



# SPEC® CFP2006 Result

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Intel Corporation

**SPECfp®\_rate2006 = 16.6**

Lenovo ThinkPad T60 (Intel Core Duo T2700)

**SPECfp\_rate\_base2006 = 16.4**

CPU2006 license: 13

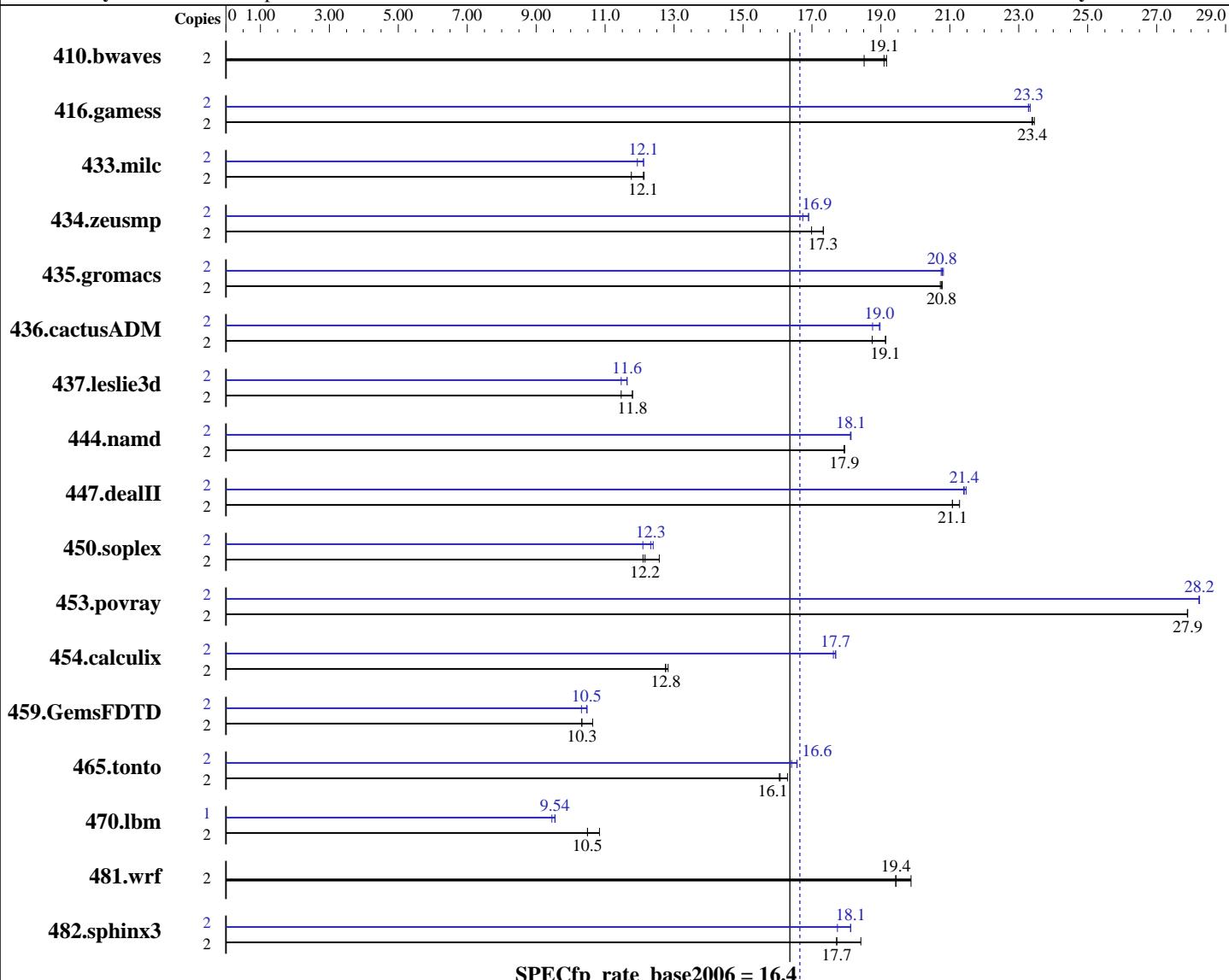
Test date: Dec-2007

Test sponsor: Intel Corporation

Hardware Availability: Jan-2008

Tested by: Intel Corporation

Software Availability: Nov-2007



## Hardware

CPU Name: Intel Core Duo T2700  
 CPU Characteristics:  
 CPU MHz: 2333  
 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: 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	2	<b>1424</b>	<b>19.1</b>	1468	18.5	1418	19.2	2	<b>1424</b>	<b>19.1</b>	1468	18.5	1418	19.2
416.gamess	2	<b>1674</b>	<b>23.4</b>	1675	23.4	1670	23.5	2	<b>1678</b>	<b>23.3</b>	<b>1682</b>	<b>23.3</b>	1682	23.3
433.milc	2	<b>1516</b>	<b>12.1</b>	1561	11.8	1513	12.1	2	<b>1515</b>	<b>12.1</b>	<b>1516</b>	<b>12.1</b>	1538	11.9
434.zeusmp	2	1050	17.3	1071	17.0	<b>1050</b>	<b>17.3</b>	2	<b>1077</b>	<b>16.9</b>	1077	16.9	1088	16.7
435.gromacs	2	<b>688</b>	<b>20.8</b>	689	20.7	687	20.8	2	686	20.8	<b>687</b>	<b>20.8</b>	688	20.7
436.cactusADM	2	1249	19.1	1275	18.7	<b>1249</b>	<b>19.1</b>	2	1260	19.0	<b>1261</b>	<b>19.0</b>	1274	18.8
437.leslie3d	2	<b>1594</b>	<b>11.8</b>	1640	11.5	1594	11.8	2	<b>1616</b>	<b>11.6</b>	1616	11.6	1639	11.5
444.namd	2	<b>894</b>	<b>17.9</b>	895	17.9	894	17.9	2	885	18.1	<b>885</b>	<b>18.1</b>	885	18.1
447.dealII	2	1075	21.3	1086	21.1	<b>1085</b>	<b>21.1</b>	2	<b>1068</b>	<b>21.4</b>	1066	21.5	1069	21.4
450.soplex	2	1327	12.6	1379	12.1	<b>1372</b>	<b>12.2</b>	2	1346	12.4	<b>1354</b>	<b>12.3</b>	1379	12.1
453.povray	2	381	27.9	381	27.9	<b>381</b>	<b>27.9</b>	2	377	28.2	<b>377</b>	<b>28.2</b>	377	28.2
454.calculix	2	1286	12.8	1294	12.8	<b>1293</b>	<b>12.8</b>	2	933	17.7	<b>933</b>	<b>17.7</b>	936	17.6
459.GemsFDTD	2	1995	10.6	<b>2055</b>	<b>10.3</b>	2056	10.3	2	<b>2028</b>	<b>10.5</b>	2025	10.5	2057	10.3
465.tonto	2	1208	16.3	1226	16.1	<b>1224</b>	<b>16.1</b>	2	<b>1188</b>	<b>16.6</b>	1188	16.6	1199	16.4
470.lbm	2	2536	10.8	2620	10.5	<b>2620</b>	<b>10.5</b>	1	<b>1440</b>	<b>9.54</b>	1439	9.55	1453	9.46
481.wrf	2	1124	19.9	1150	19.4	<b>1149</b>	<b>19.4</b>	2	1124	19.9	1150	19.4	<b>1149</b>	<b>19.4</b>
482.sphinx3	2	2116	18.4	2200	17.7	<b>2200</b>	<b>17.7</b>	2	<b>2151</b>	<b>18.1</b>	2151	18.1	2197	17.7

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

## General Notes

The system bus runs at 667 MHz

Binaries were built on Windows Vista (32-bit)

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

OMP\_NUM\_THREADS set to number of cores

