



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp®2006 = 36.6

Dell Precision T7500 (Intel Xeon X5570, 2.93 GHz)

SPECfp\_base2006 = 35.4

CPU2006 license: 55

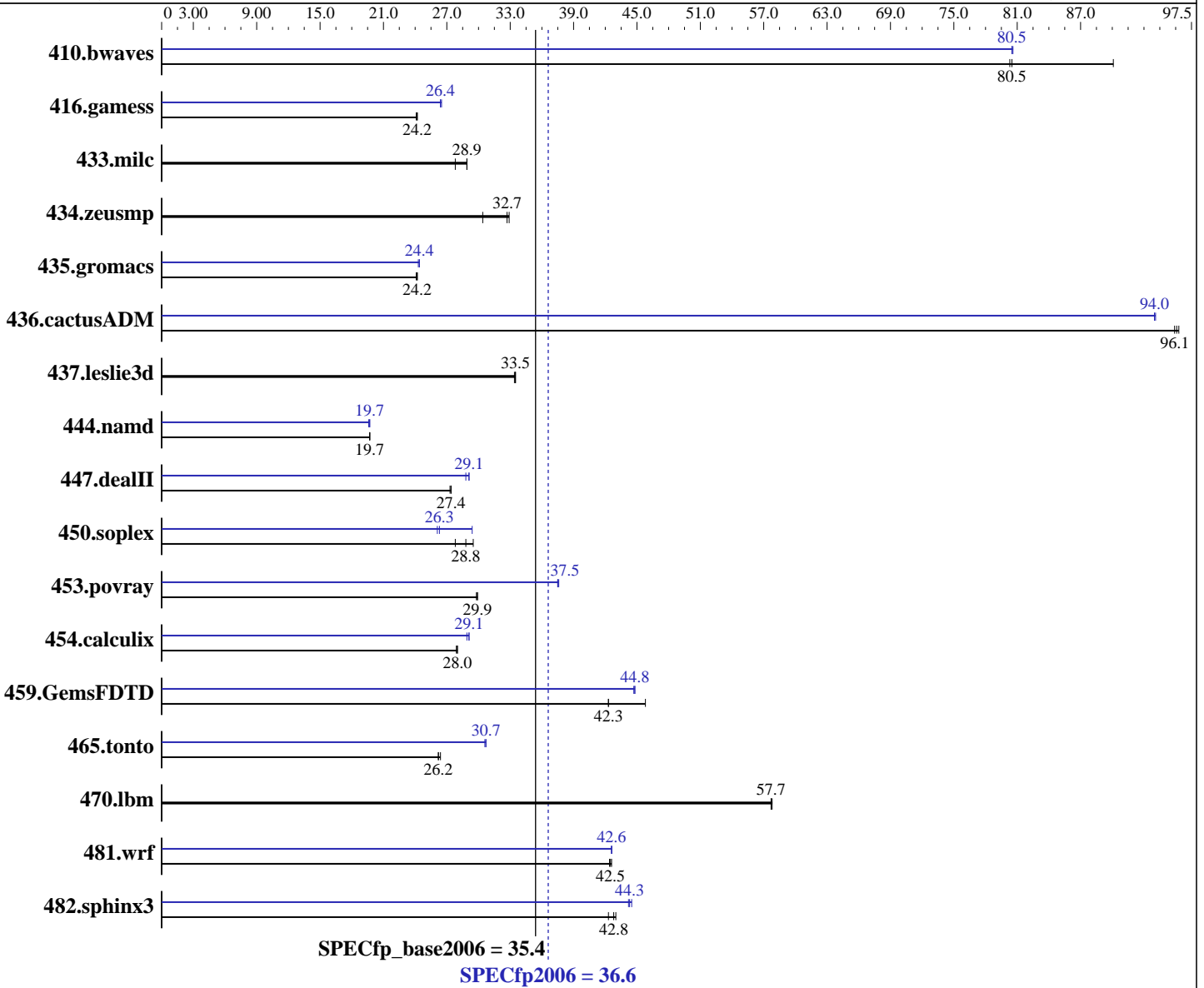
Test date: Mar-2009

Test sponsor: Dell Inc.

Hardware Availability: Apr-2009

Tested by: Dell Inc.

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon X5570  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz  
 CPU MHz: 2933  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core

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### Software

Operating System: Windows Vista Business SP1 (64-bit)  
 Compiler: Intel C++ Compiler for Intel 64, Version 11.0  
 Build 20090131 Package ID: w\_cproc\_p\_11.0.072  
 Intel Visual Fortran Compiler for Intel 64,  
 Version 11.0  
 Build 20090131 Package ID: w\_cprof\_p\_11.0.072  
 Microsoft Visual Studio 2008 SP1  
 Auto Parallel: Yes  
 File System: NTFS

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L3 Cache: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 24 GB (6x4 GB DDR3-1333R, ECC, CL9)  
 Disk Subsystem: 1 x 146 GB SAS 15000 RPM  
 Other Hardware: None

