SPEC® CFP2006 Result
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Intel Corporation

Intel DH61WW motherboard (Intel Core i3-2130)

$SPECfp^®\_rate2006 =$ 71.9

$SPECfp\_rate\_base2006 =$ 70.7

Copies	Result
410.bwaves	4 — 72.4
416.gamess	4 — 73.2
433.milc	4 — 80.4
434.zeusmp	4 — 80.8
435.gromacs	4 — 60.4
436.cactusADM	4 — 77.2
437.leslie3d	4 — 48.4
444.namd	4 — 59.2 / 4 — 58.8
447.dealII	4 — 78.0
450.soplex	2 — 48.8 / 4 — 46.8
453.povray	4 — 116 / 4 — 97.2
454.calculix	4 — 88.4
459.GemsFDTD	4 — 48.0
465.tonto	4 — 70.8 / 4 — 68.4
470.lbm	4 — 102
481.wrf	4 — 80.0
482.sphinx3	4 — 72.8 / 4 — 72.0

SPECfp_rate_base2006 = 70.7

SPECfp_rate2006 = 71.9

Hardware
CPU Name: Intel Core i3-2130
CPU Characteristics:
CPU MHz: 3400
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 2 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

Continued on next page

Software
Operating System: Microsoft Windows 7 Ultimate
6.1.7601 Service Pack 1 Build 7601
Compiler: C/C++: Version 12.1.0.229 of Intel C++ Studio XE for Windows;
Fortran: Version 12.1.0.229 of Intel Fortran Studio XE for Windows;
Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1
Auto Parallel: No

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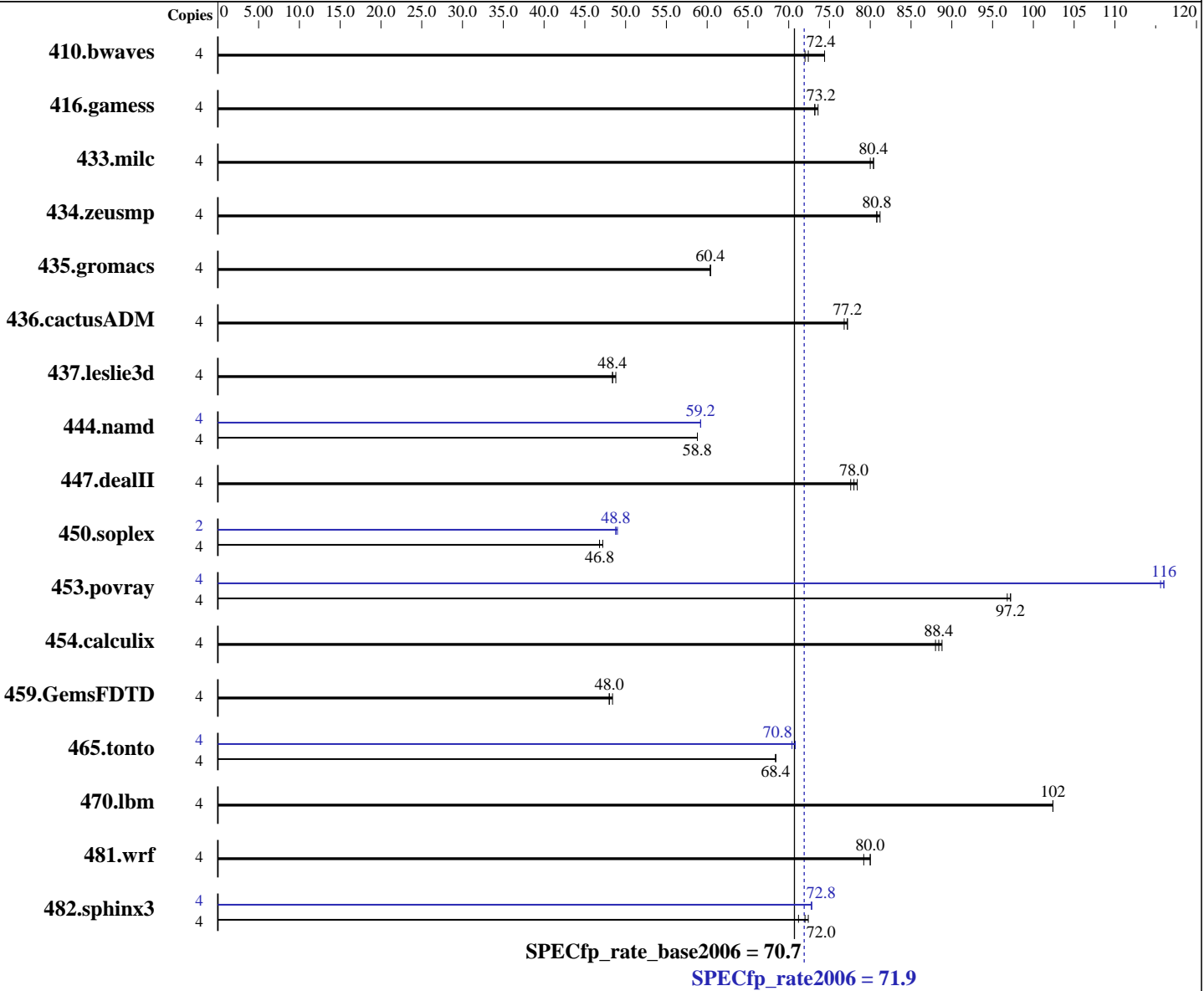SPECfp_rate_base2006 = 70.7

