SPEC® CFP2006 Result

Dell Inc.

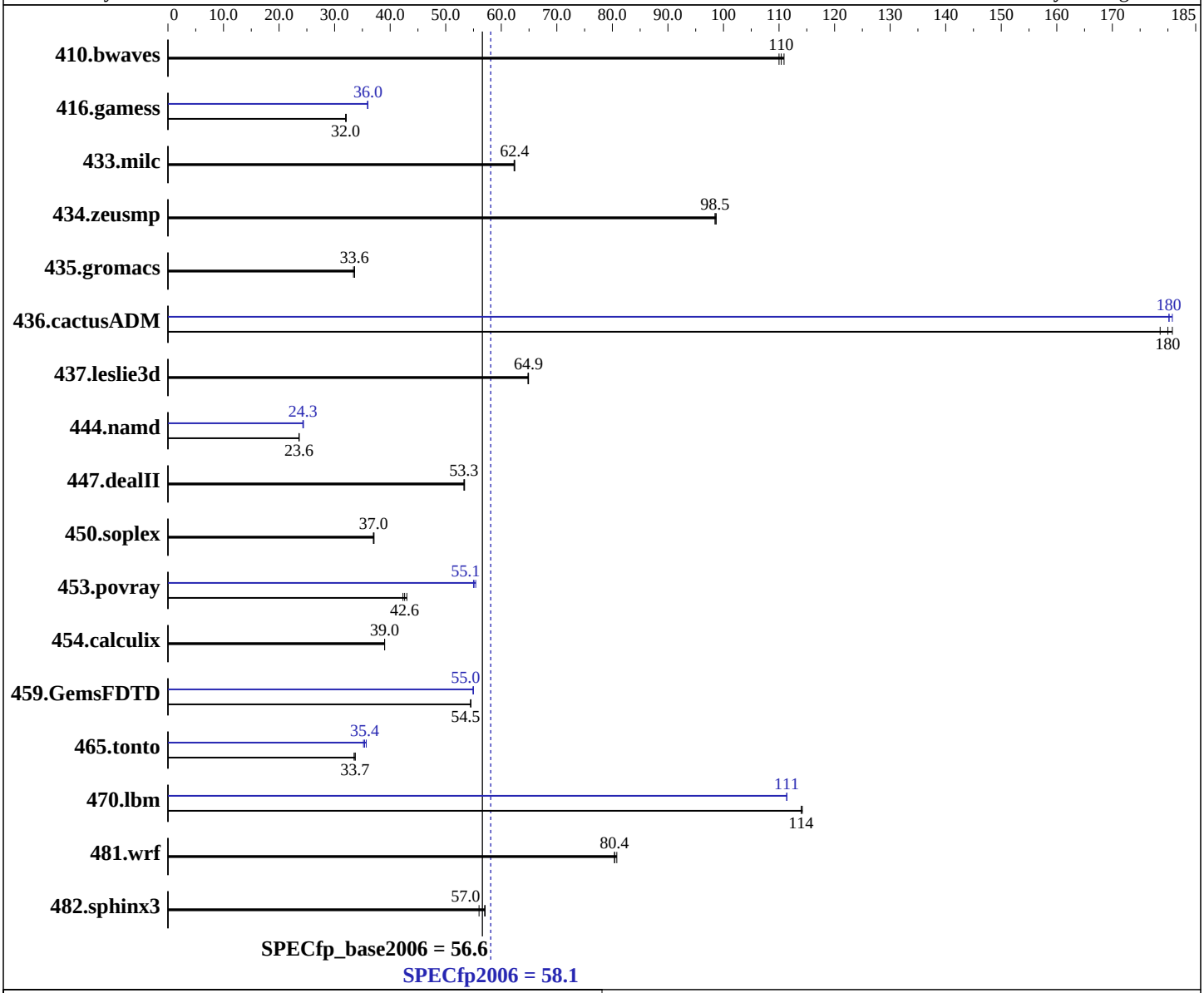
Dell Precision M3800 (Intel(R) Core(R) i7-4702HQ, 2.20 GHz)

SPECfp®2006 = 58.1

SPECfp_base2006 = 56.6

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Nov-2013
Hardware Availability: Nov-2013
Software Availability: Aug-2011



Hardware

CPU Name:	Intel Core i7-4702HQ
CPU Characteristics:	Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software

Operating System:	Windows 7 Professional (64-bit) SP1
Compiler:	C/C++: Version 12.1.0.233 of Intel C++ Studio XE for Windows Fortran: Version 12.1.0.233 of Intel Visual Fortran Compiler for Intel64 C/C++: Version 2010 of Microsoft Visual Studio
Auto Parallel:	Yes
File System:	NTFS
System State:	Default

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L3 Cache:	6 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (2 x 8 GB 1Rx8 PC3L-12800U-11)
Disk Subsystem:	1 x 1 TB SATA III 7200 RPM
Other Hardware:	None

Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	124	110	**123**	**110**	123	111	124	110	**123**	**110**	123	111
416.gamess	**611**	**32.0**	610	32.1	613	32.0	**544**	**36.0**	544	36.0	545	35.9
433.milc	147	62.4	**147**	**62.4**	147	62.3	147	62.4	**147**	**62.4**	147	62.3
434.zeusmp	92.2	98.7	**92.4**	**98.5**	92.4	98.5	92.2	98.7	**92.4**	**98.5**	92.4	98.5
435.gromacs	**213**	**33.6**	212	33.6	214	33.4	**213**	**33.6**	212	33.6	214	33.4
436.cactusADM	66.9	179	66.1	181	**66.4**	**180**	66.1	181	**66.3**	**180**	66.3	180
437.leslie3d	145	64.8	**145**	**64.9**	145	64.9	145	64.8	**145**	**64.9**	145	64.9
444.namd	340	23.6	**340**	**23.6**	340	23.6	329	24.4	**329**	**24.3**	330	24.3
447.dealII	214	53.4	215	53.3	**215**	**53.3**	214	53.4	215	53.3	**215**	**53.3**
450.soplex	**225**	**37.0**	225	37.0	225	37.1	**225**	**37.0**	225	37.0	225	37.1
453.povray	124	43.0	126	42.3	**125**	**42.6**	**96.6**	**55.1**	96.8	55.0	96.1	55.4
454.calculix	212	39.0	**212**	**39.0**	212	39.0	212	39.0	**212**	**39.0**	212	39.0
459.GemsFDTD	195	54.5	**195**	**54.5**	195	54.5	**193**	**55.0**	193	54.9	193	55.0
465.tonto	294	33.5	**292**	**33.7**	292	33.7	**278**	**35.4**	280	35.2	276	35.7
470.lbm	**121**	**114**	121	114	120	114	123	111	**123**	**111**	123	111
481.wrf	139	80.4	138	80.8	**139**	**80.4**	139	80.4	138	80.8	**139**	**80.4**
482.sphinx3	348	56.0	**342**	**57.0**	342	57.1	348	56.0	**342**	**57.0**	342	57.1

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

Operating System Notes

```
OMP_NUM_THREADS=4 (number of cores)
Set power configuration to High Performance and disabled monitor blanking and sleep timer
KMP_AFFINITY=granularity=fine,scatter
```

Platform Notes

```
Sysinfo program c:\cpu2006.v1.2/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on M3800-SPEC-PC Mon Nov 18 22:11:39 2013

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo
```

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Platform Notes (Continued)

```
Trying 'systeminfo'
OS Name       : Microsoft Windows 7 Professional
OS Version    : 6.1.7601 Service Pack 1 Build 7601
System Manufacturer: Dell Inc.
System Model  : Dell Precision M3800
Processor(s)  : 1 Processor(s) Installed.
     [01]: Intel64 Family 6 Model 60 Stepping 3 GenuineIntel ~2201 Mhz
BIOS Version  : Dell Inc. A00, 10/3/2013
Total Physical Memory: 16,287 MB

Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 1024
L3CacheSize   : 6144
MaxClockSpeed : 2201
Name          : Intel(R) Core(TM) i7-4702HQ CPU @ 2.20GHz
NumberOfCores : 4
NumberOfLogicalProcessors: 8

(End of data from sysinfo program)
```

General Notes

Binaries were compiled on a Precision T1600 system with a single Xeon E3-1200 CPU and 16GB memory using Windows 7 Professional 64-bit

Base Compiler Invocation

C benchmarks:
icl -Qvc10 -Qstd=c99

C++ benchmarks:
icl -Qvc10

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc10 -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64 -names:lowercase
416.gamess: -DSPEC_CPU_P64
433.milc: -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -DSPEC_CPU_P64

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Base Portability Flags (Continued)

436.cactusADM: -DSPEC_CPU_P64 -names:lowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_NEED_INVHYP -DNEED_INVHYP
454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -names:lowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-QxAVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F512000000

C++ benchmarks:
-QxAVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 /F512000000 shlw64m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-QxAVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch
/F1000000000

Benchmarks using both Fortran and C:
-QxAVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc10 -Qstd=c99

C++ benchmarks:
icl -Qvc10

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc10 -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: -Qprof_gen(pass 1) -QxAVX(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qansi-alias -Qparallel -Qauto-ilp32 /F512000000

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -Qprof_gen(pass 1) -QxAVX(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F512000000 shlw64m.lib -link /FORCE:MULTIPLE

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -Qprof_gen(pass 1) -QxAVX(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32 /F512000000 shlw64m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -Qprof_gen(pass 1) -QxAVX(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -Qprof_gen(pass 1) -QxAVX(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel /F1000000000

465.tonto: -Qprof_gen(pass 1) -QxAVX(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto -Qinline-calloc /F1000000000

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: -Qprof_gen(pass 1) -QxAVX(pass 2) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qunroll2 -Qauto-ilp32 /F1000000000

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Dell-ic12.1-Windows.html
http://www.spec.org/cpu2006/flags/Dell-platform-Precision.20131217.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Dell-ic12.1-Windows.xml
http://www.spec.org/cpu2006/flags/Dell-platform-Precision.20131217.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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