SPEC® CFP2006 Result

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Intel Corporation

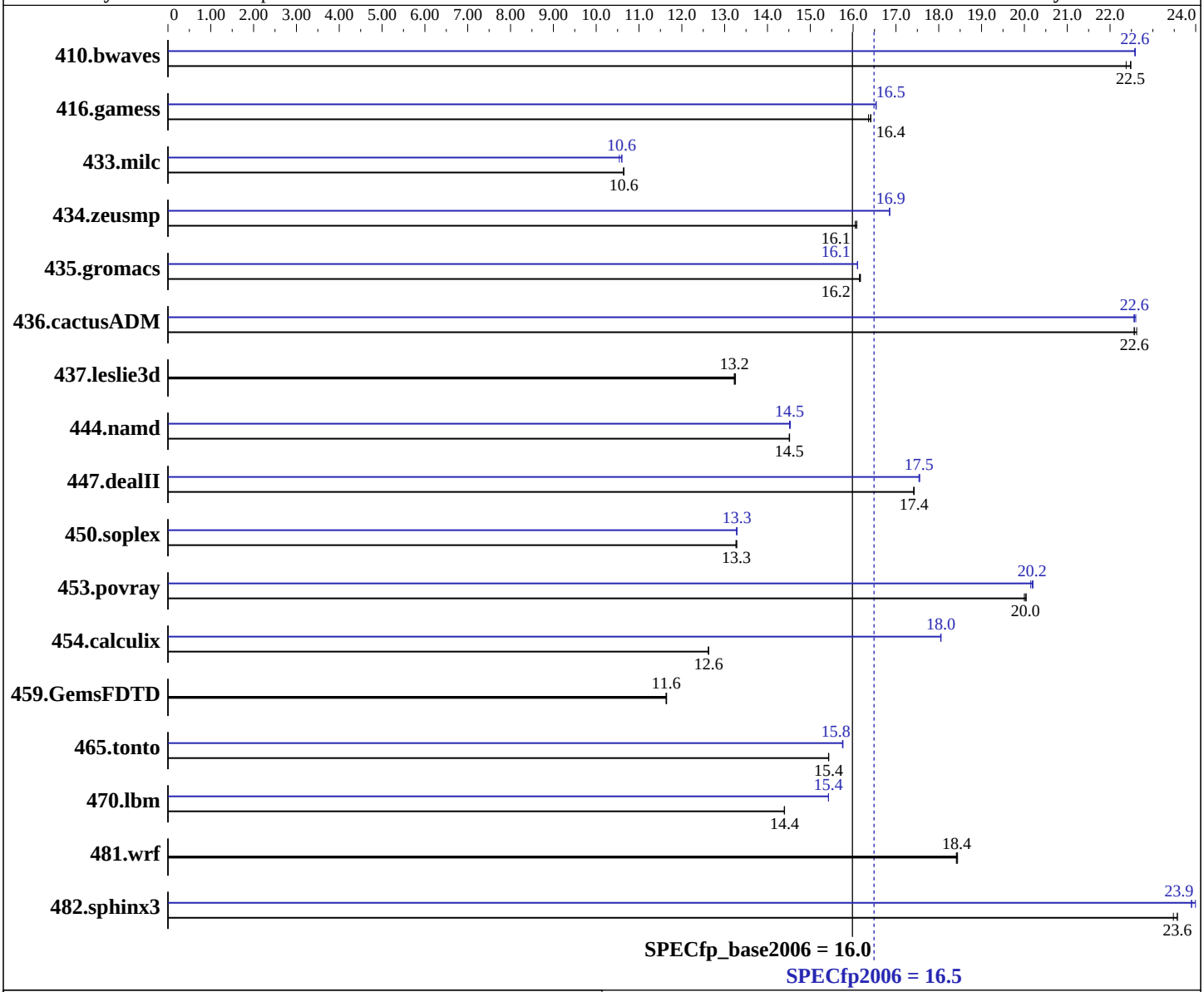
Alienware Area-51 M15x-R1 (Intel Core 2 Extreme X7900)

SPECfp®2006 = 16.5

SPECfp_base2006 = 16.0

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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	607	22.4	**605**	**22.5**	604	22.5	**602**	**22.6**	602	22.6	602	22.6
416.gamess	1197	16.4	**1193**	**16.4**	1193	16.4	**1184**	**16.5**	1184	16.5	1184	16.5
433.milc	863	10.6	**862**	**10.6**	862	10.6	871	10.5	866	10.6	**866**	**10.6**
434.zeusmp	567	16.0	**566**	**16.1**	566	16.1	540	16.9	**540**	**16.9**	540	16.9
435.gromacs	442	16.1	441	16.2	**442**	**16.2**	**443**	**16.1**	443	16.1	443	16.1
436.cactusADM	**530**	**22.6**	530	22.6	528	22.6	530	22.6	529	22.6	**529**	**22.6**
437.leslie3d	**711**	**13.2**	709	13.3	711	13.2	**711**	**13.2**	709	13.3	711	13.2
444.namd	553	14.5	552	14.5	**553**	**14.5**	**552**	**14.5**	552	14.5	552	14.5
447.dealII	657	17.4	**657**	**17.4**	656	17.4	652	17.5	**652**	**17.5**	652	17.6
450.soplex	**628**	**13.3**	629	13.3	628	13.3	628	13.3	628	13.3	**628**	**13.3**
453.povray	266	20.0	265	20.0	**266**	**20.0**	264	20.1	**264**	**20.2**	263	20.2
454.calculix	654	12.6	653	12.6	**653**	**12.6**	457	18.1	457	18.0	**457**	**18.0**
459.GemsFDTD	**912**	**11.6**	912	11.6	911	11.6	**912**	**11.6**	912	11.6	911	11.6
465.tonto	638	15.4	**638**	**15.4**	638	15.4	624	15.8	**624**	**15.8**	625	15.8
470.lbm	955	14.4	954	14.4	**954**	**14.4**	891	15.4	**891**	**15.4**	891	15.4
481.wrf	607	18.4	**606**	**18.4**	606	18.4	607	18.4	**606**	**18.4**	606	18.4
482.sphinx3	830	23.5	**827**	**23.6**	827	23.6	**815**	**23.9**	812	24.0	816	23.9

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 -Qunroll4 -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- -Qunroll0 -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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For other inquiries, please contact webmaster@spec.org.

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