SPEC® CFP2006 Result
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GIGA-BYTE Technology Co. Ltd.
(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Athlon X2 7750)

$SPECfp^{®}2006 =$ **14.4**

$SPECfp\_base2006 =$ **14.3**

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

Benchmark	base	peak
410.bwaves	30.5	30.5
416.gamess	15.7	16.1
433.milc	10.5	10.4
434.zeusmp	15.8	
435.gromacs	12.7	12.9
436.cactusADM	23.1	23.1
437.leslie3d	11.1	
444.namd	12.7	12.9
447.dealII	14.4	16.4
450.soplex	10.5	10.6
453.povray	20.3	23.8
454.calculix	6.10	4.80
459.GemsFDTD	13.1	13.2
465.tonto	9.30	9.90
470.lbm	22.2	
481.wrf	18.2	18.2
482.sphinx3	14.1	14.1

SPECfp_base2006 = 14.3

SPECfp2006 = 14.4

Hardware

CPU Name:	AMD Athlon X2 7750
CPU Characteristics:	
CPU MHz:	2700
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 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:	Yes
File System:	NTFS

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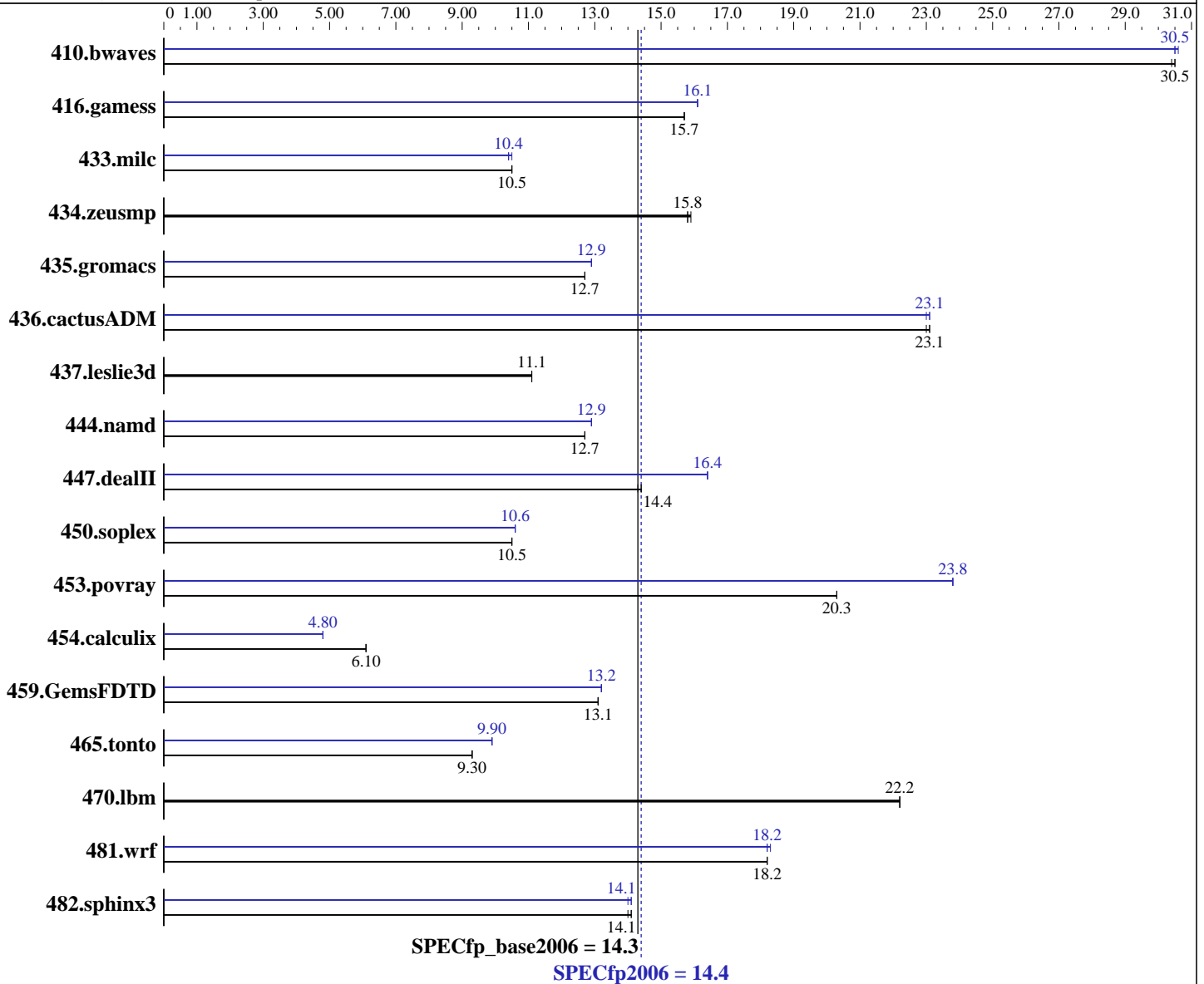| SPECfp2006 =	14.4
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L3 Cache:	2 MB I+D on chip per chip
Other Cache:	None
Memory:	4 GB (4x1GB DDR2-800 CL5)
Disk Subsystem:	Seagate 320 GB SATA, 7200RPM
Other Hardware:	None

