



SPEC® CFP2006 Result

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Intel Corporation

SPECfp®_rate2006 = 8.35

Lenovo ThinkPad T43 (Intel Pentium M 780)

SPECfp_rate_base2006 = 8.22

CPU2006 license: 13

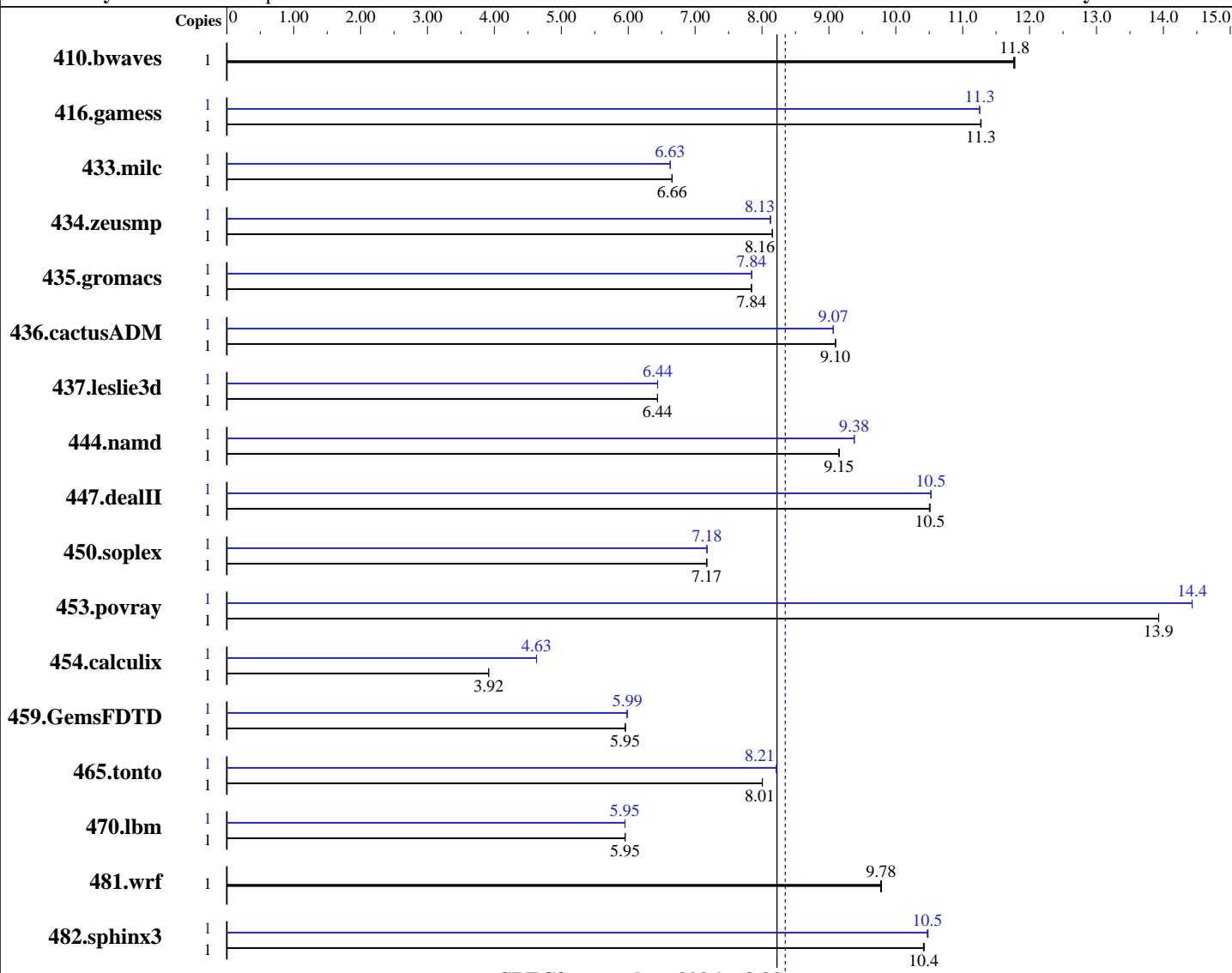
Test date: Dec-2007

Test sponsor: Intel Corporation

Hardware Availability: Jan-2008

Tested by: Intel Corporation

Software Availability: Nov-2007



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Hardware

CPU Name: Intel Pentium M 780
CPU Characteristics:
CPU MHz:
FPU:
CPU(s) enabled:
CPU(s) orderable:
Primary Cache: 32 KB I + 32 KB D on chip per chip
Secondary Cache: 2 MB I+D on chip per chip