KMP\_AFFINITY set to physical,0

## Base Compiler Invocation

C benchmarks:

icl -Qvc8 -Qc99

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## Base Compiler Invocation (Continued)

C++ benchmarks:

`icl -Qvc8`

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.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`

## Base Optimization Flags

C benchmarks:

`-QxP -Qipo -O3 -Qprec-div- /F1000000000`

C++ benchmarks:

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

Fortran benchmarks:

`-QxP -Qipo -O3 -Qprec-div- /F1000000000`

Benchmarks using both Fortran and C:

`-QxP -Qipo -O3 -Qprec-div- /F1000000000`

## Peak Compiler Invocation

C benchmarks:

`icl -Qvc8 -Qc99`

C++ benchmarks:

`icl -Qvc8`

Fortran benchmarks:

`ifort`

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## Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

  icl -Qvc8 -Qc99 ifort

## 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: -QxP -Qipo -O3 -Qprec-div- -Qunroll2 -Oa /F1000000000  
470.lbm: -QxP -Qipo -O3 -Qprec-div- -Qunroll2 -Qscalar-rep-  
-Qprefetch /F1000000000  
482.sphinx3: -QxP -Qipo -O3 -Qprec-div- -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: -QxP -Qipo -O3 -Qprec-div- -Oa -Qcxx\_features  
/F1000000000 shlw32m.lib -link /FORCE:MULTIPLE  
447.dealII: -QxP -Qipo -O3 -Qprec-div- -Qunroll2 -Qprefetch  
-Qcxx\_features /F1000000000 shlw32m.lib  
-link /FORCE:MULTIPLE  
450.soplex: -QxP -Qipo -O3 -Qprec-div- -Qcxx\_features /F1000000000  
shlw32m.lib -link /FORCE:MULTIPLE  
453.povray: -QxP -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias  
-Qcxx\_features /F1000000000 shlw32m.lib  
-link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes  
416.gamess: -QxP -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias  
-Qscalar-rep- /F1000000000

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## Peak Optimization Flags (Continued)

434.zeusmp: -QxP -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- /F1000000000

437.leslie3d: -QxP -Qipo -O3 -Qprec-div- -Qprefetch /F1000000000

459.GemsFDTD: -QxP -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qprefetch  
/F1000000000

465.tonto: -QxP -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000

Benchmarks using both Fortran and C:

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

436.cactusADM: -QxP -Qipo -O3 -Qprec-div- -Qunroll2 -Qprefetch  
/F1000000000

454.calculix: -QxP -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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.

Report generated on Tue Jul 22 16:11:50 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 23 January 2008.