



# SPEC® CFP2006 Result

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Dell Inc.

Dell Precision T3500 (Intel Xeon W3570, 3.20 GHz)

**SPECfp®2006 = 38.9**

**SPECfp\_base2006 = 37.5**

CPU2006 license: 55

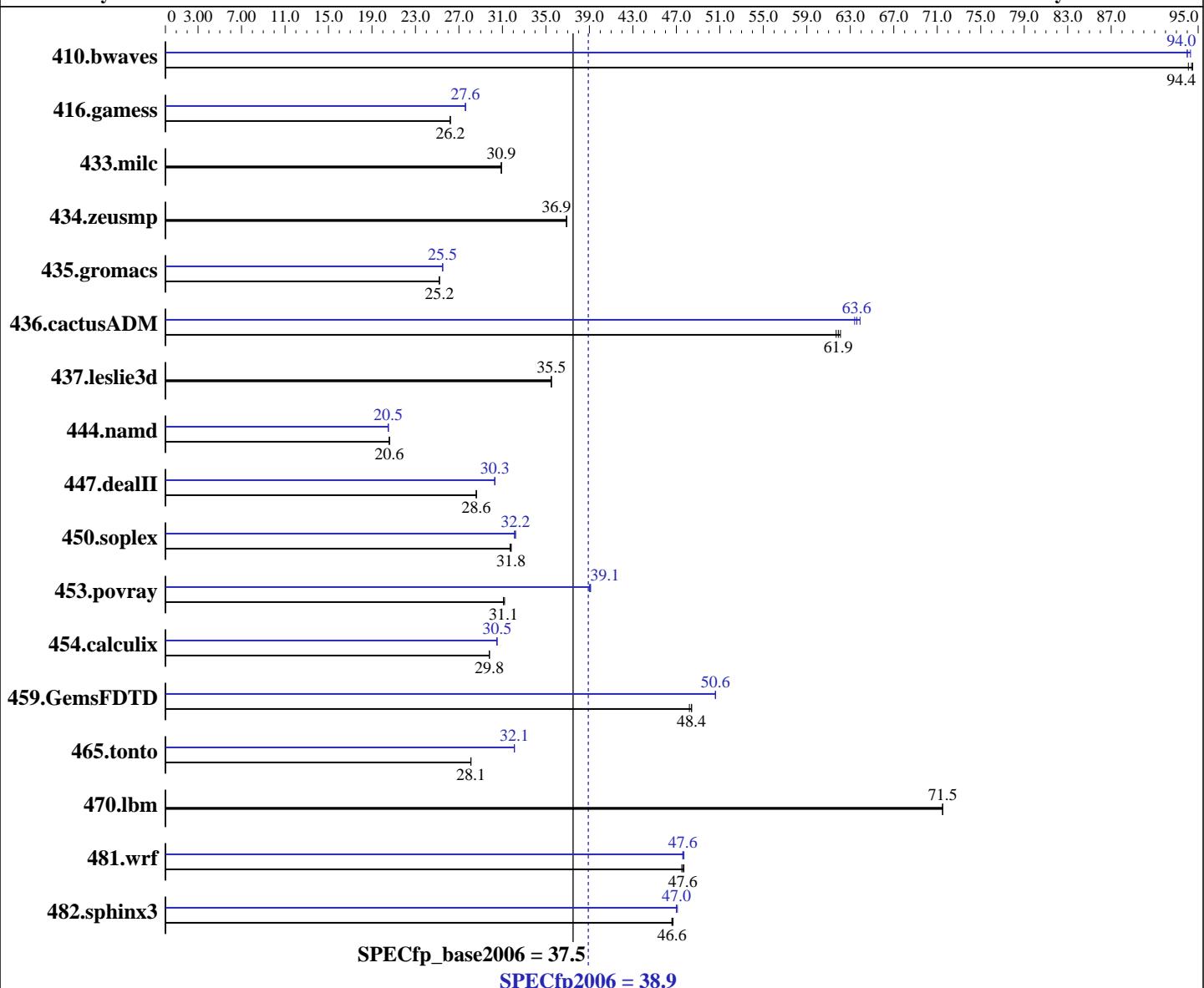
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Mar-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2008



## Hardware

CPU Name: Intel Xeon W3570  
CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz  
CPU MHz: 3200  
FPU: Integrated  
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
CPU(s) orderable: 1 chip  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 256 KB I+D on chip per core

