



# SPEC® CFP2006 Result

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## Intel Corporation

SPECfp®2006 = 16.2

Lenovo ThinkPad T61 (Intel Core 2 Duo T7800)

SPECfp\_base2006 = 15.7

CPU2006 license: 13

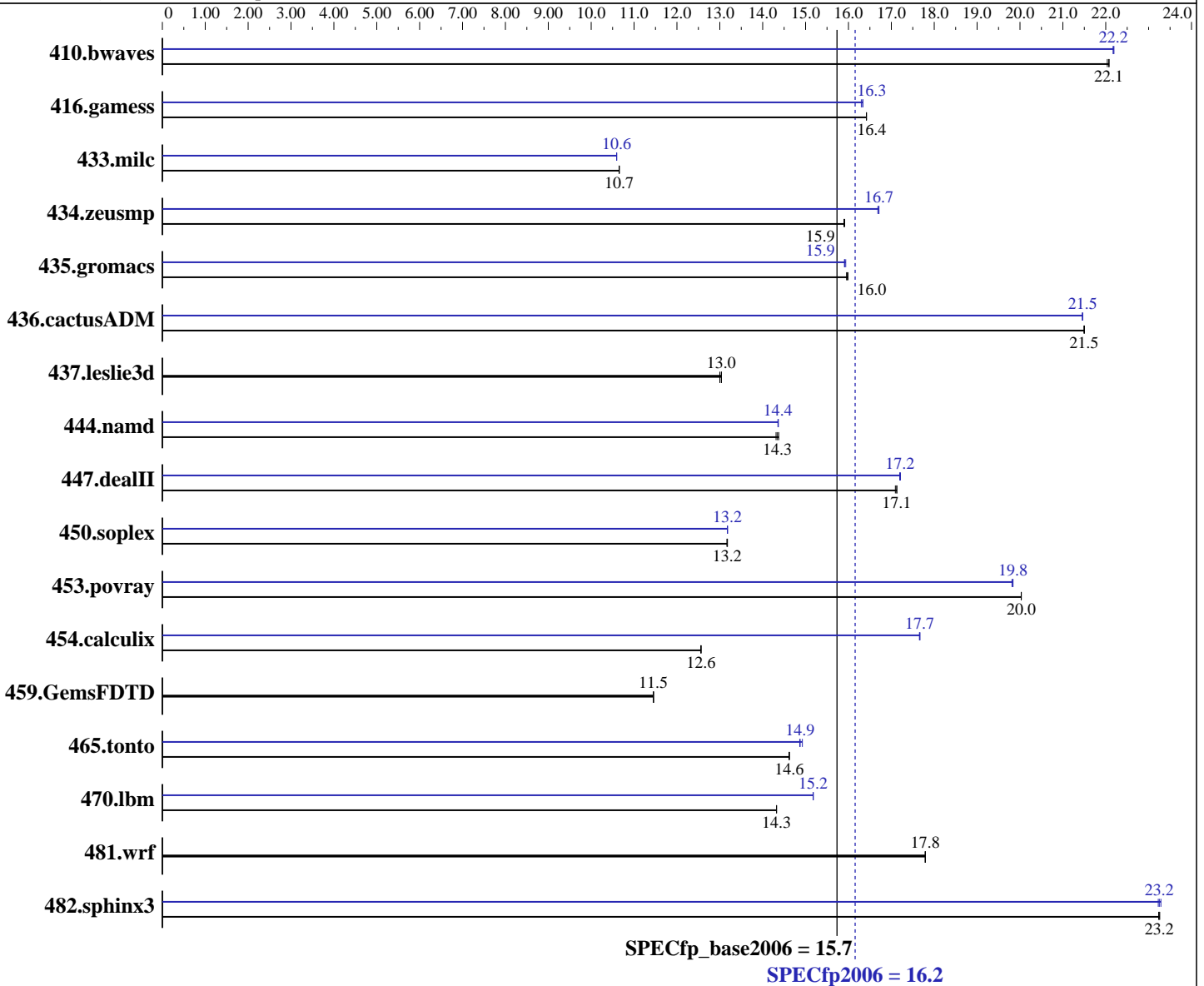
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2007

Hardware Availability: Jan-2008

Software Availability: Nov-2007



**Hardware**

CPU Name: Intel Core 2 Duo T7800  
 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: 4 MB I+D on chip per chip

