**Intel Corporation**

Intel DH61WW motherboard (Intel Pentium G620)

<table>
<thead>
<tr>
<th><strong>CPU2006 license:</strong></th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test sponsor:</strong></td>
<td>Intel Corporation</td>
</tr>
<tr>
<td><strong>Tested by:</strong></td>
<td>Intel Corporation</td>
</tr>
<tr>
<td><strong>Test date:</strong></td>
<td>Dec-2011</td>
</tr>
<tr>
<td><strong>Hardware Availability:</strong></td>
<td>May-2011</td>
</tr>
<tr>
<td><strong>Software Availability:</strong></td>
<td>Sep-2011</td>
</tr>
</tbody>
</table>

| SPECfp®2006 = 32.8 |
| SPECfp_base2006 = 32.2 |

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
</tr>
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<tbody>
<tr>
<td>410.bwaves</td>
<td>26.3</td>
</tr>
<tr>
<td>416.gamess</td>
<td>24.7</td>
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<tr>
<td>433.milc</td>
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<td>434.zeusmp</td>
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<td>435.gromacs</td>
<td>22.8</td>
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<tr>
<td>436.cactusADM</td>
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<td>437.leslie3d</td>
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<tr>
<td>444.namd</td>
<td>17.7</td>
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<tr>
<td>447.dealII</td>
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<td>450.soplex</td>
<td>25.3</td>
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<tr>
<td>453.povray</td>
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<tr>
<td>454.calculix</td>
<td>31.4</td>
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<tr>
<td>459.GemsFDTD</td>
<td>24.4</td>
</tr>
<tr>
<td>465.tonto</td>
<td>24.8</td>
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<tr>
<td>470.lbm</td>
<td>23.4</td>
</tr>
<tr>
<td>481.wrf</td>
<td>42.8</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>32.2</td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Pentium G620
- **CPU Characteristics:**
  - CPU MHz: 2600
  - 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

**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:** Yes
**Intel Corporation**

Intel DH61WW motherboard (Intel Pentium G620)

**SPECfp2006 =** 32.8

**SPECfp_base2006 =** 32.2

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<thead>
<tr>
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<th>Tested by</th>
<th>Software Availability</th>
<th>File System</th>
<th>System State</th>
<th>Base Pointers</th>
<th>Peak Pointers</th>
<th>Other Software</th>
</tr>
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<td>Sep-2011</td>
<td>NTFS</td>
<td>Default</td>
<td>32/64-bit</td>
<td>32/64-bit</td>
<td></td>
</tr>
</tbody>
</table>

L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 2 GB (2 x 1 GB 1Rx16 PC3-10600U-9, running at 1066 MHz and CL7)
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**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seconds</td>
<td>Ratio</td>
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<tr>
<td>434.zeusmp</td>
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<td>48.4</td>
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<tr>
<td>435.gromacs</td>
<td>314</td>
<td>22.8</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>248</td>
<td>48.2</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>354</td>
<td>26.6</td>
</tr>
<tr>
<td>444.namd</td>
<td>461</td>
<td>17.4</td>
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<td>334</td>
<td>34.3</td>
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<td>280</td>
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<td>420</td>
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<tr>
<td>470.lbm</td>
<td>250</td>
<td>54.9</td>
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<td>481.wrf</td>
<td>261</td>
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</tr>
<tr>
<td>482.sphinx3</td>
<td>605</td>
<td>32.2</td>
</tr>
</tbody>
</table>

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

**Platform Notes**

Sysinfo program C:\SPEC12.1\Docs\sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c running on CltE06995A30C92 Wed Dec 28 15:35:13 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'

Continued on next page
SPEC CFP2006 Result

Intel Corporation

Intel DH61WW motherboard (Intel Pentium G620)

SPECfp2006 = 32.8
SPECfp_base2006 = 32.2

Platform Notes (Continued)

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 ~2600 Mhz
Total Physical Memory: 1,956 MB

Trying 'wmic cpu get /value'
DeviceID : CPU0
L2CacheSize : 512
L3CacheSize : 3072
MaxClockSpeed : 2600
Name : Intel(R) Pentium(R) CPU G620 @ 2.60GHz
NumberOfCores : 2
NumberOfLogicalProcessors: 2

(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

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 -Qvc9 -Qstd=c99

C++ benchmarks:
  icl -Qvc9

Fortran benchmarks:
  ifort

Benchmarks using both Fortran and C:
  icl -Qvc9 -Qstd=c99 ifort
## SPEC CFP2006 Result

### Intel Corporation

Intel DH61WW motherboard (Intel Pentium G620)

| SPECfp2006 = | 32.8 |
| SPECfp_base2006 = | 32.2 |

- **CPU2006 license**: 13
- **Test date**: Dec-2011
- **Test sponsor**: Intel Corporation
- **Hardware Availability**: May-2011
- **Tested by**: Intel Corporation
- **Software Availability**: Sep-2011

### 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

#### 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

Continued on next page
Intel Corporation
Intel DH61WW motherboard (Intel Pentium G620)

| SPECfp2006 = | 32.8 |
| SPECfp_base2006 = | 32.2 |

CPU2006 license: 13
Test sponsor: Intel Corporation
Hardware Availability: May-2011
Test date: Dec-2011
Tested by: Intel Corporation
Software Availability: Sep-2011

Peak Compiler Invocation (Continued)

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- -Qunroll14 -Qansi-alias -Qauto-ilp32
  /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:
  410.bwaves: basepeak = yes
  416.gamess: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
  -Qipo -O3 -Qprec-div- -Qunroll12 -Ob0 -Qansi-alias
  -Qscalar-rep- /F1000000000
  434.zeusmp: basepeak = yes
  437.leslie3d: basepeak = yes

Continued on next page
Intel Corporation

Intel DH61WW motherboard (Intel Pentium G620)

| SPECfp2006          | 32.8 |
| SPECfp_base2006     | 32.2 |

| CPU2006 license:  | 13   |
| Test sponsor:     | Intel Corporation |
| Tested by:        | Intel Corporation |
| Test date:        | Dec-2011 |
| Hardware Availability: | May-2011 |
| Software Availability: | Sep-2011 |

Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

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: 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: