SPEC® CFP2006 Result

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Intel Corporation

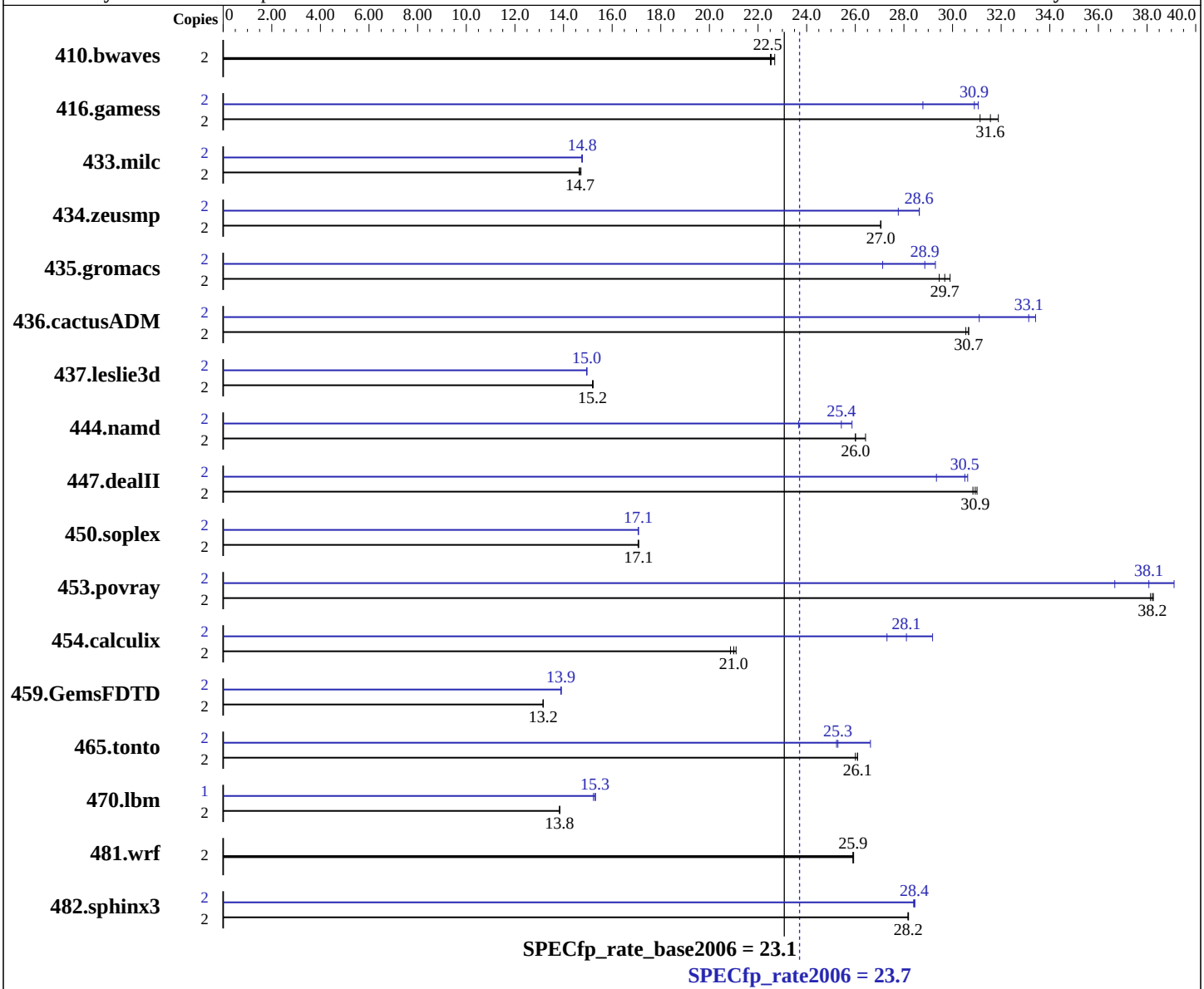
Alienware Area-51 M15x-R1 (Intel Core 2 Extreme X7900)

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

Continued on next page

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- -Qunroll0 -Qscalar-rep- /F1000000000

Continued on next page

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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