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**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: Yes  
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	617	22.0	<b>616</b>	<b>22.1</b>	616	22.1	612	22.2	<b>613</b>	<b>22.2</b>	613	22.2
416.gamess	<b>1193</b>	<b>16.4</b>	1192	16.4	1193	16.4	<b>1199</b>	<b>16.3</b>	1199	16.3	1201	16.3
433.milc	861	10.7	<b>862</b>	<b>10.7</b>	862	10.7	867	10.6	866	10.6	<b>867</b>	<b>10.6</b>
434.zeusmp	572	15.9	572	15.9	<b>572</b>	<b>15.9</b>	<b>545</b>	<b>16.7</b>	545	16.7	545	16.7
435.gromacs	447	16.0	<b>447</b>	<b>16.0</b>	448	16.0	<b>449</b>	<b>15.9</b>	449	15.9	448	15.9
436.cactusADM	556	21.5	556	21.5	<b>556</b>	<b>21.5</b>	557	21.5	557	21.5	<b>557</b>	<b>21.5</b>
437.leslie3d	723	13.0	721	13.0	<b>721</b>	<b>13.0</b>	723	13.0	721	13.0	<b>721</b>	<b>13.0</b>
444.namd	<b>559</b>	<b>14.3</b>	558	14.4	560	14.3	558	14.4	559	14.4	<b>559</b>	<b>14.4</b>
447.dealII	<b>668</b>	<b>17.1</b>	668	17.1	669	17.1	665	17.2	665	17.2	<b>665</b>	<b>17.2</b>
450.soplex	<b>633</b>	<b>13.2</b>	633	13.2	633	13.2	633	13.2	<b>633</b>	<b>13.2</b>	633	13.2
453.povray	266	20.0	266	20.0	<b>266</b>	<b>20.0</b>	268	19.8	269	19.8	<b>268</b>	<b>19.8</b>
454.calculix	657	12.6	657	12.6	<b>657</b>	<b>12.6</b>	<b>467</b>	<b>17.7</b>	467	17.7	467	17.7
459.GemsFDTD	926	11.5	<b>926</b>	<b>11.5</b>	927	11.4	926	11.5	<b>926</b>	<b>11.5</b>	927	11.4
465.tonto	673	14.6	<b>673</b>	<b>14.6</b>	673	14.6	662	14.9	<b>662</b>	<b>14.9</b>	659	14.9
470.lbm	959	14.3	959	14.3	<b>959</b>	<b>14.3</b>	905	15.2	905	15.2	<b>905</b>	<b>15.2</b>
481.wrf	628	17.8	628	17.8	<b>628</b>	<b>17.8</b>	628	17.8	628	17.8	<b>628</b>	<b>17.8</b>
482.sphinx3	839	23.2	838	23.3	<b>838</b>	<b>23.2</b>	839	23.2	<b>838</b>	<b>23.2</b>	837	23.3

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

## General Notes

The system bus runs at 800 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:

-fast -Qparallel /F1000000000 libguide40.lib

C++ benchmarks:

-fast -Qparallel -Qcxx\_features /F1000000000 shlw32m.lib  
libguide40.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

-fast -Qparallel /F1000000000 libguide40.lib

Benchmarks using both Fortran and C:

-fast -Qparallel /F1000000000 libguide40.lib

## Peak Compiler Invocation

C benchmarks:

icl -Qvc8 -Qc99

C++ benchmarks:

icl -Qvc8

Fortran benchmarks:

ifort

Continued on next page



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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: -fast -Qunroll2 -Oa /F1000000000 libguide40.lib  
 470.lbm: -fast -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000  
 libguide40.lib  
 482.sphinx3: -fast -Qunroll2 /F1000000000 libguide40.lib

C++ benchmarks:

444.namd: -fast -Oa -Qcxx\_features /F1000000000 shlw32m.lib  
 libguide40.lib -link /FORCE:MULTIPLE  
 447.dealII: -fast -Qunroll2 -Qprefetch -Qcxx\_features /F1000000000  
 shlw32m.lib libguide40.lib -link /FORCE:MULTIPLE  
 450.soplex: -fast -Qparallel -Qcxx\_features /F1000000000 shlw32m.lib  
 libguide40.lib -link /FORCE:MULTIPLE  
 453.povray: -fast -Qunroll14 -Qcxx\_features /F1000000000 shlw32m.lib  
 libguide40.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -fast -Qparallel -Qprefetch /F1000000000 libguide40.lib  
 416.gamess: -fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep-  
 /F1000000000 libguide40.lib  
 434.zeusmp: -QxT -O2 -Qprec-div- -Qunroll10 -Qscalar-rep- /F1000000000  
 libguide40.lib

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## Peak Optimization Flags (Continued)

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -fast -Qunroll4 -Qauto /F1000000000 libguide40.lib

Benchmarks using both Fortran and C:

435.gromacs: -fast -Oa -Qprefetch /F1000000000 libguide40.lib

436.cactusADM: -fast -Qunroll2 -Qparallel -Qprefetch /F1000000000  
libguide40.lib

454.calculix: -fast -Qunroll-aggressive /F1000000000 libguide40.lib

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).

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