



SPEC[®] CFP2006 Result

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Dell Inc.

Dell Precision 690 (Intel Xeon 5160, 3.00 GHz)

SPECfp[®]_rate2006 = 24.3

SPECfp_rate_base2006 = 23.8

CPU2006 license: 55

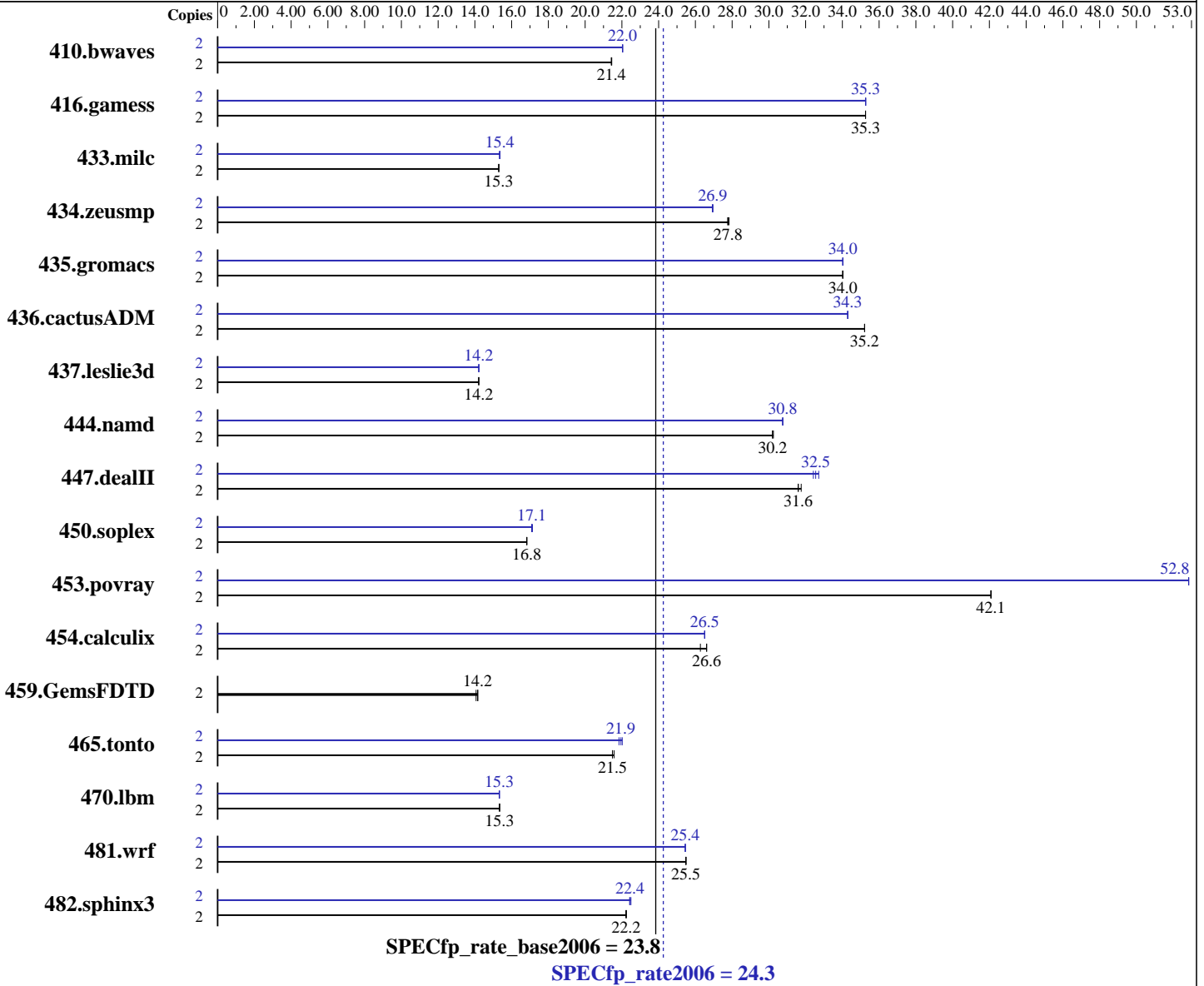
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jan-2007

Hardware Availability: May-2006

Software Availability: Jan-2007



Hardware

CPU Name: Intel Xeon 5160
 CPU Characteristics: 1333 MHz Bus Speed
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 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 XP Professional x64 Edition
 Compiler: Intel C++ Compiler 9.1 for IA32 (20061103Z)
 Intel FORTRAN Compiler 9.1 for IA32 (20061103Z)
 Microsoft Visual Studio 2005
 Auto Parallel: No
 File System: NTFS
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1 GB 667 MHz ECC CL5 DDR2 FB-DIMM)
Disk Subsystem: 1 x 72 GB SAS 10K RPM
Other Hardware: None

