



SPEC® CFP2006 Result

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Intel Corporation

Alienware Area-51 M15x-R1 (Intel Core 2 Extreme X9000)

SPECfp®2006 = 17.4

SPECfp_base2006 = 16.8

CPU2006 license: 13

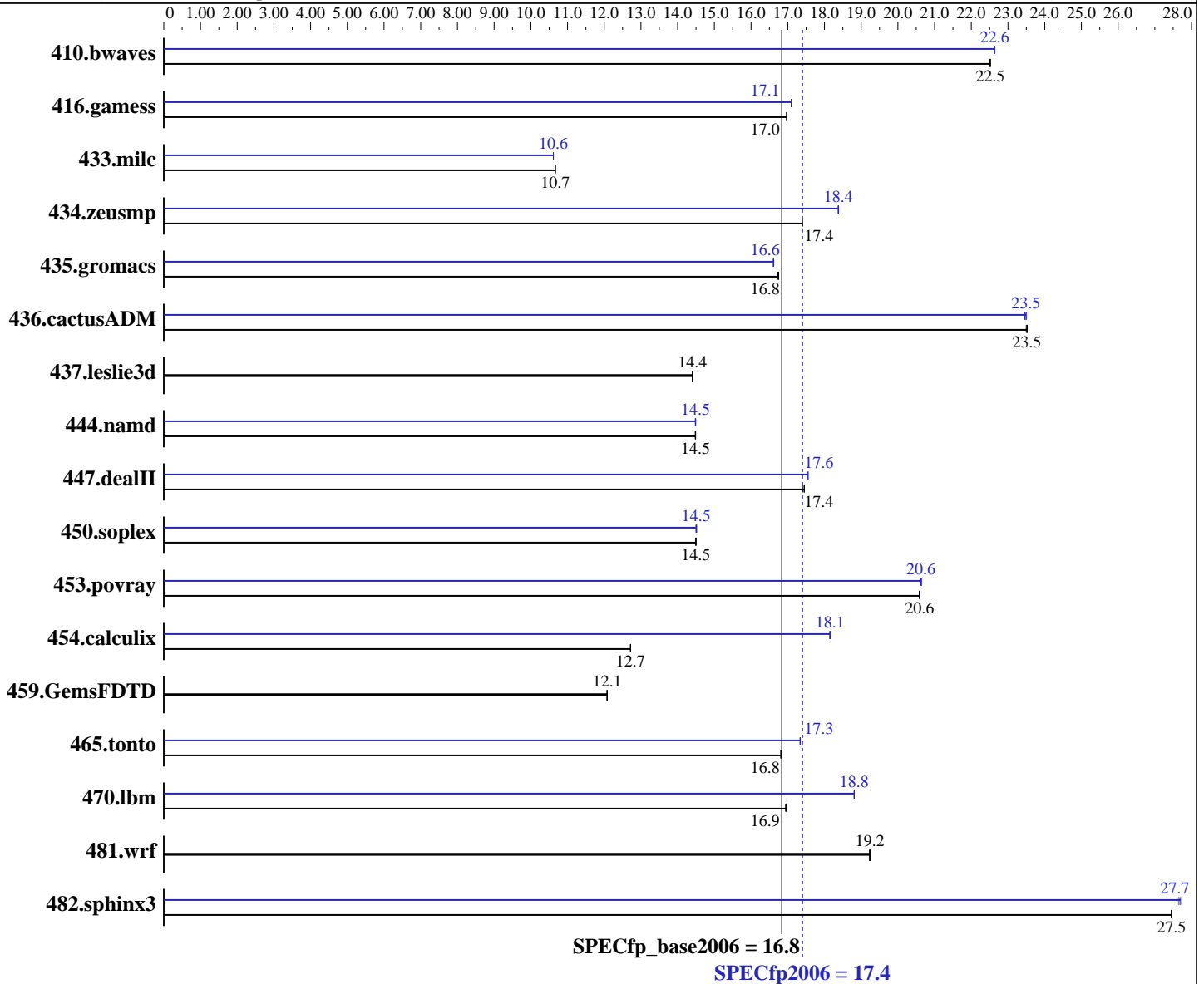
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2007

