SPEC® CFP2006 Result

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GIGA-BYTE Technology Co. Ltd.

(Test Sponsor: Intel Corporation)

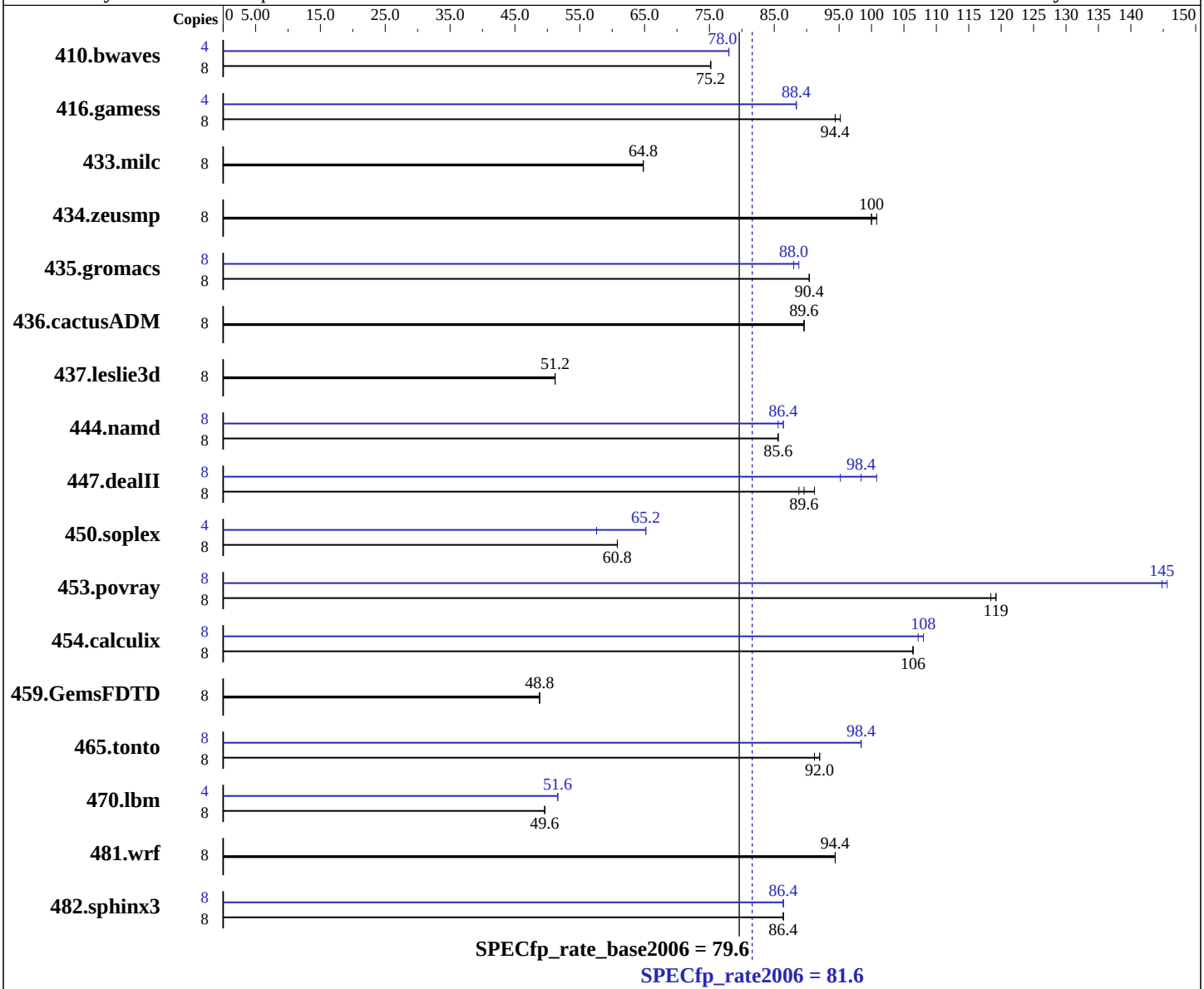
Gigabyte GA-X58A-UD7 motherboard (Intel Core i7-920)