Software

Operating System: Windows Vista Ultimate (32-bit)
Compiler: Intel C++ Compiler for IA32 version 10.1
Build 20070913 Package ID: w_cc_p_10.1.011
Intel Fortran Compiler for IA32 version 10.1
Build 20070913 Package ID: w_fc_p_10.1.011
Microsoft Visual Studio 2005 SP1 (for libraries)
Auto Parallel: No
File System: NTFS
System State: Default

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L3 Cache: None
 Other Cache: None
 Memory: 2 GB (2x1GB Hynix DDR2-667 CL5)
 Disk Subsystem: Hitachi 100 GB SATA, 7200 RPM
 Other Hardware: None

Base Pointers: 32-bit
 Peak Pointers: 32-bit
 Other Software: None
 SmartHeap Library Version 8.1 from
<http://www.microquill.com/>

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 1 | 1154 | 11.8 | 1155 | 11.8 | 1154 | 11.8 | 1 | 1154 | 11.8 | 1155 | 11.8 | 1154 | 11.8 |
| 416.gamess | 1 | 1736 | 11.3 | 1737 | 11.3 | 1737 | 11.3 | 1 | 1740 | 11.3 | 1740 | 11.3 | 1740 | 11.3 |
| 433.milc | 1 | 1380 | 6.65 | 1379 | 6.66 | 1379 | 6.66 | 1 | 1385 | 6.63 | 1385 | 6.63 | 1385 | 6.63 |
| 434.zeusmp | 1 | 1116 | 8.16 | 1116 | 8.16 | 1116 | 8.15 | 1 | 1120 | 8.13 | 1120 | 8.13 | 1120 | 8.13 |
| 435.gromacs | 1 | 911 | 7.84 | 910 | 7.84 | 910 | 7.84 | 1 | 910 | 7.84 | 910 | 7.84 | 910 | 7.85 |
| 436.cactusADM | 1 | 1314 | 9.10 | 1313 | 9.10 | 1313 | 9.10 | 1 | 1318 | 9.07 | 1318 | 9.07 | 1318 | 9.06 |
| 437.leslie3d | 1 | 1460 | 6.44 | 1460 | 6.44 | 1460 | 6.44 | 1 | 1460 | 6.44 | 1460 | 6.44 | 1460 | 6.44 |
| 444.namd | 1 | 876 | 9.15 | 876 | 9.15 | 876 | 9.15 | 1 | 855 | 9.38 | 855 | 9.38 | 855 | 9.38 |
| 447.dealII | 1 | 1088 | 10.5 | 1088 | 10.5 | 1089 | 10.5 | 1 | 1087 | 10.5 | 1087 | 10.5 | 1087 | 10.5 |
| 450.soplex | 1 | 1163 | 7.17 | 1162 | 7.17 | 1162 | 7.18 | 1 | 1162 | 7.18 | 1162 | 7.18 | 1162 | 7.18 |
| 453.povray | 1 | 382 | 13.9 | 382 | 13.9 | 382 | 13.9 | 1 | 369 | 14.4 | 369 | 14.4 | 369 | 14.4 |
| 454.calculix | 1 | 2108 | 3.91 | 2107 | 3.92 | 2107 | 3.92 | 1 | 1782 | 4.63 | 1781 | 4.63 | 1782 | 4.63 |
| 459.GemsFDTD | 1 | 1782 | 5.95 | 1782 | 5.95 | 1780 | 5.96 | 1 | 1772 | 5.99 | 1772 | 5.99 | 1774 | 5.98 |
| 465.tonto | 1 | 1229 | 8.01 | 1229 | 8.00 | 1229 | 8.01 | 1 | 1198 | 8.21 | 1198 | 8.21 | 1198 | 8.22 |
| 470.lbm | 1 | 2309 | 5.95 | 2307 | 5.95 | 2307 | 5.95 | 1 | 2309 | 5.95 | 2309 | 5.95 | 2308 | 5.95 |
| 481.wrf | 1 | 1142 | 9.78 | 1143 | 9.78 | 1141 | 9.79 | 1 | 1142 | 9.78 | 1143 | 9.78 | 1141 | 9.79 |
| 482.sphinx3 | 1 | 1871 | 10.4 | 1872 | 10.4 | 1870 | 10.4 | 1 | 1861 | 10.5 | 1861 | 10.5 | 1859 | 10.5 |

