



SPEC® CFP2006 Result

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Intel Corporation

SPECfp®2006 = 40.7

Intel DH61WW motherboard (Intel Pentium G840)

SPECfp_base2006 = 39.9

CPU2006 license: 13

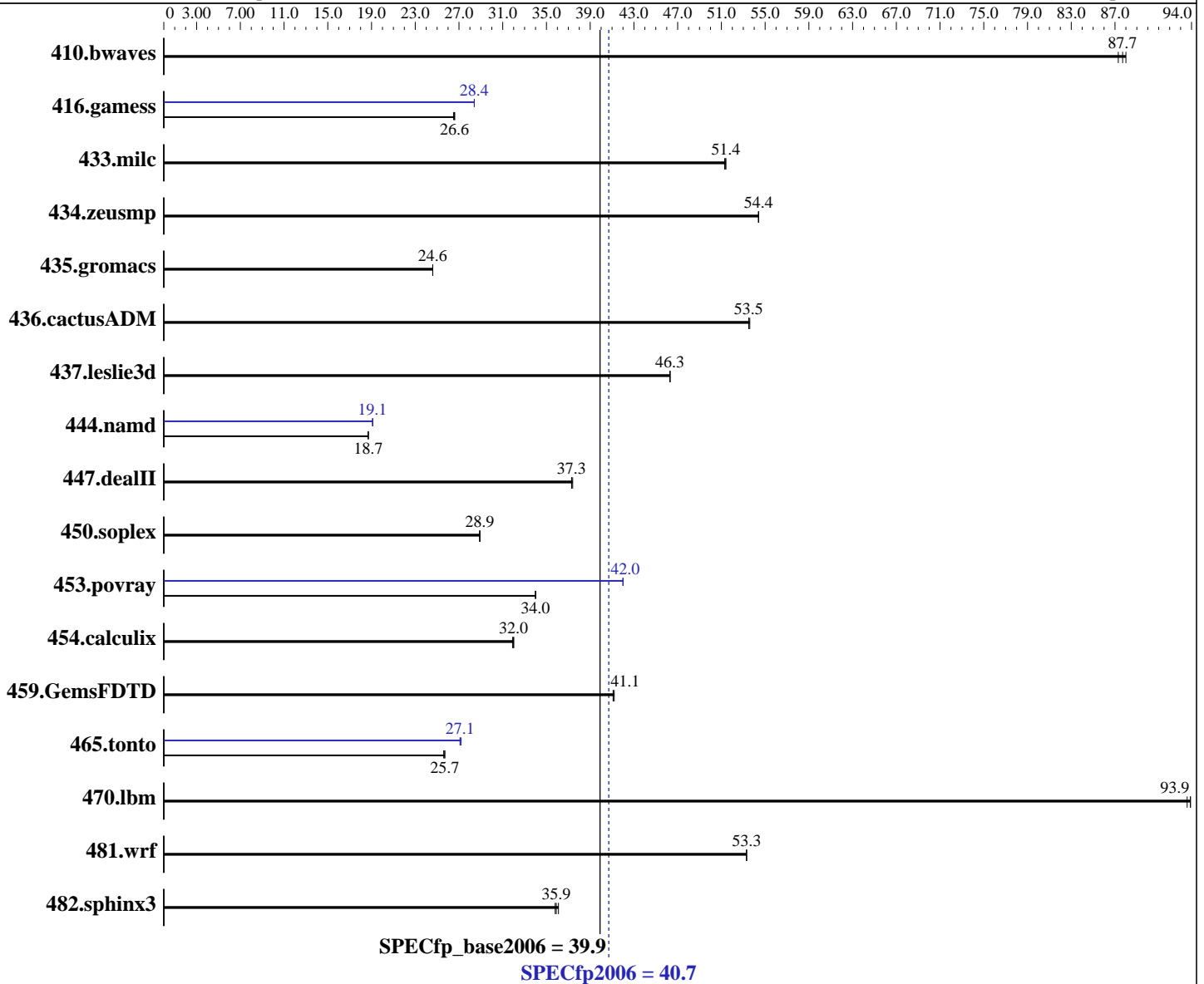
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2011

