



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp®2006 = 22.2

Dell Precision T7400 (Intel Xeon X5482, 3.20 GHz)

SPECfp_base2006 = 20.2

CPU2006 license: 55

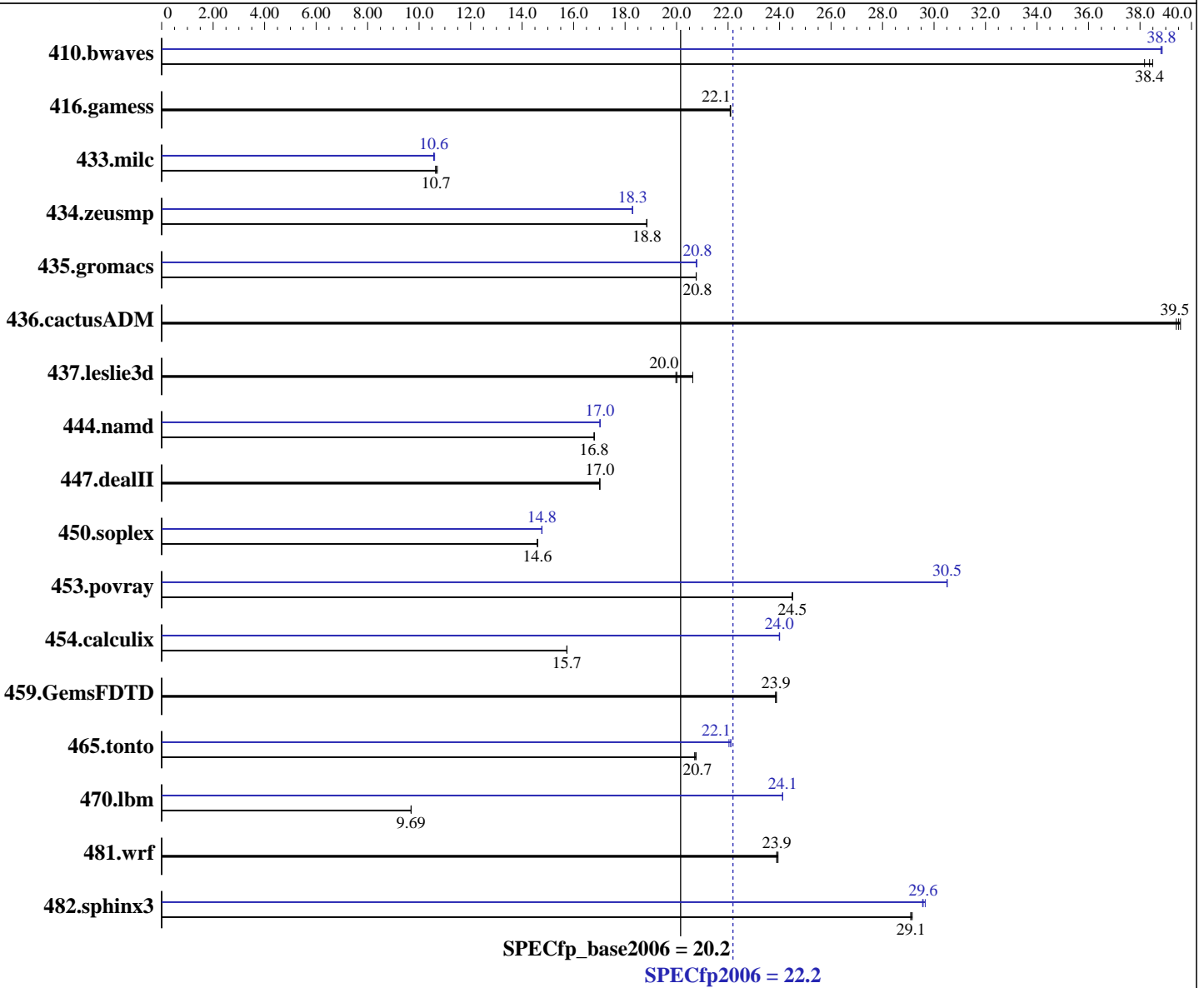
Test date: Dec-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5482
 CPU Characteristics: 1600 MHz Bus Speed
 CPU MHz: 3200
 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: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System: Windows XP Professional x64 Edition SP2
 Compiler: Intel C++ Compiler for Intel 64, Version 10.1
 Build 20070809 Package ID: w_cc_p_10.1.011
 Intel Visual Fortran Compiler for Intel 64,
 Version 10.0
 Build 20070809 Package ID: w_fc_p_10.1.011
 Microsoft Visual Studio 2005 SP1
 Auto Parallel: Yes
 File System: NTFS

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L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8x2 GB 800 MHz FB-DIMM CL5)
 Disk Subsystem: 1 x 73 GB SAS 10K RPM
 Other Hardware: None

System State: Default
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap Library 8.0 for x64

Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---------------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | <u>354</u> | <u>38.4</u> | 353 | 38.5 | 356 | 38.2 | 350 | 38.8 | 350 | 38.9 | <u>350</u> | <u>38.8</u> |
| 416.gamess | <u>887</u> | <u>22.1</u> | 887 | 22.1 | 886 | 22.1 | <u>887</u> | <u>22.1</u> | 887 | 22.1 | 886 | 22.1 |
| 433.milc | 857 | 10.7 | <u>861</u> | <u>10.7</u> | 863 | 10.6 | <u>869</u> | <u>10.6</u> | 866 | 10.6 | 869 | 10.6 |
| 434.zeusmp | 483 | 18.9 | <u>483</u> | <u>18.8</u> | 483 | 18.8 | <u>498</u> | <u>18.3</u> | 498 | 18.3 | 498 | 18.3 |
| 435.gromacs | 344 | 20.8 | <u>344</u> | <u>20.8</u> | 344 | 20.8 | <u>344</u> | <u>20.8</u> | 344 | 20.8 | 344 | 20.8 |
| 436.cactusADM | 303 | 39.4 | <u>303</u> | <u>39.5</u> | 302 | 39.6 | 303 | 39.4 | <u>303</u> | <u>39.5</u> | 302 | 39.6 |
| 437.leslie3d | 456 | 20.6 | 471 | 20.0 | <u>470</u> | <u>20.0</u> | 456 | 20.6 | 471 | 20.0 | <u>470</u> | <u>20.0</u> |
| 444.namd | 477 | 16.8 | 477 | 16.8 | <u>477</u> | <u>16.8</u> | 471 | 17.0 | <u>471</u> | <u>17.0</u> | 471 | 17.0 |
| 447.dealII | <u>672</u> | <u>17.0</u> | 672 | 17.0 | 672 | 17.0 | <u>672</u> | <u>17.0</u> | 672 | 17.0 | 672 | 17.0 |
| 450.soplex | <u>571</u> | <u>14.6</u> | 572 | 14.6 | 571 | 14.6 | <u>565</u> | <u>14.8</u> | 565 | 14.8 | 564 | 14.8 |
| 453.povray | <u>217</u> | <u>24.5</u> | 217 | 24.5 | 217 | 24.5 | 174 | 30.5 | <u>174</u> | <u>30.5</u> | 174 | 30.5 |
| 454.calculix | 524 | 15.7 | <u>524</u> | <u>15.7</u> | 524 | 15.7 | <u>344</u> | <u>24.0</u> | 344 | 24.0 | 344 | 24.0 |
| 459.GemsFDTD | <u>445</u> | <u>23.9</u> | 445 | 23.8 | 444 | 23.9 | <u>445</u> | <u>23.9</u> | 445 | 23.8 | 444 | 23.9 |
| 465.tonto | <u>475</u> | <u>20.7</u> | 474 | 20.8 | 475 | 20.7 | 447 | 22.0 | 445 | 22.1 | <u>445</u> | <u>22.1</u> |
| 470.lbm | 1418 | 9.69 | 1418 | 9.69 | <u>1418</u> | <u>9.69</u> | 570 | 24.1 | 570 | 24.1 | <u>570</u> | <u>24.1</u> |
| 481.wrf | 467 | 23.9 | 468 | 23.9 | <u>467</u> | <u>23.9</u> | 467 | 23.9 | 468 | 23.9 | <u>467</u> | <u>23.9</u> |
| 482.sphinx3 | 669 | 29.2 | 670 | 29.1 | <u>670</u> | <u>29.1</u> | 659 | 29.6 | 657 | 29.7 | <u>659</u> | <u>29.6</u> |

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

General Notes

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

BIOS Settings

Adjacent Cache Line Prefetch set to ON

Base Compiler Invocation

C benchmarks:
icl -Qstd=c99

C++ benchmarks:
icl

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Base Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
 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:

-fast -Qauto-ilp32 -Qparallel /F1000000000 shlw64mt.lib
libguide40.lib -link /FORCE:MULTIPLE

C++ benchmarks:

-fast -Qauto-ilp32 -Qparallel -Qcxx_features /F1000000000
shlw64mt.lib libguide40.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

-fast -Qauto-ilp32 -Qparallel /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

-fast -Qauto-ilp32 -Qparallel /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE



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Peak Compiler Invocation

C benchmarks:
icl -Qstd=c99

C++ benchmarks:
icl

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll2 -Oa /F1000000000 shlw64mt.lib libguide40.lib
-link /FORCE:MULTIPLE

470.lbm: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000
shlw64mt.lib libguide40.lib -link /FORCE:MULTIPLE

482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F1000000000 shlw64mt.lib
libguide40.lib -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Oa -Qcxx_features /F1000000000 shlw64mt.lib
libguide40.lib -link /FORCE:MULTIPLE

447.dealII: basepeak = yes

450.soplex: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qparallel -Qcxx_features /F1000000000 shlw64mt.lib
libguide40.lib -link /FORCE:MULTIPLE

453.povray: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll4 -Qansi-alias -Qcxx_features /F1000000000
shlw64mt.lib libguide40.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: -fast -Qauto-ilp32 -Qparallel -Qprefetch /F1000000000
libguide40.lib -link /FORCE:MULTIPLE

416.gamess: basepeak = yes

434.zeusmp: -Qprof_gen(pass 1) -Qprof_use(pass 2) -QxT -O2 -Qprec-div-
-Qunroll10 -Qscalar-rep- /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll14 -Qauto /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

435.gromacs: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Oa -Qprefetch /F1000000000 libguide40.lib
-link /FORCE:MULTIPLE

436.cactusADM: basepeak = yes

454.calculix: -fast -Qauto-ilp32 -Qunroll-aggressive /F1000000000
libguide40.lib -link /FORCE:MULTIPLE

481.wrf: basepeak = yes

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

<http://www.spec.org/cpu2006/flags/dell.ic10.1.windows.flags.20090714.01.html>

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

<http://www.spec.org/cpu2006/flags/dell.ic10.1.windows.flags.20090714.01.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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