Other Software: MicroQuill SmartHeap Library 8.0

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---------------|--------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 2 | 1269 | 21.4 | 1267 | 21.4 | <u>1268</u> | <u>21.4</u> | 2 | 1233 | 22.0 | <u>1233</u> | <u>22.0</u> | 1233 | 22.0 |
| 416.gamess | 2 | 1110 | 35.3 | 1111 | 35.3 | <u>1111</u> | <u>35.3</u> | 2 | 1111 | 35.3 | <u>1111</u> | <u>35.3</u> | 1110 | 35.3 |
| 433.milc | 2 | 1200 | 15.3 | 1200 | 15.3 | <u>1200</u> | <u>15.3</u> | 2 | 1195 | 15.4 | 1197 | 15.3 | <u>1195</u> | <u>15.4</u> |
| 434.zeusmp | 2 | <u>655</u> | <u>27.8</u> | 656 | 27.8 | 654 | 27.8 | 2 | 676 | 26.9 | 675 | 27.0 | <u>675</u> | <u>26.9</u> |
| 435.gromacs | 2 | 420 | 34.0 | <u>420</u> | <u>34.0</u> | 420 | 34.0 | 2 | <u>420</u> | <u>34.0</u> | 420 | 34.0 | 420 | 34.0 |
| 436.cactusADM | 2 | 679 | 35.2 | 679 | 35.2 | <u>679</u> | <u>35.2</u> | 2 | 697 | 34.3 | <u>697</u> | <u>34.3</u> | 697 | 34.3 |
| 437.leslie3d | 2 | 1323 | 14.2 | 1323 | 14.2 | <u>1323</u> | <u>14.2</u> | 2 | 1322 | 14.2 | <u>1323</u> | <u>14.2</u> | 1323 | 14.2 |
| 444.namd | 2 | 530 | 30.2 | 531 | 30.2 | <u>531</u> | <u>30.2</u> | 2 | 521 | 30.8 | 522 | 30.7 | <u>522</u> | <u>30.8</u> |
| 447.dealII | 2 | 720 | 31.8 | <u>724</u> | <u>31.6</u> | 724 | 31.6 | 2 | 699 | 32.7 | 706 | 32.4 | <u>703</u> | <u>32.5</u> |
| 450.soplex | 2 | <u>991</u> | <u>16.8</u> | 991 | 16.8 | 991 | 16.8 | 2 | <u>975</u> | <u>17.1</u> | 974 | 17.1 | 976 | 17.1 |
| 453.povray | 2 | <u>253</u> | <u>42.1</u> | 253 | 42.1 | 253 | 42.1 | 2 | 201 | 52.9 | 201 | 52.8 | <u>201</u> | <u>52.8</u> |
| 454.calculix | 2 | <u>620</u> | <u>26.6</u> | 620 | 26.6 | 628 | 26.3 | 2 | 622 | 26.5 | <u>622</u> | <u>26.5</u> | 623 | 26.5 |
| 459.GemsFDTD | 2 | 1499 | 14.2 | 1509 | 14.1 | <u>1500</u> | <u>14.2</u> | 2 | 1499 | 14.2 | 1509 | 14.1 | <u>1500</u> | <u>14.2</u> |
| 465.tonto | 2 | <u>916</u> | <u>21.5</u> | 912 | 21.6 | 916 | 21.5 | 2 | 894 | 22.0 | 901 | 21.8 | <u>897</u> | <u>21.9</u> |
| 470.lbm | 2 | 1792 | 15.3 | 1790 | 15.3 | <u>1791</u> | <u>15.3</u> | 2 | 1792 | 15.3 | 1792 | 15.3 | <u>1792</u> | <u>15.3</u> |
| 481.wrf | 2 | <u>877</u> | <u>25.5</u> | 877 | 25.5 | 876 | 25.5 | 2 | <u>878</u> | <u>25.4</u> | 878 | 25.4 | 878 | 25.5 |
| 482.sphinx3 | 2 | <u>1753</u> | <u>22.2</u> | 1754 | 22.2 | 1752 | 22.2 | 2 | <u>1737</u> | <u>22.4</u> | 1733 | 22.5 | 1739 | 22.4 |

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

General Notes

BIOS Settings

Adjacent Cache Line Prefetch set to ON:
Prefetch data in order to shorten execution
cycles and maximize data processing efficiency.

Snoop Filter set to OFF

Snoop Filter preserves cache coherency while minimizing
snoops to remote nodes.

32-bit binaries were built on Windows XP Professional x64 Edition



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Base Compiler Invocation

C benchmarks:
icl -Qc99
C++ benchmarks:
icl
Fortran benchmarks:
ifort
Benchmarks using both Fortran and C:
icl -Qc99 ifort

Base Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-DBOOST_NO_INTRINSIC_WCHAR_T
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Base Optimization Flags

C benchmarks:
-fast /F512000000 shlW32M.lib -link /FORCE:MULTIPLE
C++ benchmarks:
-fast -Qcxx_features /F512000000 shlW32M.lib
-link /FORCE:MULTIPLE
Fortran benchmarks:
-fast /F1000000000 -link /FORCE:MULTIPLE
Benchmarks using both Fortran and C:
-fast /F1000000000 -link /FORCE:MULTIPLE

Peak Compiler Invocation

C benchmarks:
icl -Qc99
C++ benchmarks:
icl

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Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qc99 ifort

Peak Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-DBOOST_NO_INTRINSIC_WCHAR_T
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Peak Optimization Flags

C benchmarks:

ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F512000000
shlW32M.lib -link /FORCE:MULTIPLE

C++ benchmarks:

ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx_features
/F512000000 shlW32M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast
/F1000000000 -link /FORCE:MULTIPLE

416.gamess: ONESTEP -fast /F1000000000 -link /FORCE:MULTIPLE

434.zeusmp: Same as 410.bwaves

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: basepeak = yes

465.tonto: Same as 410.bwaves

Benchmarks using both Fortran and C:

435.gromacs: -fast /F1000000000 -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

436.cactusADM: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F1000000000
-link /FORCE:MULTIPLE

454.calculix: Same as 436.cactusADM

481.wrf: Same as 435.gromacs

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

<http://www.spec.org/cpu2006/flags/dell.cpu2006.ic91.flags.20090715.html>

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

<http://www.spec.org/cpu2006/flags/dell.cpu2006.ic91.flags.20090715.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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