Hardware Availability: Jan-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Core 2 Extreme X9000
 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: 6 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	604	22.5	603	22.5	604	<u>22.5</u>	600	22.6	601	22.6	600	<u>22.6</u>
416.gamess	1154	<u>17.0</u>	1154	17.0	1154	17.0	1146	<u>17.1</u>	1145	17.1	1146	17.1
433.milc	861	10.7	861	10.7	861	<u>10.7</u>	865	10.6	865	10.6	865	<u>10.6</u>
434.zeusmp	523	17.4	523	17.4	523	<u>17.4</u>	495	18.4	495	<u>18.4</u>	495	18.4
435.gromacs	427	16.7	426	16.8	426	<u>16.8</u>	430	16.6	430	16.6	430	<u>16.6</u>
436.cactusADM	509	23.5	508	23.5	508	<u>23.5</u>	509	<u>23.5</u>	509	23.5	509	23.5
437.leslie3d	653	14.4	652	<u>14.4</u>	652	14.4	653	14.4	652	<u>14.4</u>	652	14.4
444.namd	554	14.5	554	<u>14.5</u>	553	14.5	553	14.5	554	14.5	554	<u>14.5</u>
447.dealII	657	17.4	656	<u>17.4</u>	656	17.5	653	17.5	652	<u>17.6</u>	652	17.6
450.soplex	576	14.5	575	<u>14.5</u>	575	14.5	575	14.5	574	14.5	575	<u>14.5</u>
453.povray	258	<u>20.6</u>	258	20.6	258	20.6	258	<u>20.6</u>	258	20.6	258	20.6
454.calculix	649	12.7	649	12.7	649	<u>12.7</u>	455	18.1	455	<u>18.1</u>	455	18.2
459.GemsFDTD	879	12.1	878	12.1	878	<u>12.1</u>	879	12.1	878	12.1	878	<u>12.1</u>
465.tonto	585	<u>16.8</u>	585	16.8	585	16.8	568	<u>17.3</u>	568	17.3	567	17.3
470.lbm	811	<u>16.9</u>	811	17.0	811	16.9	731	18.8	730	<u>18.8</u>	730	18.8
481.wrf	581	19.2	580	19.2	581	<u>19.2</u>	581	19.2	580	19.2	581	<u>19.2</u>
482.sphinx3	710	27.5	710	27.4	710	<u>27.5</u>	704	27.7	705	<u>27.7</u>	706	27.6

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

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 -Qparallel /F1000000000 libguide40.lib

C++ benchmarks:

-fast -Qparallel -Qcxx_features /F1000000000 shlw32m.lib
libguide40.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

-fast -Qparallel /F1000000000 libguide40.lib

Benchmarks using both Fortran and C:

-fast -Qparallel /F1000000000 libguide40.lib

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 libguide40.lib
470.lbm: -fast -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000
libguide40.lib
482.sphinx3: -fast -Qunroll2 /F1000000000 libguide40.lib

C++ benchmarks:

444.namd: -fast -Oa -Qcxx_features /F1000000000 shlw32m.lib
libguide40.lib -link /FORCE:MULTIPLE
447.dealII: -fast -Qunroll2 -Qprefetch -Qcxx_features /F1000000000
shlw32m.lib libguide40.lib -link /FORCE:MULTIPLE
450.soplex: -fast -Qparallel -Qcxx_features /F1000000000 shlw32m.lib
libguide40.lib -link /FORCE:MULTIPLE
453.povray: -fast -Qunroll14 -Qcxx_features /F1000000000 shlw32m.lib
libguide40.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -fast -Qparallel -Qprefetch /F1000000000 libguide40.lib
416.gamess: -fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep-
/F1000000000 libguide40.lib
434.zeusmp: -QxT -O2 -Qprec-div- -Qunroll10 -Qscalar-rep- /F1000000000
libguide40.lib

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Peak Optimization Flags (Continued)

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -fast -Qunroll4 -Qauto /F1000000000 libguide40.lib

Benchmarks using both Fortran and C:

435.gromacs: -fast -Oa -Qprefetch /F1000000000 libguide40.lib

436.cactusADM: -fast -Qunroll2 -Qparallel -Qprefetch /F1000000000 libguide40.lib

454.calculix: -fast -Qunroll-aggressive /F1000000000 libguide40.lib

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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