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

Gigabyte MA78GM-S2H Motherboard (AMD Athlon X2 6000+)

$SPECfp^®\_rate2006 =$　21.0

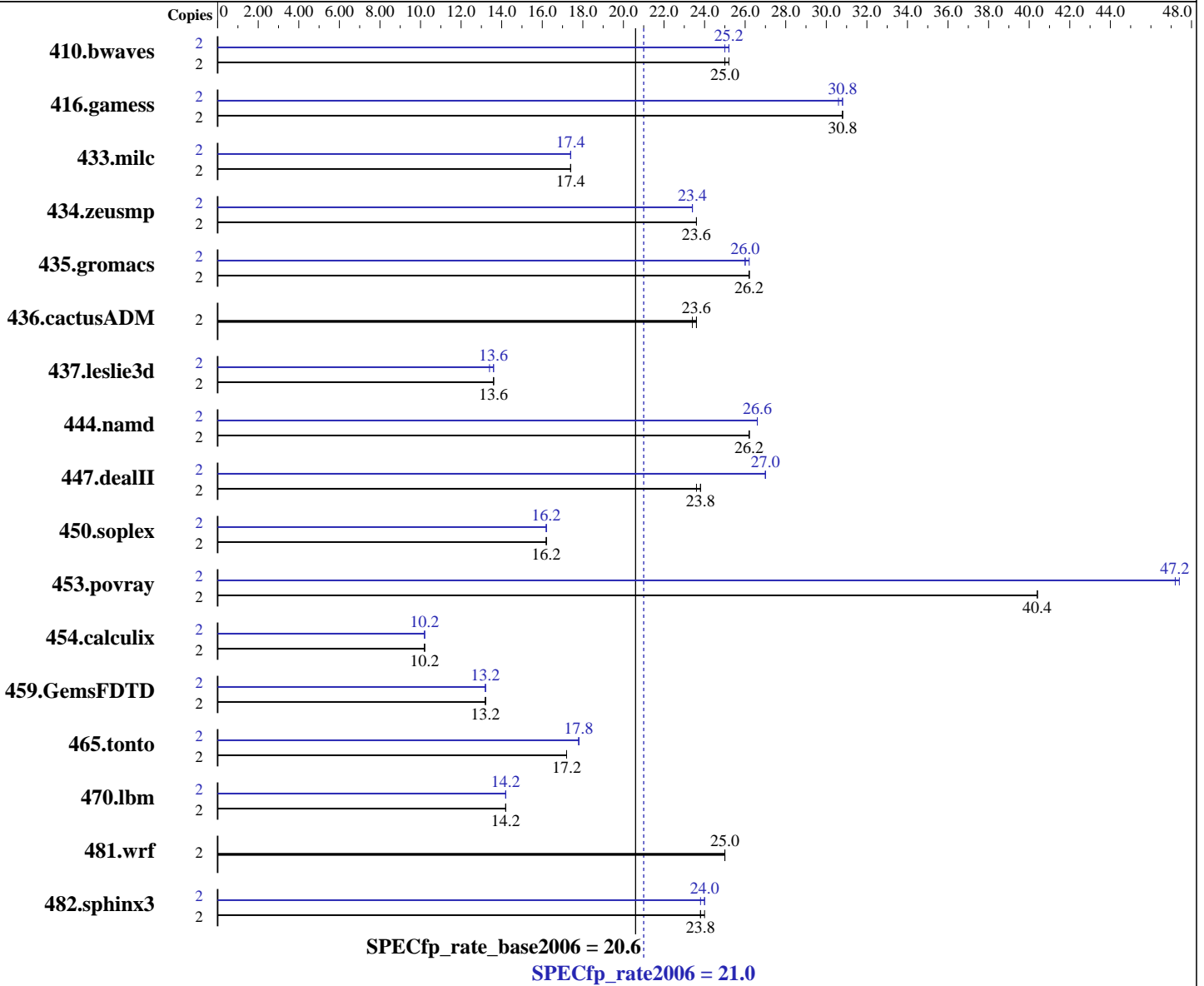$SPECfp\_rate\_base2006 =$　20.6

CPU2006 license: 13　　　　**Test date:** Jan-2009
Test sponsor: Intel Corporation　　**Hardware Availability:** Feb-2007
Tested by: Intel Corporation　　**Software Availability:** Nov-2008

Copies 0 2.00 4.00 6.00 8.00 10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0 32.0 34.0 36.0 38.0 40.0 42.0 44.0 48.0