SPECfp®_rate2006 = 81.6

SPECfp_rate_base2006 = 79.6

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Feb-2010
Hardware Availability: Nov-2009
Software Availability: Oct-2009



Hardware

CPU Name:	Intel Core i7-920
CPU Characteristics:	Intel Turbo Boost Technology up to 2.93 GHz
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software

Operating System:	Windows Vista Ultimate w/ SP1 (64-bit)
Compiler:	Intel C++ Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cproc_p_11.1.045 Intel Visual Fortran Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cproc_p_11.1.045, w_cprof_p_11.1.045 Microsoft Visual Studio 2008 Professional SP1 (for libraries)
Auto Parallel:	No

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 12 GB (6x2GB Micron 16JTF25664AY-1G1D1 DDR3-1066 CL7)
Disk Subsystem: Intel X25-M 80GB SSD
Other Hardware: None

File System: NTFS
System State: Default
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: None
SmartHeap Library Version 8.1 from http://www.microquill.com/

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	1452	75.2	1449	75.2	**1451**	**75.2**	4	**696**	**78.0**	697	78.0	696	78.0
416.gamess	8	1649	95.2	**1660**	**94.4**	1665	94.4	4	886	88.4	**886**	**88.4**	886	88.4
433.milc	8	1138	64.8	1139	64.8	**1138**	**64.8**	8	1138	64.8	1139	64.8	**1138**	**64.8**
434.zeusmp	8	730	100	720	101	**728**	**100**	8	730	100	720	101	**728**	**100**
435.gromacs	8	635	90.4	**633**	**90.4**	632	90.4	8	643	88.8	651	88.0	**647**	**88.0**
436.cactusADM	8	1064	89.6	1066	89.6	**1065**	**89.6**	8	1064	89.6	1066	89.6	**1065**	**89.6**
437.leslie3d	8	**1462**	**51.2**	1462	51.2	1463	51.2	8	**1462**	**51.2**	1462	51.2	1463	51.2
444.namd	8	747	85.6	748	85.6	**748**	**85.6**	8	**744**	**86.4**	744	86.4	747	85.6
447.dealII	8	**1022**	**89.6**	1027	88.8	1001	91.2	8	961	95.2	905	101	**933**	**98.4**
450.soplex	8	1095	60.8	**1094**	**60.8**	1094	60.8	4	512	65.2	**512**	**65.2**	578	57.6
453.povray	8	359	118	**358**	**119**	358	119	8	**294**	**145**	293	146	294	145
454.calculix	8	**620**	**106**	618	106	621	106	8	612	108	614	107	**613**	**108**
459.GemsFDTD	8	1729	48.8	1725	48.8	**1726**	**48.8**	8	1729	48.8	1725	48.8	**1726**	**48.8**
465.tonto	8	858	92.0	**858**	**92.0**	862	91.2	8	798	98.4	**797**	**98.4**	797	98.4
470.lbm	8	**2224**	**49.6**	2223	49.6	2224	49.6	4	1066	51.6	**1065**	**51.6**	1065	51.6
481.wrf	8	946	94.4	943	94.4	**945**	**94.4**	8	946	94.4	943	94.4	**945**	**94.4**
482.sphinx3	8	**1803**	**86.4**	1803	86.4	1803	86.4	8	1804	86.4	1807	86.4	**1805**	**86.4**

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.
Windows start command was used to bind copies to processors
```

General Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
System was configured with an ATI 5970 discrete graphics card
```

Base Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64 /Qlowercase
416.gamess: -DSPEC_CPU_P64
433.milc: -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -DSPEC_CPU_P64
436.cactusADM: -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
-Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
-link /FORCE:MULTIPLE

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

Peak Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

482.sphinx3: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qunroll2 -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

447.dealII: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qscalar-rep- -Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

450.soplex: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32
/F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F1000000000 -link /FORCE:MULTIPLE

416.gamess: Same as 410.bwaves

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

435.gromacs: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE

436.cactusADM: basepeak = yes

454.calculix: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F1000000000
-link /FORCE:MULTIPLE

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-winx64-revA.20100302.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.01.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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