       447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
       453.povray: -DSPEC_CPU_WINDOWS_ICL
      454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
        481.wrf: -DSPEC_CPU_WINDOWS_ICL
```

Peak Optimization Flags

C benchmarks:

```
      433.milc: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
              -Qipo -O3 -Qprec-div- -Oa /F1000000000

      470.lbm: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
              /F1000000000

   482.sphinx3: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qunroll2 /F1000000000
```

C++ benchmarks:

```
      444.namd: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
              -Qipo -O3 -Qprec-div- -Oa /F1000000000 shlw32m.lib
                      -link /FORCE:MULTIPLE

      447.dealII: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
              -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
              -Qscalar-rep- /F1000000000 shlw32m.lib
                      -link /FORCE:MULTIPLE

    450.soplex: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
              -Qipo -O3 -Qprec-div- /F1000000000 shlw32m.lib
                      -link /FORCE:MULTIPLE

    453.povray: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
              -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F1000000000
              shlw32m.lib              -link /FORCE:MULTIPLE
```

Fortran benchmarks:

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

GIGA-BYTE Technology Co. Ltd.
(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X4 940)

$SPECfp\_rate2006 =$ 42.4

$SPECfp\_rate\_base2006 =$ 41.6

CPU2006 license: 13		**Test date:**	May-2009
Test sponsor:	Intel Corporation	**Hardware Availability:**	Jan-2009
Tested by:	Intel Corporation	**Software Availability:**	Nov-2008

Peak Optimization Flags (Continued)

```
   410.bwaves: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
               /F1000000000

   416.gamess: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
               -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias
               -Qscalar-rep- /F1000000000

   434.zeusmp: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
               -Qipo -O3 -Qprec-div- /F1000000000

  437.leslie3d: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
               -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

  459.GemsFDTD: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
               -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qopt-prefetch
               /F1000000000

    465.tonto: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
               -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000
```

Benchmarks using both Fortran and C:

```
  435.gromacs: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
               -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

 436.cactusADM: basepeak = yes

   454.calculix: /arch:SSE2 -Qipo -O3 -Qprec-div- /F1000000000

       481.wrf: basepeak = yes
```

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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 01:19:42 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 23 June 2009.