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2011

Hardware Availability: Sep-2011

Software Availability: Sep-2011

L3 Cache:	3 MB I+D on chip per chip
Other Cache:	None
Memory:	4 GB (2 x 2 GB 2Rx8 PC3-10600U-9)
Disk Subsystem:	1 TB Seagate SATA, 7200 RPM
Other Hardware:	None

File System:	NTFS
System State:	Default
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 Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	732	74.4	756	72.0	**752**	**72.4**	4	732	74.4	756	72.0	**752**	**72.4**
416.gamess	4	1064	73.6	**1067**	**73.2**	1071	73.2	4	1064	73.6	**1067**	**73.2**	1071	73.2
433.milc	4	458	80.0	**458**	**80.4**	457	80.4	4	458	80.0	**458**	**80.4**	457	80.4
434.zeusmp	4	**451**	**80.8**	452	80.8	449	81.2	4	**451**	**80.8**	452	80.8	449	81.2
435.gromacs	4	472	60.4	**473**	**60.4**	473	60.4	4	472	60.4	**473**	**60.4**	473	60.4
436.cactusADM	4	**620**	**77.2**	621	76.8	620	77.2	4	**620**	**77.2**	621	76.8	620	77.2
437.leslie3d	4	**774**	**48.4**	774	48.4	768	48.8	4	**774**	**48.4**	774	48.4	768	48.8
444.namd	4	**546**	**58.8**	546	58.8	546	58.8	4	542	59.2	**542**	**59.2**	542	59.2
447.dealII	4	**587**	**78.0**	585	78.4	589	77.6	4	**587**	**78.0**	585	78.4	589	77.6
450.soplex	4	**711**	**46.8**	713	46.8	705	47.2	2	**341**	**48.8**	342	48.8	341	49.0
453.povray	4	220	96.8	**219**	**97.2**	219	97.2	4	183	116	**184**	**116**	184	116
454.calculix	4	375	88.0	**373**	**88.4**	371	88.8	4	375	88.0	**373**	**88.4**	371	88.8
459.GemsFDTD	4	883	48.0	880	48.4	**883**	**48.0**	4	883	48.0	880	48.4	**883**	**48.0**
465.tonto	4	575	68.4	**575**	**68.4**	574	68.4	4	**557**	**70.8**	555	70.8	559	70.4
470.lbm	4	538	102	536	102	**536**	**102**	4	538	102	536	102	**536**	**102**
481.wrf	4	563	79.2	557	80.0	**558**	**80.0**	4	563	79.2	557	80.0	**558**	**80.0**
482.sphinx3	4	**1081**	**72.0**	1074	72.4	1094	71.2	4	1074	72.8	**1071**	**72.8**	1068	72.8

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

Compiler Invocation Notes

    ipsxe-comp-vars batch file invoked with intel64

Submit Notes

    Processes were bound to specific processors using the start command with the /affinity switch.
    The config file option 'submit' was used to generate the affinity mask for each process.

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Test date: Dec-2011
Hardware Availability: Sep-2011
Software Availability: Sep-2011

Platform Notes

```
Sysinfo program C:\SPEC12.1/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on CltE06995A30CB5 Fri Dec 23 23:24:23 2011

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

Trying 'systeminfo'
OS Name        : Microsoft Windows 7 Ultimate
OS Version     : 6.1.7601 Service Pack 1 Build 7601
System Manufacturer: INTEL_
System Model   : DH61WW__
Processor(s)   : 1 Processor(s) Installed.
    [01]: Intel64 Family 6 Model 42 Stepping 7 GenuineIntel ~3400 Mhz
BIOS Version   : Intel Corp. BEH6110H.86A.0016.2011.0118.1128, 1/18/2011
Total Physical Memory: 4,004 MB

Trying 'wmic cpu get /value'
DeviceID       : CPU0
L2CacheSize    : 512
L3CacheSize    : 3072
MaxClockSpeed  : 3400
Name           : Intel(R) Core(TM) i3-2130 CPU @ 3.40GHz
NumberOfCores  : 2
NumberOfLogicalProcessors: 4

(End of data from sysinfo program)
```

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
```

Base Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qstd=c99
```

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

Continued on next page

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Base Compiler Invocation (Continued)

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:
```
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000            -link /FORCE:MULTIPLE
```

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

Fortran benchmarks:
```
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
/F1000000000            -link /FORCE:MULTIPLE
```

Benchmarks using both Fortran and C:
```
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000            -link /FORCE:MULTIPLE
```

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Software Availability: Sep-2011

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: -QxAVX -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
-Qauto-ilp32 /F1000000000   -link /FORCE:MULTIPLE

C++ benchmarks:

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

453.povray: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F1000000000
shlW64M.lib   -link /FORCE:MULTIPLE

Fortran benchmarks:

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Software Availability: Sep-2011

Peak Optimization Flags (Continued)

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxAVX(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: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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-ic12.1-official-windows.20120117.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-windows.20120117.xml

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

Tested with SPEC CPU2006 v1.2.
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