



# SPEC® CFP2006 Result

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## Intel Corporation

SPECfp®2006 = 16.9

Lenovo ThinkPad T61 (Intel Core 2 Duo T9500)

SPECfp\_base2006 = 16.5

CPU2006 license: 13

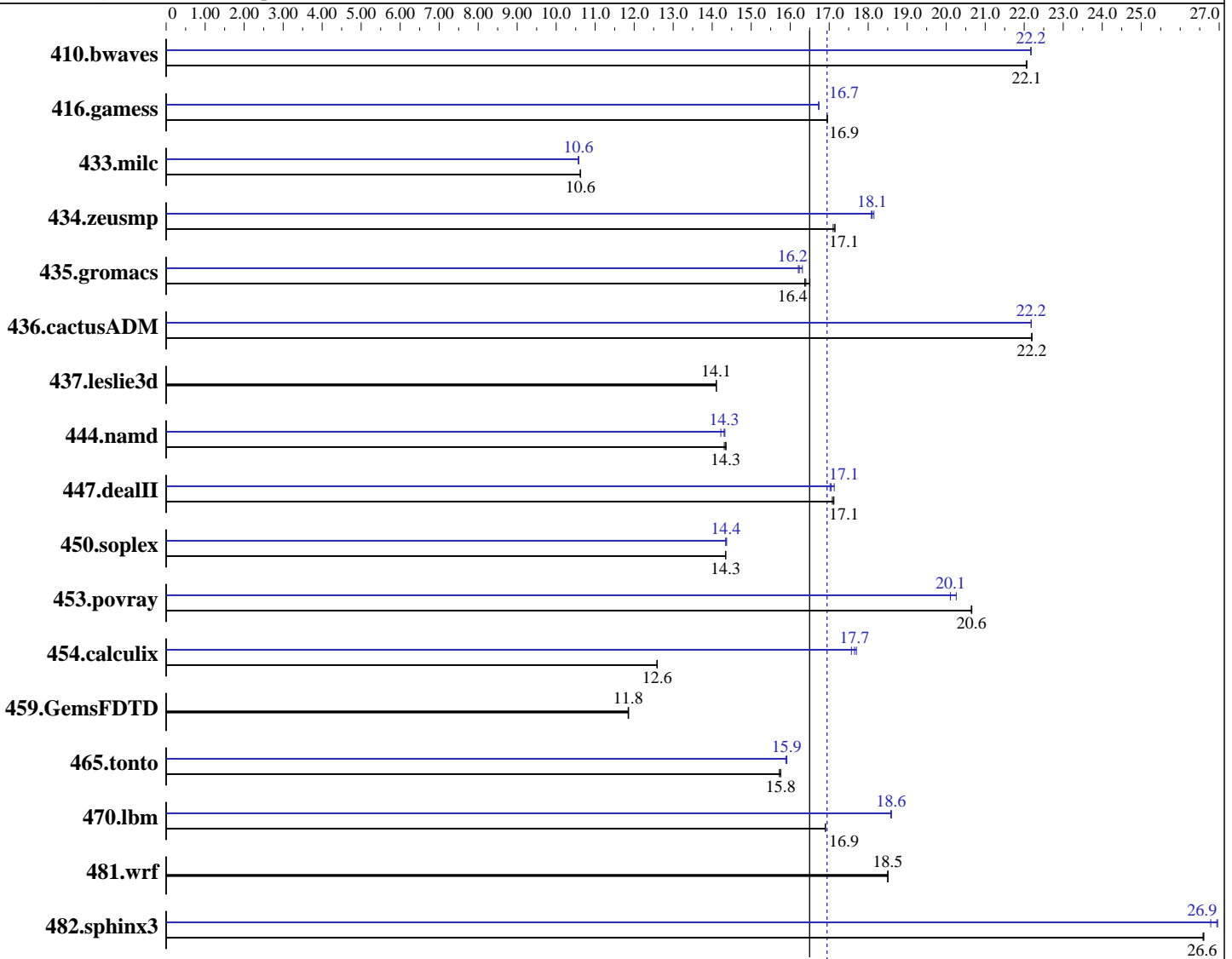
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2007

Hardware Availability: Jan-2008

Software Availability: Nov-2007



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### Hardware

CPU Name: Intel Core 2 Duo T9500  
 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: 6 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	<b>616</b>	<b>22.1</b>	616	22.1	616	22.1	613	22.2	<b>613</b>	<b>22.2</b>	613	22.2
416.gamess	<b>1155</b>	<b>16.9</b>	1156	16.9	1155	17.0	1170	16.7	1170	16.7	<b>1170</b>	<b>16.7</b>
433.milc	864	10.6	864	10.6	<b>864</b>	<b>10.6</b>	869	10.6	<b>868</b>	<b>10.6</b>	868	10.6
434.zeusmp	532	17.1	<b>531</b>	<b>17.1</b>	531	17.1	<b>503</b>	<b>18.1</b>	503	18.1	501	18.1
435.gromacs	436	16.4	<b>435</b>	<b>16.4</b>	433	16.5	<b>440</b>	<b>16.2</b>	441	16.2	438	16.3
436.cactusADM	538	22.2	<b>538</b>	<b>22.2</b>	538	22.2	539	22.2	539	22.2	<b>539</b>	<b>22.2</b>
437.leslie3d	666	14.1	666	14.1	<b>666</b>	<b>14.1</b>	666	14.1	666	14.1	<b>666</b>	<b>14.1</b>
444.namd	560	14.3	559	14.4	<b>559</b>	<b>14.3</b>	<b>561</b>	<b>14.3</b>	564	14.2	560	14.3
447.dealII	670	17.1	<b>669</b>	<b>17.1</b>	668	17.1	668	17.1	<b>671</b>	<b>17.1</b>	672	17.0
450.soplex	<b>581</b>	<b>14.3</b>	581	14.4	582	14.3	580	14.4	581	14.3	<b>581</b>	<b>14.4</b>
453.povray	258	20.7	258	20.6	<b>258</b>	<b>20.6</b>	263	20.3	<b>265</b>	<b>20.1</b>	265	20.1
454.calculix	<b>655</b>	<b>12.6</b>	655	12.6	656	12.6	470	17.6	<b>467</b>	<b>17.7</b>	466	17.7
459.GemsFDTD	895	11.9	896	11.8	<b>895</b>	<b>11.8</b>	895	11.9	896	11.8	<b>895</b>	<b>11.8</b>
465.tonto	626	15.7	625	15.8	<b>625</b>	<b>15.8</b>	618	15.9	619	15.9	<b>618</b>	<b>15.9</b>
470.lbm	813	16.9	813	16.9	<b>813</b>	<b>16.9</b>	740	18.6	739	18.6	<b>739</b>	<b>18.6</b>
481.wrf	<b>604</b>	<b>18.5</b>	604	18.5	604	18.5	<b>604</b>	<b>18.5</b>	604	18.5	604	18.5
482.sphinx3	733	26.6	<b>733</b>	<b>26.6</b>	733	26.6	728	26.8	<b>723</b>	<b>26.9</b>	723	27.0

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

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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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