



SPEC[®] CFP2006 Result

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Intel Corporation

Alienware Area-51 M15x-R1 (Intel Core 2 Extreme X7900)

SPECfp[®]_rate2006 = 23.7

SPECfp_rate_base2006 = 23.1

CPU2006 license: 13

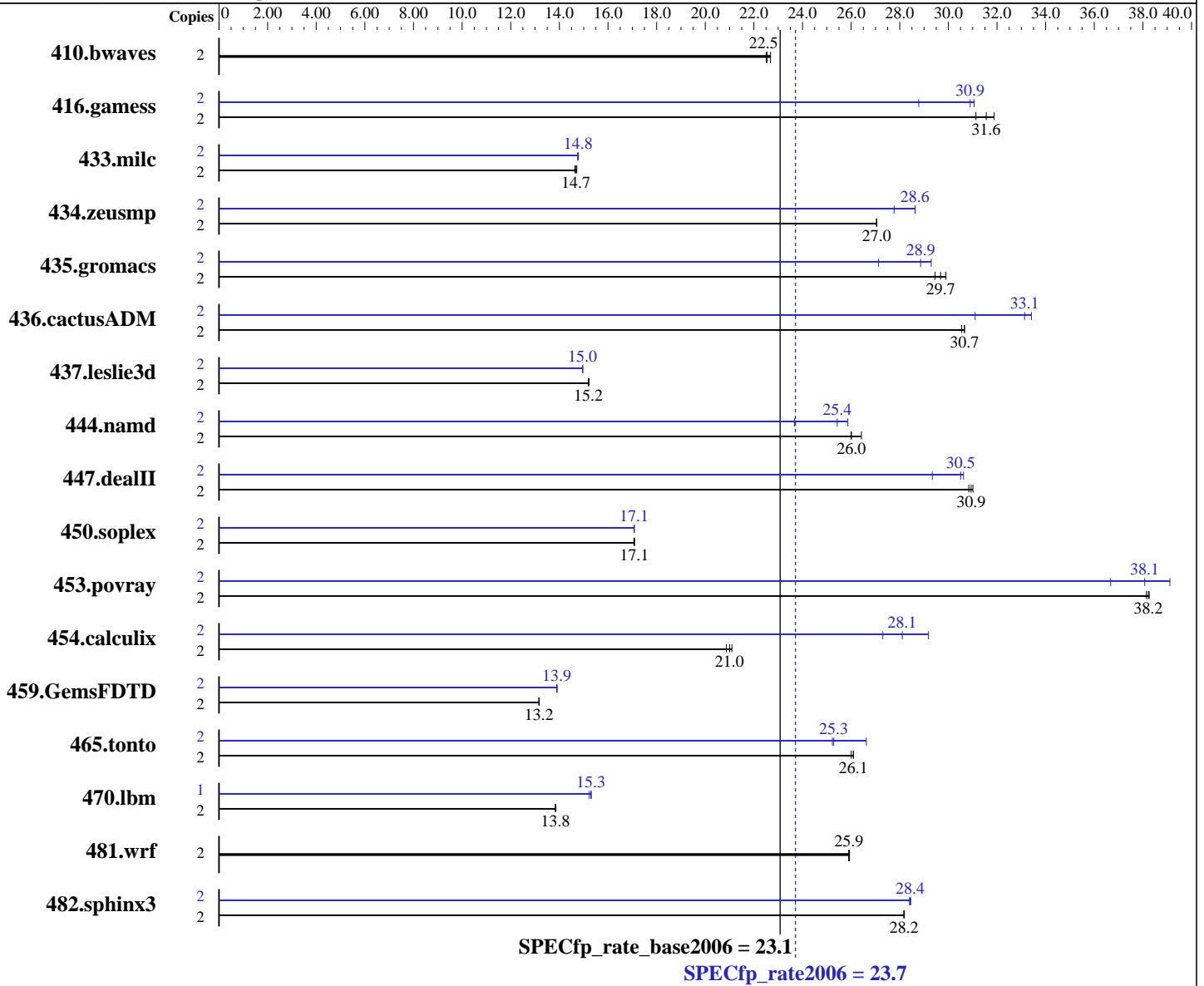
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2007