- **410.bwaves** 2 / 2 — 25.2 / 25.0
- **416.gamess** 2 / 2 — 30.8 / 30.8
- **433.milc** 2 / 2 — 17.4 / 17.4
- **434.zeusmp** 2 / 2 — 23.4 / 23.6
- **435.gromacs** 2 / 2 — 26.0 / 26.2
- **436.cactusADM** 2 — 23.6
- **437.leslie3d** 2 / 2 — 13.6 / 13.6
- **444.namd** 2 / 2 — 26.6 / 26.2
- **447.dealII** 2 / 2 — 27.0 / 23.8
- **450.soplex** 2 / 2 — 16.2 / 16.2
- **453.povray** 2 / 2 — 47.2 / 40.4
- **454.calculix** 2 / 2 — 10.2 / 10.2
- **459.GemsFDTD** 2 / 2 — 13.2 / 13.2
- **465.tonto** 2 / 2 — 17.8 / 17.2
- **470.lbm** 2 / 2 — 14.2 / 14.2
- **481.wrf** 2 — 25.0
- **482.sphinx3** 2 / 2 — 24.0 / 23.8

SPECfp_rate_base2006 = 20.6

SPECfp_rate2006 = 21.0

Hardware

CPU Name:	AMD Athlon X2 6000+
CPU Characteristics:	
CPU MHz:	3100
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:	No
File System:	NTFS

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L3 Cache:	None	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	Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	2	1083	25.0	**1083**	**25.0**	1083	25.2	2	**1083**	**25.2**	1083	25.0	1083	25.2
416.gamess	2	**1270**	**30.8**	1269	30.8	1270	30.8	2	1275	30.8	1276	30.6	**1276**	**30.8**
433.milc	2	1055	17.4	1058	17.4	**1056**	**17.4**	2	1054	17.4	1053	17.4	**1054**	**17.4**
434.zeusmp	2	774	23.6	769	23.6	**770**	**23.6**	2	**778**	**23.4**	775	23.4	780	23.4
435.gromacs	2	546	26.2	547	26.2	**546**	**26.2**	2	**547**	**26.0**	548	26.0	546	26.2
436.cactusADM	2	**1017**	**23.6**	1017	23.6	1017	23.4	2	**1017**	**23.6**	1017	23.6	1017	23.4
437.leslie3d	2	1385	13.6	**1381**	**13.6**	1378	13.6	2	**1385**	**13.6**	1379	13.6	1403	13.4
444.namd	2	613	26.2	612	26.2	**612**	**26.2**	2	603	26.6	603	26.6	**603**	**26.6**
447.dealII	2	966	23.6	**962**	**23.8**	962	23.8	2	847	27.0	**849**	**27.0**	850	27.0
450.soplex	2	1028	16.2	**1027**	**16.2**	1027	16.2	2	1029	16.2	**1029**	**16.2**	1030	16.2
453.povray	2	263	40.4	**263**	**40.4**	263	40.4	2	225	47.4	225	47.2	**225**	**47.2**
454.calculix	2	1603	10.2	**1603**	**10.2**	1603	10.2	2	1603	10.2	**1603**	**10.2**	1603	10.2
459.GemsFDTD	2	**1600**	**13.2**	1602	13.2	1599	13.2	2	**1600**	**13.2**	1601	13.2	1599	13.2
465.tonto	2	1149	17.2	**1147**	**17.2**	1144	17.2	2	**1108**	**17.8**	1106	17.8	1109	17.8
470.lbm	2	1935	14.2	**1935**	**14.2**	1938	14.2	2	**1940**	**14.2**	1940	14.2	1929	14.2
481.wrf	2	**893**	**25.0**	893	25.0	892	25.0	2	**893**	**25.0**	893	25.0	892	25.0
482.sphinx3	2	1628	24.0	1633	23.8	**1631**	**23.8**	2	1628	24.0	**1630**	**24.0**	1633	23.8

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)
    The system as described on this result page was formerly generally
    available, but is no longer generally available. It may or may
    not be supported.
    This benchmark result is intended to provide perspective on past
    [power and/or] performance for the hardware and software
    described on this result page.

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CPU2006 license: 13		**Test date:**	Jan-2009
Test sponsor:	Intel Corporation	**Hardware Availability:**	Feb-2007
Tested by:	Intel Corporation	**Software Availability:**	Nov-2008

Base Compiler Invocation

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

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
```

Continued on next page

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Peak Compiler Invocation (Continued)

Fortran benchmarks:
```
ifort
```

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
```

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Peak Optimization Flags (Continued)

Fortran benchmarks:

> 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.20090818.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.20090818.xml

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

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