SPEC® CFP2006 Result

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Dell Inc.

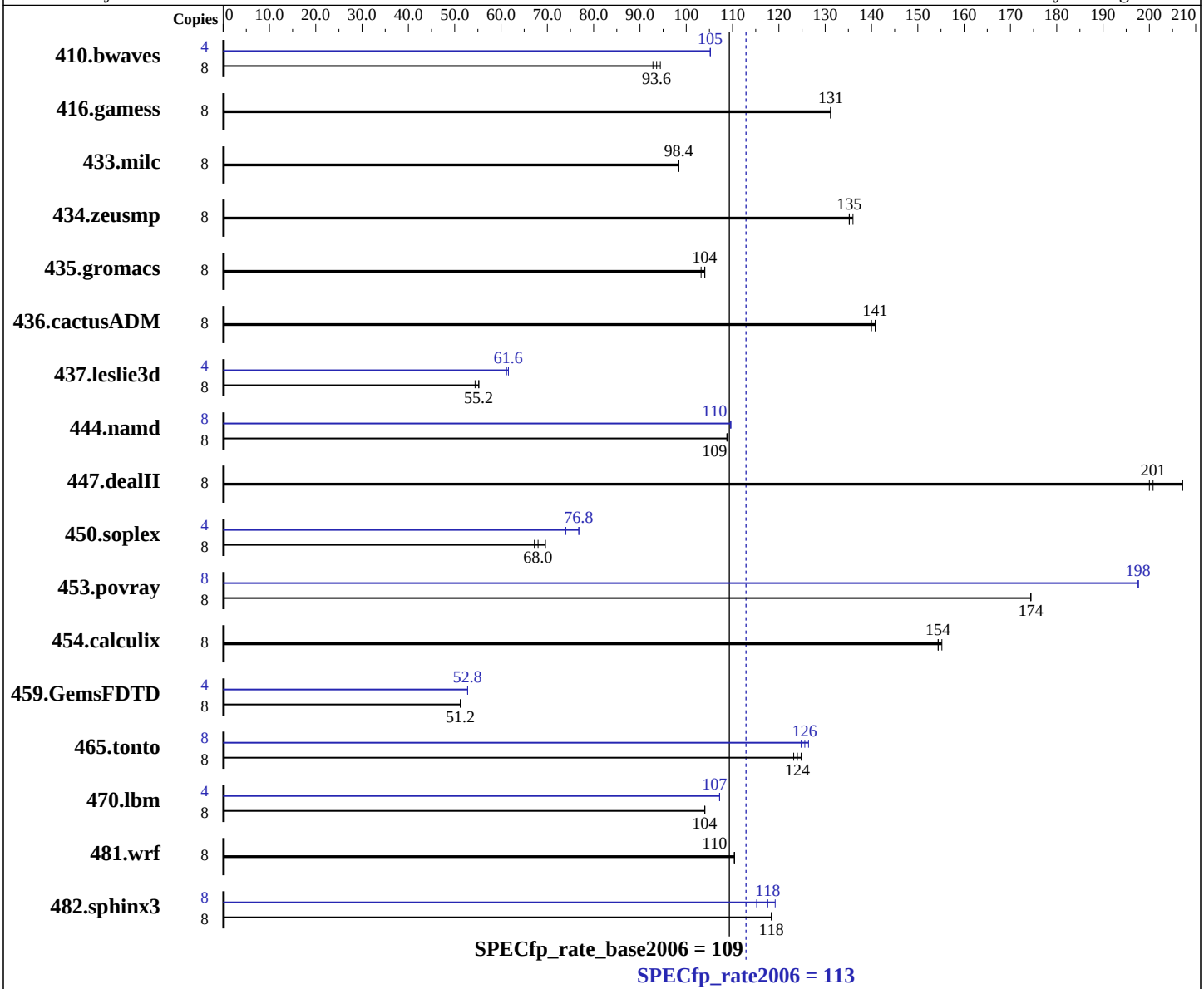
Dell Precision M3800 (Intel(R) Core(R) i7-4702HQ, 2.20 GHz)

SPECfp®_rate2006 = 113

SPECfp_rate_base2006 = 109

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:	No
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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	**1163**	**93.6**	1149	94.4	1168	92.8	4	517	105	**517**	**105**	517	105
416.gamess	8	1195	131	1196	131	**1196**	**131**	8	1195	131	1196	131	**1196**	**131**
433.milc	8	746	98.4	**745**	**98.4**	744	98.4	8	746	98.4	**745**	**98.4**	744	98.4
434.zeusmp	8	538	135	537	136	**538**	**135**	8	538	135	537	136	**538**	**135**
435.gromacs	8	**551**	**104**	550	104	552	103	8	**551**	**104**	550	104	552	103
436.cactusADM	8	684	140	**680**	**141**	679	141	8	684	140	**680**	**141**	679	141
437.leslie3d	8	**1370**	**55.2**	1376	54.4	1368	55.2	4	613	61.2	611	61.6	**612**	**61.6**
444.namd	8	588	109	589	109	**589**	**109**	8	585	110	**584**	**110**	584	110
447.dealII	8	**456**	**201**	442	207	457	200	8	**456**	**201**	442	207	457	200
450.soplex	8	987	67.2	**976**	**68.0**	955	69.6	4	450	74.0	434	76.8	**434**	**76.8**
453.povray	8	244	174	**244**	**174**	244	174	8	215	198	**215**	**198**	215	198
454.calculix	8	**427**	**154**	426	155	429	154	8	**427**	**154**	426	155	429	154
459.GemsFDTD	8	1661	51.2	1657	51.2	**1657**	**51.2**	4	802	52.8	802	52.8	**802**	**52.8**
465.tonto	8	632	125	639	123	**633**	**124**	8	**627**	**126**	624	126	629	125
470.lbm	8	**1055**	**104**	1056	104	1055	104	4	513	107	513	107	**513**	**107**
481.wrf	8	**810**	**110**	810	110	810	110	8	**810**	**110**	810	110	810	110
482.sphinx3	8	1320	118	**1319**	**118**	1315	118	8	**1324**	**118**	1307	119	1350	115

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

Submit Notes

```
The config file option 'submit' was used.
```

Operating System Notes

```
Set power configuration to High Performance and disabled monitor blanking and sleep timer
```

Platform Notes

```
Sysinfo program c:\cpu2006.v1.2/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on M3800-SPEC-PC Tue Nov 19 16:14:56 2013

This section contains SUT (System Under Test) info as seen by
```

Continued on next page

Platform Notes (Continued)

```
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

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`

Continued on next page

Base Portability Flags (Continued)

433.milc: -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -DSPEC_CPU_P64
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- -Qansi-alias -Qauto-ilp32 /F512000000

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

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

Benchmarks using both Fortran and C:
-QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -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: -QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias -Qauto-ilp32 /F512000000

482.sphinx3: -QxAVX -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qauto-ilp32 /F512000000

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

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

Fortran benchmarks:

410.bwaves: -QxAVX -Qipo -O3 -Qprec-div- -Qansi-alias /F1000000000

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: Same as 410.bwaves

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

Benchmarks using both Fortran and C:

Continued on next page

Peak Optimization Flags (Continued)

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

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

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

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