System State: Default  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap Library 8.1 for x64

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	169	80.3	<b>169</b>	<b>80.5</b>	151	90.1	169	80.5	<b>169</b>	<b>80.5</b>	169	80.6
416.gamess	<b>810</b>	<b>24.2</b>	809	24.2	811	24.1	741	26.4	<b>741</b>	<b>26.4</b>	740	26.5
433.milc	<b>318</b>	<b>28.9</b>	318	28.9	330	27.8	<b>318</b>	<b>28.9</b>	318	28.9	330	27.8
434.zeusmp	<b>278</b>	<b>32.7</b>	277	32.9	299	30.4	<b>278</b>	<b>32.7</b>	277	32.9	299	30.4
435.gromacs	296	24.1	295	24.2	<b>295</b>	<b>24.2</b>	293	24.3	293	24.4	<b>293</b>	<b>24.4</b>
436.cactusADM	124	96.3	125	95.9	<b>124</b>	<b>96.1</b>	127	94.1	<b>127</b>	<b>94.0</b>	127	94.0
437.leslie3d	281	33.5	<b>281</b>	<b>33.5</b>	281	33.4	281	33.5	<b>281</b>	<b>33.5</b>	281	33.4
444.namd	406	19.7	<b>407</b>	<b>19.7</b>	407	19.7	408	19.6	407	19.7	<b>408</b>	<b>19.7</b>
447.dealII	<b>418</b>	<b>27.4</b>	417	27.4	419	27.3	<b>394</b>	<b>29.1</b>	398	28.8	394	29.1
450.soplex	283	29.5	<b>290</b>	<b>28.8</b>	301	27.8	<b>318</b>	<b>26.3</b>	320	26.1	283	29.4
453.povray	178	29.8	178	29.9	<b>178</b>	<b>29.9</b>	<b>142</b>	<b>37.5</b>	142	37.5	142	37.6
454.calculix	295	27.9	295	28.0	<b>295</b>	<b>28.0</b>	286	28.9	283	29.1	<b>284</b>	<b>29.1</b>
459.GemsFDTD	<b>251</b>	<b>42.3</b>	232	45.8	251	42.3	237	44.7	237	44.8	<b>237</b>	<b>44.8</b>
465.tonto	376	26.2	<b>375</b>	<b>26.2</b>	373	26.4	320	30.7	321	30.6	<b>321</b>	<b>30.7</b>
470.lbm	<b>238</b>	<b>57.7</b>	238	57.7	238	57.8	<b>238</b>	<b>57.7</b>	238	57.7	238	57.8
481.wrf	262	42.6	264	42.4	<b>263</b>	<b>42.5</b>	262	42.6	<b>262</b>	<b>42.6</b>	263	42.6
482.sphinx3	453	43.0	<b>455</b>	<b>42.8</b>	461	42.3	441	44.2	438	44.5	<b>440</b>	<b>44.3</b>

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

## Platform Notes

BIOS Settings  
Memory Node Interleaving set to NUMA.

## General Notes

Binaries were built on Windows Vista Business (64-bit)

## Base Compiler Invocation

C benchmarks:  
icl -Qvc9 -Qstd=c99

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## Base Compiler Invocation (Continued)

C++ benchmarks:

icl -Qvc9

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc9 -Qstd=c99 ifort

## Base Portability Flags

410.bwaves: -DSPEC\_CPU\_P64 /assume:underscore  
 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 -Qlowercase /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 -Qlowercase  
 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 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel  
-Qopt-prefetch /F512000000

C++ benchmarks:

-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel  
-Qopt-prefetch -Qcxx\_features /F512000000 shlw64mt.lib  
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel  
-Qopt-prefetch /F1000000000

Benchmarks using both Fortran and C:

-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qparallel  
-Qopt-prefetch /F1000000000



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## Peak 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

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: -QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qunroll2 /F512000000

C++ benchmarks:

444.namd: -Qprof\_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Oa /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE

447.dealII: -Qprof\_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qansi-alias -Qscalar-rep- /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE

450.soplex: -Qprof\_gen(pass 1) -QxSSE4.2 -Qauto-ilp32 -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE

453.povray: -Qprof\_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE

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## Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: -QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div-  
-Qopt-prefetch -Qparallel /F1000000000

416.gamess: -Qprof\_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0  
-Qansi-alias -Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -Qprof\_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0  
-Qopt-prefetch -Qparallel /F1000000000

465.tonto: -Qprof\_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto  
/F1000000000

Benchmarks using both Fortran and C:

435.gromacs: -Qprof\_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch  
/F1000000000

436.cactusADM: -Qprof\_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)  
-Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2  
-Qopt-prefetch -Qparallel /F1000000000

454.calculix: -QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- /F1000000000

481.wrf: -QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div-  
-Qopt-prefetch -Qparallel /F1000000000

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/dell.ic11.0.windows.flags.20090710.html>

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

<http://www.spec.org/cpu2006/flags/dell.ic11.0.windows.flags.20090710.xml>



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