System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	SmartHeap Library Version 8.1 from http://www.microquill.com/

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	446	30.4	**445**	**30.5**	445	30.5	444	30.6	446	30.5	**445**	**30.5**
416.gamess	1250	15.7	**1250**	**15.7**	1249	15.7	1216	16.1	1215	16.1	**1216**	**16.1**
433.milc	877	10.5	**877**	**10.5**	877	10.5	875	10.5	**882**	**10.4**	882	10.4
434.zeusmp	**577**	**15.8**	577	15.8	573	15.9	**577**	**15.8**	577	15.8	573	15.9
435.gromacs	564	12.7	564	12.7	**564**	**12.7**	553	12.9	553	12.9	**553**	**12.9**
436.cactusADM	519	23.0	517	23.1	**518**	**23.1**	519	23.0	518	23.1	**518**	**23.1**
437.leslie3d	**849**	**11.1**	850	11.1	849	11.1	**849**	**11.1**	850	11.1	849	11.1
444.namd	633	12.7	633	12.7	**633**	**12.7**	**621**	**12.9**	621	12.9	621	12.9
447.dealII	**797**	**14.4**	796	14.4	798	14.3	**699**	**16.4**	699	16.4	698	16.4
450.soplex	794	10.5	793	10.5	**793**	**10.5**	790	10.6	788	10.6	**789**	**10.6**
453.povray	262	20.3	262	20.3	**262**	**20.3**	223	23.8	223	23.8	**223**	**23.8**
454.calculix	1344	6.10	1344	6.10	**1344**	**6.10**	1704	4.80	**1704**	**4.80**	1704	4.80
459.GemsFDTD	808	13.1	808	13.1	**808**	**13.1**	807	13.2	806	13.2	**806**	**13.2**
465.tonto	1056	9.30	1055	9.30	**1055**	**9.30**	994	9.90	**993**	**9.90**	993	9.90
470.lbm	**619**	**22.2**	619	22.2	620	22.2	**619**	**22.2**	619	22.2	620	22.2
481.wrf	612	18.2	613	18.2	**612**	**18.2**	612	18.3	**613**	**18.2**	613	18.2
482.sphinx3	1380	14.1	1387	14.0	**1387**	**14.1**	1388	14.0	**1386**	**14.1**	1380	14.1

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
```

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Base Compiler Invocation (Continued)

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- -Qparallel -Qopt-prefetch
/F1000000000
```

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

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

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

Peak Compiler Invocation

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

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

Fortran benchmarks:
```
ifort
```

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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: basepeak = yes

 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 -Qopt-prefetch
             -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:

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

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Peak Optimization Flags (Continued)

```
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: basepeak = yes

437.leslie3d: basepeak = yes

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

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

481.wrf: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
         -Qparallel /F1000000000
```

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.

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