Hardware Availability: May-2011

Software Availability: Sep-2011



Hardware

CPU Name: Intel Pentium G840
 CPU Characteristics:
 CPU MHz: 2800
 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

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: Yes

Continued on next page



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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 | | | | | | Peak | | | | | |
|---------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 156 | 87.3 | 155 | 87.7 | 154 | 88.0 | 156 | 87.3 | 155 | 87.7 | 154 | 88.0 |
| 416.gamess | 737 | 26.6 | 737 | 26.6 | 738 | 26.5 | 690 | 28.4 | 690 | 28.4 | 690 | 28.4 |
| 433.milc | 179 | 51.3 | 179 | 51.4 | 179 | 51.4 | 179 | 51.3 | 179 | 51.4 | 179 | 51.4 |
| 434.zeusmp | 167 | 54.4 | 167 | 54.4 | 167 | 54.4 | 167 | 54.4 | 167 | 54.4 | 167 | 54.4 |
| 435.gromacs | 290 | 24.6 | 290 | 24.6 | 290 | 24.6 | 290 | 24.6 | 290 | 24.6 | 290 | 24.6 |
| 436.cactusADM | 224 | 53.5 | 223 | 53.6 | 223 | 53.5 | 224 | 53.5 | 223 | 53.6 | 223 | 53.5 |
| 437.leslie3d | 203 | 46.3 | 203 | 46.3 | 203 | 46.3 | 203 | 46.3 | 203 | 46.3 | 203 | 46.3 |
| 444.namd | 428 | 18.7 | 428 | 18.7 | 428 | 18.7 | 420 | 19.1 | 420 | 19.1 | 420 | 19.1 |
| 447.dealII | 306 | 37.4 | 307 | 37.3 | 307 | 37.3 | 306 | 37.4 | 307 | 37.3 | 307 | 37.3 |
| 450.soplex | 289 | 28.9 | 289 | 28.9 | 289 | 28.9 | 289 | 28.9 | 289 | 28.9 | 289 | 28.9 |
| 453.povray | 157 | 34.0 | 157 | 34.0 | 157 | 34.0 | 127 | 42.0 | 127 | 42.0 | 127 | 42.0 |
| 454.calculix | 258 | 32.0 | 258 | 32.0 | 259 | 31.9 | 258 | 32.0 | 258 | 32.0 | 259 | 31.9 |
| 459.GemsFDTD | 258 | 41.2 | 258 | 41.1 | 258 | 41.1 | 258 | 41.2 | 258 | 41.1 | 258 | 41.1 |
| 465.tonto | 384 | 25.7 | 384 | 25.6 | 383 | 25.7 | 362 | 27.2 | 363 | 27.1 | 363 | 27.1 |
| 470.lbm | 146 | 93.9 | 147 | 93.6 | 146 | 93.9 | 146 | 93.9 | 147 | 93.6 | 146 | 93.9 |
| 481.wrf | 210 | 53.3 | 210 | 53.3 | 209 | 53.3 | 210 | 53.3 | 210 | 53.3 | 209 | 53.3 |
| 482.sphinx3 | 542 | 35.9 | 545 | 35.8 | 540 | 36.1 | 542 | 35.9 | 545 | 35.8 | 540 | 36.1 |

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 Tue Dec 20 22:21:34 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



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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 ~2800 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 : 2800
Name          : Intel(R) Pentium(R) CPU G840 @ 2.80GHz
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



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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

```

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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
sh1W64M.lib -link /FORCE:MULTIPLE

447.dealIII: 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 sh1W64M.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- -Qunroll2 -Ob0 -Qansi-alias
-Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

Continued on next page



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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

<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>

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