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

General Notes

The system bus runs at 533 MHz

Binaries were built on Windows Vista (32-bit)

The following VS 2005 SP1 updates were applied: KB926601 and KB932232

Base Compiler Invocation

C benchmarks:

icl -Qvc8 -Qc99

C++ benchmarks:

icl -Qvc8

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Base Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc8 -Qc99 ifort

Base Portability Flags

436.cactusADM: -Qlowercase /assume:underscore

444.namd: -TP

447.deallII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG

453.povray: -DSPEC_CPU_WINDOWS_ICL

454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase

481.wrf: -DSPEC_CPU_WINDOWS_ICL

Base Optimization Flags

C benchmarks:

-QxB -Qipo -O3 -Qprec-div- /F1000000000

C++ benchmarks:

-QxB -Qipo -O3 -Qprec-div- -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxB -Qipo -O3 -Qprec-div- /F1000000000

Benchmarks using both Fortran and C:

-QxB -Qipo -O3 -Qprec-div- /F1000000000

Peak Compiler Invocation

C benchmarks:

icl -Qvc8 -Qc99

C++ benchmarks:

icl -Qvc8

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc8 -Qc99 ifort



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Peak Portability Flags

```
436.cactusADM: -Qlowercase /assume:underscore
 444.namd: -TP
 447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
 453.povray: -DSPEC_CPU_WINDOWS_ICL
 454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
 481.wrf: -DSPEC_CPU_WINDOWS_ICL
```

Peak Optimization Flags

C benchmarks:

```
433.milc: -QxB -Qipo -O3 -Qprec-div- -Qunroll12 -Oa /F1000000000
470.lbm: -QxB -Qipo -O3 -Qprec-div- -Qunroll12 -Qscalar-rep-
          -Qprefetch /F1000000000
482.sphinx3: -QxB -Qipo -O3 -Qprec-div- -Qunroll12 /F1000000000
```

C++ benchmarks:

```
444.namd: -QxB -Qipo -O3 -Qprec-div- -Oa -Qcxx_features
          /F1000000000 shlw32m.lib           -link /FORCE:MULTIPLE
447.dealII: -QxB -Qipo -O3 -Qprec-div- -Qunroll12 -Qprefetch
            -Qcxx_features /F1000000000 shlw32m.lib
            -link /FORCE:MULTIPLE
450.soplex: -QxB -Qipo -O3 -Qprec-div- -Qcxx_features /F1000000000
            shlw32m.lib           -link /FORCE:MULTIPLE
453.povray: -QxB -Qipo -O3 -Qprec-div- -Qunroll14 -Qansi-alias
            -Qcxx_features /F1000000000 shlw32m.lib
            -link /FORCE:MULTIPLE
```

Fortran benchmarks:

```
410.bwaves: basepeak = yes
416.gamess: -QxB -Qipo -O3 -Qprec-div- -Qunroll12 -Ob0 -Qansi-alias
             -Qscalar-rep- /F1000000000
434.zeusmp: -QxB -O2 -Qprec-div- -Qunroll10 -Qscalar-rep- /F1000000000
437.leslie3d: -QxB -Qipo -O3 -Qprec-div- -Qprefetch /F1000000000
459.GemsFDTD: -QxB -Qipo -O3 -Qprec-div- -Qunroll12 -Ob0 -Qprefetch
               /F1000000000
```

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Peak Optimization Flags (Continued)

465.tonto: -QxB -Qipo -O3 -Qprec-div- -Qunroll14 -Qauto /F1000000000

Benchmarks using both Fortran and C:

435.gromacs: -QxB -Qipo -O3 -Qprec-div- -Oa -Qprefetch /F1000000000

436.cactusADM: -QxB -Qipo -O3 -Qprec-div- -Qunroll12 -Qprefetch
/F1000000000

454.calculix: -QxB -Qipo -O3 -Qprec-div- -Qunroll-aggressive
/F1000000000

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-ic10-ia32-intel64-linux-flags.20090714.09.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.09.xml>

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

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