Intel Corporation

Intel DH67BL motherboard (Intel Core i7-2700K)

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

CPU Name: Intel Core i7-2700K
CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
CPU MHz: 3500
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

Software
Operating System: Microsoft Windows 8.1 Pro 6.3.9600 N/A Build 9600
Compiler: C/C++: Version 14.0.1.139 of Intel C++ Studio XE for Windows;
Fortran: Version 14.0.1.139 of Intel Fortran Studio XE for Windows;
Libraries: Version 16.00.30319.01 of Microsoft Visual Studio 2010 Professional SP1
Auto Parallel: Yes

Hardware

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>SPECfp®2006</th>
<th>SPECfp_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
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<td>416.gamess</td>
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SPECfp_base2006 = 61.4
SPECfp®2006 = 63.5

Test date: May-2014
Hardware Availability: Dec-2012
Software Availability: Oct-2013

Continued on next page

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Intel Corporation

Intel DH67BL motherboard (Intel Core i7-2700K)

SPECfp2006 = 63.5
SPECfp_base2006 = 61.4

CPU2006 license: 13
Test sponsor: Intel Corporation
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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx4 PC3-10600U-9)
Disk Subsystem: 180 GB Intel SSD 530
Other Hardware: None

File System: NTFS
System State: Default
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: SmartHeap Library Version 10.0 from http://www.microquill.com/

Results Table

<table>
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<th>Seconds</th>
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</tr>
</tbody>
</table>

Compiler Invocation Notes

To compile these binaries, the Intel Compiler 14.0 was set up to generate 64-bit binaries with the command: "ipsxe-comp-vars.bat intel64 vs2010" (shortcut provided in the Intel(r) Parallel Studio XE 2013 program folder)

Platform Notes

Sysinfo program C:\SPEC14.0\Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on IVB9600 Wed May 28 22:13:03 2014

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
Continued on next page
**Intel Corporation**

Intel DH67BL motherboard (Intel Core i7-2700K)  
**SPECfp2006 =** 63.5  
**SPECfp_base2006 =** 61.4

<table>
<thead>
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<th>CPU2006 license:</th>
<th>Intel Corporation</th>
</tr>
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<tbody>
<tr>
<td>Test date:</td>
<td>May-2014</td>
</tr>
<tr>
<td>Test sponsor:</td>
<td>Intel Corporation</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Intel Corporation</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

http://www.spec.org/cpu2006/Docs/config.html#sysinfo

Trying 'systeminfo'
OS Name : Microsoft Windows 8.1 Pro  
OS Version : 6.3.9600 N/A Build 9600  
System Manufacturer: INTEL_  
System Model : DH67BL_  
Processor(s) : 1 Processor(s) Installed.  
[01]: Intel64 Family 6 Model 42 Stepping 7 GenuineIntel ~3501 Mhz  
Total Physical Memory: 8,099 MB

Trying 'wmic cpu get /value'
DeviceID : CPU0  
L2CacheSize : 1024  
L3CacheSize : 8192  
MaxClockSpeed : 3501  
Name : Intel(R) Core(TM) i7-2700K CPU @ 3.50GHz  
NumberOfCores : 4  
NumberOfLogicalProcessors: 8

(End of data from sysinfo program)

BIOS: SATA mode set to RAID  
Windows Disk Driver: Intel Rapid Storage Technology 12.0.1.1019

**Component Notes**

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

**General Notes**

OMP_NUM_THREADS set to number of processors cores  
KMP_AFFINITY set to granularity=fine,scatter  
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 -Qvc10 -Qstd=c99

C++ benchmarks:  
icl -Qvc10

Fortran benchmarks:  
ifort

Continued on next page
## Base Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
```
icl -Qvc10 -Qstd=c99 ifort
```

## Base Portability Flags

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
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<tbody>
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<td>410.bwaves</td>
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<td>416.gamess</td>
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<td>434.zeusmp</td>
<td>-DSPEC_CPU_P64</td>
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<tr>
<td>435.gromacs</td>
<td>-DSPEC_CPU_P64</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>-DSPEC_CPU_P64 -names:lowercase /assume:underscore</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>-DSPEC_CPU_P64</td>
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<tr>
<td>444.namd</td>
<td>-DSPEC_CPU_P64 /TP</td>
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<tr>
<td>447.dealII</td>
<td>-DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG -Qoption,cpp,--ms_incompat_treatment_of_commas_in_macros</td>
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<tr>
<td>450.soplex</td>
<td>-DSPEC_CPU_P64</td>
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<td>453.povray</td>
<td>-DSPEC_CPU_P64 -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP</td>
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<td>459.GemsFDTD</td>
<td>-DSPEC_CPU_P64</td>
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<tr>
<td>465.tonto</td>
<td>-DSPEC_CPU_P64</td>
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<tr>
<td>470.lbm</td>
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<tr>
<td>482.sphinx3</td>
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</tbody>
</table>

## Base Optimization Flags

### C benchmarks:
```
-QxAVX -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-1lp32 /F1000000000
```

### C++ benchmarks:
```
-QxAVX -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias -Qopt-prefetch
-Qcxx-features -Qauto-1lp32 /F1000000000 shlw64M.lib
  -link /FORCE:MULTIPLE
```

### Fortran benchmarks:
```
-QxAVX -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias -Qopt-prefetch
/F1000000000
```

### Benchmarks using both Fortran and C:
```
-QxAVX -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-1lp32 /F1000000000
```
Intel Corporation

Intel DH67BL motherboard (Intel Core i7-2700K)

SPECfp2006 = 63.5
SPECfp_base2006 = 61.4

CPU2006 license: 13
Test date: May-2014
Test sponsor: Intel Corporation
Hardware Availability: Dec-2012
Tested by: Intel Corporation
Software Availability: Oct-2013

Peak Compiler Invocation

C benchmarks:
icl -Qvc10 -Qstd=c99

C++ benchmarks:
icl -Qvc10

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc10 -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: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div -Qa -Qauto-ilp32 /F10000000000 shlW64M.lib -link /FORCE:MULTIPLE
447.dealII: basepeak = yes
450.soplex: basepeak = yes
453.povray: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div -Qunroll2 /Qansi-alias -Qauto-ilp32 /F10000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:
410.bwaves: basepeak = yes
416.gamess: -QxAVX(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep-/F1000000000

Continued on next page
Intel Corporation

Intel DH67BL motherboard (Intel Core i7-2700K)

| SPECfp2006 = | 63.5 |
| SPECfp_base2006 = | 61.4 |

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

Test date: May-2014
Hardware Availability: Dec-2012
Software Availability: Oct-2013

Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes
437.leslie3d: basepeak = yes
459.GemsFDTD: basepeak = yes
465.tonto: -QAVX(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: basepeak = yes
454.calculix: basepeak = yes
481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

You can also download the XML flags source by saving the following link:

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For other inquiries, please contact webmaster@spec.org.

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