## Software

Operating System: Windows Vista Ultimate 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: 12 GB (3x4 GB, DDR3\_1333R, ECC, CL9)  
 Disk Subsystem: 1 x 80 GB SATA 7200 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       |
| 410.bwaves    | <b>144</b> | <b>94.4</b> | 144        | 94.1        | 144        | 94.5        | <b>145</b> | <b>94.0</b> | 144        | 94.3        | 145        | 94.0        |
| 416.gamess    | 747        | 26.2        | <b>747</b> | <b>26.2</b> | 748        | 26.2        | <b>710</b> | <b>27.6</b> | 710        | 27.6        | 711        | 27.6        |
| 433.milc      | <b>297</b> | <b>30.9</b> | 297        | 30.9        | 297        | 30.9        | <b>297</b> | <b>30.9</b> | 297        | 30.9        | 297        | 30.9        |
| 434.zeusmp    | 247        | 36.9        | <b>247</b> | <b>36.9</b> | 246        | 36.9        | <b>247</b> | <b>36.9</b> | <b>247</b> | <b>36.9</b> | 246        | 36.9        |
| 435.gromacs   | 283        | 25.2        | 283        | 25.2        | <b>283</b> | <b>25.2</b> | 281        | 25.5        | 280        | 25.5        | <b>280</b> | <b>25.5</b> |
| 436.cactusADM | 194        | 61.7        | <b>193</b> | <b>61.9</b> | 192        | 62.1        | 189        | 63.4        | <b>188</b> | <b>63.6</b> | 187        | 63.9        |
| 437.leslie3d  | 265        | 35.5        | <b>265</b> | <b>35.5</b> | 265        | 35.5        | <b>265</b> | 35.5        | <b>265</b> | <b>35.5</b> | 265        | 35.5        |
| 444.namd      | 389        | 20.6        | <b>389</b> | <b>20.6</b> | 389        | 20.6        | 391        | 20.5        | <b>391</b> | <b>20.5</b> | 391        | 20.5        |
| 447.dealII    | 400        | 28.6        | 400        | 28.6        | <b>400</b> | <b>28.6</b> | 377        | 30.3        | <b>378</b> | <b>30.3</b> | 378        | 30.3        |
| 450.soplex    | <b>263</b> | <b>31.8</b> | 263        | 31.7        | 262        | 31.8        | <b>260</b> | <b>32.1</b> | <b>259</b> | <b>32.2</b> | 259        | 32.2        |
| 453.povray    | 171        | 31.1        | <b>171</b> | <b>31.1</b> | 171        | 31.2        | 136        | 39.1        | 136        | 39.0        | <b>136</b> | <b>39.1</b> |
| 454.calculix  | 277        | 29.8        | <b>277</b> | <b>29.8</b> | 277        | 29.8        | 271        | 30.5        | <b>271</b> | <b>30.5</b> | 271        | 30.5        |
| 459.GemsFDTD  | 219        | 48.4        | 220        | 48.2        | <b>219</b> | <b>48.4</b> | 210        | 50.6        | <b>210</b> | <b>50.6</b> | 210        | 50.6        |
| 465.tonto     | <b>351</b> | <b>28.1</b> | 351        | 28.1        | 350        | 28.1        | <b>307</b> | <b>32.1</b> | 307        | 32.1        | 307        | 32.1        |
| 470.lbm       | 192        | 71.5        | 192        | 71.5        | <b>192</b> | <b>71.5</b> | 192        | 71.5        | 192        | 71.5        | <b>192</b> | <b>71.5</b> |
| 481.wrf       | 235        | 47.5        | 234        | 47.7        | <b>235</b> | <b>47.6</b> | 234        | 47.7        | 235        | 47.6        | <b>235</b> | <b>47.6</b> |
| 482.sphinx3   | 418        | 46.7        | <b>418</b> | <b>46.6</b> | 418        | 46.6        | <b>414</b> | <b>47.0</b> | <b>414</b> | <b>47.1</b> | 414        | 47.0        |

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

## Platform Notes

### BIOS Settings

Hyper-Threading Technology set to OFF.

## General Notes

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

## Base Compiler Invocation

C benchmarks:

icl -Qvc9 -Qstd=c99

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# SPEC CFP2006 Result

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|   |                               |          |
|---|-------------------------------|----------|
| Dell Inc.   | <b>SPECfp2006 =</b>           | 38.9     |
| Dell Precision T3500 (Intel Xeon W3570, 3.20 GHz) | <b>SPECfp_base2006 =</b>      | 37.5     |
| <b>CPU2006 license:</b> 55                        | <b>Test date:</b>             | Mar-2009 |
| <b>Test sponsor:</b> Dell Inc.                    | <b>Hardware Availability:</b> | Apr-2009 |
| <b>Tested by:</b> Dell Inc.                       | <b>Software Availability:</b> | Feb-2008 |

## Base Compiler Invocation (Continued)

## C++ benchmarks:   *icl -Ovc9*

## Fortran benchmarks: ifort

Benchmarks using both Fortran and C:  
icl -Oyc9 -Ostd=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.dealIII: -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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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