Hardware Availability: Jan-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Core 2 Extreme X7900
 CPU Characteristics:
 CPU MHz: 2800
 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: 4 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 Qimonda DDR2-667 CL5)
Disk Subsystem: Fujitsu 120GB 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 | | | | | | |
|---------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 2 | 1206 | 22.5 | 1208 | 22.5 | 1198 | 22.7 | 2 | 1206 | 22.5 | 1208 | 22.5 | 1198 | 22.7 |
| 416.gamess | 2 | 1241 | 31.6 | 1228 | 31.9 | 1258 | 31.1 | 2 | 1261 | 31.1 | 1267 | 30.9 | 1361 | 28.8 |
| 433.milc | 2 | 1248 | 14.7 | 1254 | 14.6 | 1250 | 14.7 | 2 | 1243 | 14.8 | 1243 | 14.8 | 1245 | 14.8 |
| 434.zeusmp | 2 | 673 | 27.0 | 673 | 27.1 | 673 | 27.0 | 2 | 636 | 28.6 | 636 | 28.6 | 655 | 27.8 |
| 435.gromacs | 2 | 478 | 29.9 | 481 | 29.7 | 485 | 29.5 | 2 | 487 | 29.3 | 495 | 28.9 | 526 | 27.1 |
| 436.cactusADM | 2 | 779 | 30.7 | 780 | 30.7 | 782 | 30.5 | 2 | 715 | 33.4 | 721 | 33.1 | 769 | 31.1 |
| 437.leslie3d | 2 | 1235 | 15.2 | 1237 | 15.2 | 1237 | 15.2 | 2 | 1258 | 14.9 | 1256 | 15.0 | 1257 | 15.0 |
| 444.namd | 2 | 607 | 26.4 | 617 | 26.0 | 617 | 26.0 | 2 | 620 | 25.9 | 631 | 25.4 | 678 | 23.7 |
| 447.dealII | 2 | 740 | 30.9 | 742 | 30.8 | 738 | 31.0 | 2 | 750 | 30.5 | 747 | 30.6 | 780 | 29.3 |
| 450.soplex | 2 | 977 | 17.1 | 976 | 17.1 | 976 | 17.1 | 2 | 977 | 17.1 | 977 | 17.1 | 977 | 17.1 |
| 453.povray | 2 | 278 | 38.2 | 278 | 38.3 | 279 | 38.1 | 2 | 272 | 39.1 | 279 | 38.1 | 290 | 36.7 |
| 454.calculix | 2 | 791 | 20.9 | 782 | 21.1 | 786 | 21.0 | 2 | 565 | 29.2 | 587 | 28.1 | 604 | 27.3 |
| 459.GemsFDTD | 2 | 1611 | 13.2 | 1612 | 13.2 | 1613 | 13.2 | 2 | 1528 | 13.9 | 1527 | 13.9 | 1525 | 13.9 |
| 465.tonto | 2 | 754 | 26.1 | 757 | 26.0 | 754 | 26.1 | 2 | 739 | 26.6 | 778 | 25.3 | 780 | 25.2 |
| 470.lbm | 2 | 1986 | 13.8 | 1986 | 13.8 | 1986 | 13.8 | 1 | 898 | 15.3 | 897 | 15.3 | 902 | 15.2 |
| 481.wrf | 2 | 862 | 25.9 | 861 | 25.9 | 862 | 25.9 | 2 | 862 | 25.9 | 861 | 25.9 | 862 | 25.9 |
| 482.sphinx3 | 2 | 1383 | 28.2 | 1384 | 28.2 | 1383 | 28.2 | 2 | 1371 | 28.4 | 1370 | 28.5 | 1373 | 28.4 |

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 Vista32
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
The start command with the /affinity switch was used to bind processes to cores

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 /F1000000000

C++ benchmarks:

-fast -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

-fast /F1000000000

Benchmarks using both Fortran and C:

-fast /F1000000000

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
470.lbm: -fast -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000
482.sphinx3: -fast -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: -fast -Oa -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE
447.dealII: -fast -Qunroll2 -Qprefetch -Qcxx_features /F1000000000
shlw32m.lib -link /FORCE:MULTIPLE
450.soplex: -fast -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE
453.povray: -fast -Qunroll4 -Qansi-alias -Qcxx_features /F1000000000
shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes
416.gamess: -fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep-
/F1000000000
434.zeusmp: -QxT -O2 -Qprec-div- -Qunroll10 -Qscalar-rep- /F1000000000

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Peak Optimization Flags (Continued)

437.leslie3d: -fast -Qprefetch /F1000000000

459.GemsFDTD: -fast -Qunroll2 -Ob0 -Qprefetch /F1000000000

465.tonto: -fast -Qunroll4 -Qauto /F1000000000

Benchmarks using both Fortran and C:

435.gromacs: -fast -Oa -Qprefetch /F1000000000

436.cactusADM: -fast -Qunroll2 -Qprefetch /F1000000000

454.calculix: -fast -Qunroll-aggressive /F1000000000

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.

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