SPEC® CFP2006 Result

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Intel Corporation

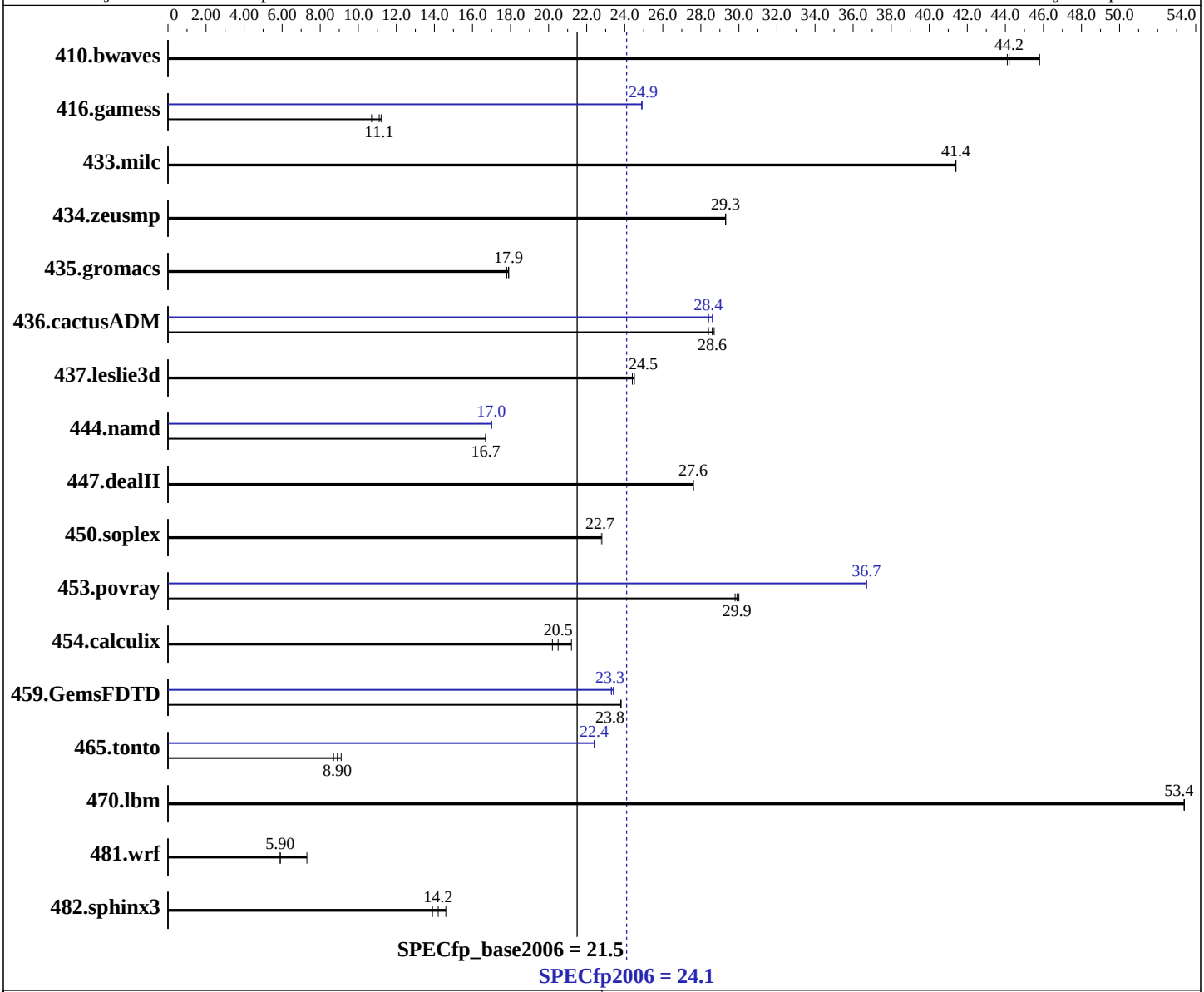
Intel DH61WW motherboard (Intel Celeron G540)

SPECfp®2006 = 24.1

SPECfp_base2006 = 21.5

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

Test date: Oct-2011
Hardware Availability: Sep-2011
Software Availability: Apr-2011



Hardware

CPU Name:	Intel Celeron G540
CPU Characteristics:	
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
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 7 Ultimate (64-bit)
Compiler:	Fortran: Version 12.0.3.176 of Intel Fortran Studio XE for Windows; Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1
Auto Parallel:	Yes
File System:	NTFS
System State:	Default

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L3 Cache: 2 MB I+D on chip per chip
Other Cache: None
Memory: 2 GB (2 x 1 GB 2Rx4 PC3-10600U-9, running at 1066 MHz)
Disk Subsystem: 1 TB Seagate SATA, 7200 RPM
Other Hardware: None

Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: SmartHeap Library Version 9.01 from http://www.microquill.com/

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	297	45.8	**308**	**44.2**	308	44.1	297	45.8	**308**	**44.2**	308	44.1
416.gamess	1831	10.7	1754	11.2	**1760**	**11.1**	**786**	**24.9**	787	24.9	786	24.9
433.milc	**222**	**41.4**	222	41.4	222	41.4	**222**	**41.4**	222	41.4	222	41.4
434.zeusmp	311	29.3	**311**	**29.3**	310	29.3	311	29.3	**311**	**29.3**	310	29.3
435.gromacs	**400**	**17.9**	398	17.9	400	17.8	**400**	**17.9**	398	17.9	400	17.8
436.cactusADM	421	28.4	417	28.7	**418**	**28.6**	421	28.4	**421**	**28.4**	419	28.6
437.leslie3d	383	24.5	385	24.4	**384**	**24.5**	383	24.5	385	24.4	**384**	**24.5**
444.namd	480	16.7	**480**	**16.7**	480	16.7	472	17.0	**472**	**17.0**	472	17.0
447.dealII	414	27.6	**414**	**27.6**	415	27.6	414	27.6	**414**	**27.6**	415	27.6
450.soplex	**367**	**22.7**	367	22.7	367	22.8	**367**	**22.7**	367	22.7	367	22.8
453.povray	**178**	**29.9**	177	30.0	178	29.8	145	36.7	145	36.7	**145**	**36.7**
454.calculix	409	20.2	389	21.2	**402**	**20.5**	409	20.2	389	21.2	**402**	**20.5**
459.GemsFDTD	445	23.8	446	23.8	**445**	**23.8**	455	23.3	453	23.4	**455**	**23.3**
465.tonto	**1107**	**8.90**	1078	9.10	1132	8.70	**440**	**22.4**	439	22.4	440	22.4
470.lbm	**257**	**53.4**	257	53.4	257	53.4	**257**	**53.4**	257	53.4	257	53.4
481.wrf	**1908**	**5.90**	1530	7.30	1909	5.90	**1908**	**5.90**	1530	7.30	1909	5.90
482.sphinx3	**1372**	**14.2**	1331	14.6	1398	13.9	**1372**	**14.2**	1331	14.6	1398	13.9

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Component Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
```

General Notes

```
Binaries compiled on a system with 1x Intel Core i7-860 CPU
+ 8GB memory using Windows 7 Enterprise 64-bit
OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter
```

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 -names:lowercase
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 -names:lowercase /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 -names:lowercase
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- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000
```

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

Fortran benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000
```

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000

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: basepeak = yes

482.sphinx3: basepeak = yes

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: basepeak = yes

450.soplex: basepeak = yes

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

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -QxSSE4.2(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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel /F1000000000

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

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qunroll2 -Qauto-ilp32 /F1000000000

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.html
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.xml
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.xml

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