SPEC® CFP2006 Result

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Dell Inc.

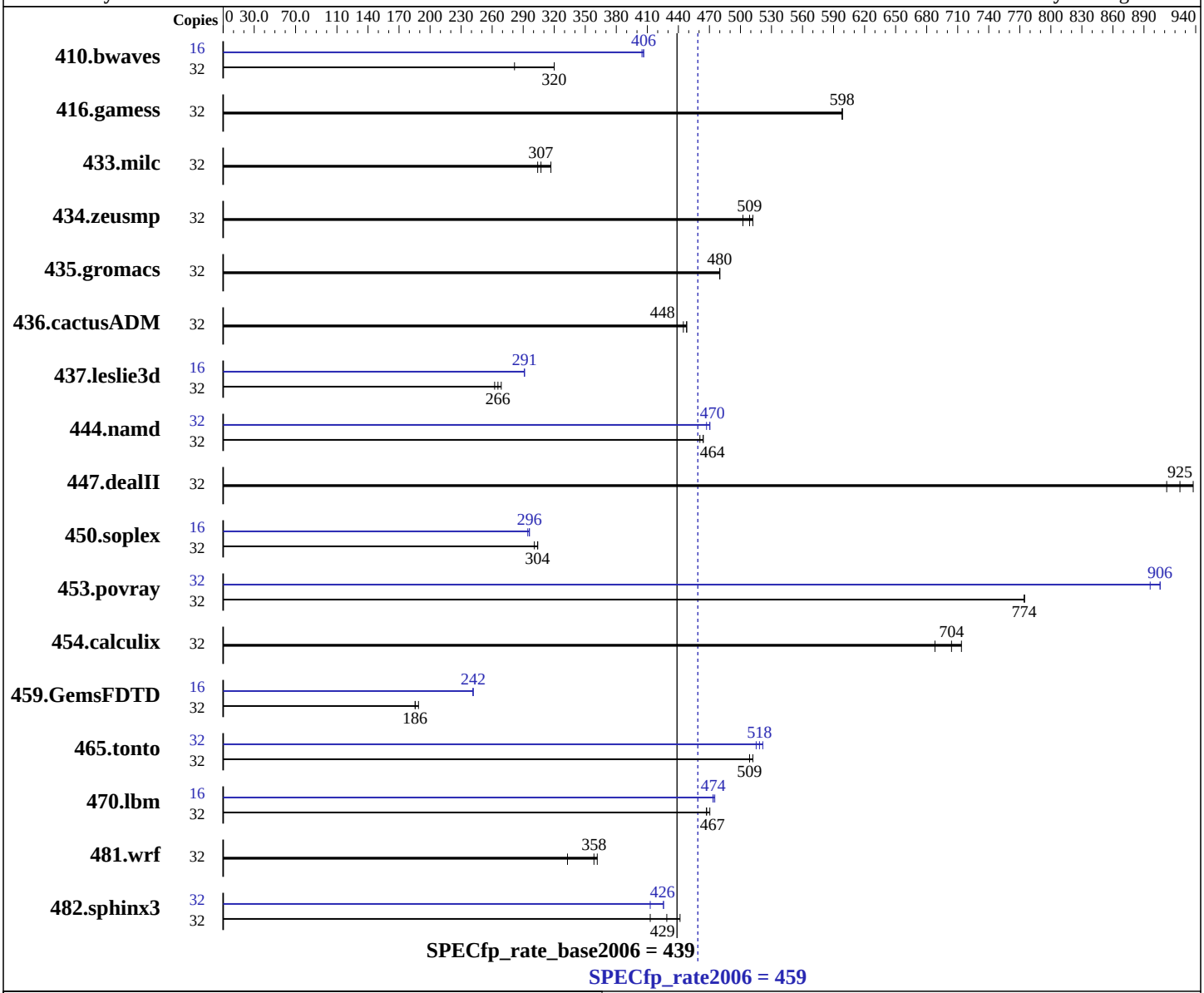
DELL Precision T7600 (Intel Xeon E5-2687W, 3.10GHz)

SPECfp®_rate2006 = 459

SPECfp_rate_base2006 = 439

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

Test date: Jan-2013
Hardware Availability: Aug-2012
Software Availability: Aug-2011



Hardware

CPU Name:	Intel Xeon E5-2687W
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	3100
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chips
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)
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: 20 MB I+D on chip per chip
Other Cache: None
Memory: 64 GB (8 x 8 GB 2Rx4 PC3-12800R-9, ECC)
Disk Subsystem: 1 x 250 GB SATAIII 7200 RPM
Other Hardware: None

Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap Library 10.0

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	32	1546	282	**1357**	**320**	1356	320	16	**535**	**406**	535	406	537	405
416.gamess	32	**1047**	**598**	1046	598	1047	598	32	**1047**	**598**	1046	598	1047	598
433.milc	32	964	304	931	317	**956**	**307**	32	964	304	931	317	**956**	**307**
434.zeusmp	32	569	512	**573**	**509**	581	502	32	569	512	**573**	**509**	581	502
435.gromacs	32	**478**	**480**	477	480	478	480	32	**478**	**480**	477	480	478	480
436.cactusADM	32	858	445	852	448	**856**	**448**	32	858	445	852	448	**856**	**448**
437.leslie3d	32	1122	269	**1136**	**266**	1140	262	16	518	291	**518**	**291**	518	291
444.namd	32	**555**	**464**	558	461	552	464	32	544	470	**546**	**470**	550	467
447.dealII	32	401	912	**396**	**925**	390	938	32	401	912	**396**	**925**	390	938
450.soplex	32	883	301	**882**	**304**	881	304	16	**452**	**296**	452	296	452	294
453.povray	32	220	774	**220**	**774**	220	774	32	188	906	**188**	**906**	190	896
454.calculix	32	**375**	**704**	383	688	370	714	32	**375**	**704**	383	688	370	714
459.GemsFDTD	32	**1820**	**186**	1838	186	1803	189	16	**701**	**242**	701	242	701	242
465.tonto	32	615	512	620	509	**619**	**509**	32	612	515	**608**	**518**	604	522
470.lbm	32	939	467	**938**	**467**	937	470	16	465	474	463	475	**464**	**474**
481.wrf	32	**1000**	**358**	1074	333	989	362	32	**1000**	**358**	1074	333	989	362
482.sphinx3	32	1410	442	**1455**	**429**	1509	413	32	1506	413	1461	426	**1467**	**426**

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.
```

Platform Notes

```
Sysinfo program C:\cpu2006.v1.2/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ \8787f7622badcf24e01c368b1db4377c
running on Spec-PC Sat Jan 19 17:29:19 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

Trying 'systeminfo'
OS Name       : Microsoft Windows 7 Professional
```

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Platform Notes (Continued)

```
 OS Version    : 6.1.7601 Service Pack 1 Build 7601
 System Manufacturer: Dell Inc.
 System Model  : Precision T7600
 Processor(s)  : 2 Processor(s) Installed.
      [01]: Intel64 Family 6 Model 45 Stepping 6 GenuineIntel ~3069 Mhz
      [02]: Intel64 Family 6 Model 45 Stepping 6 GenuineIntel ~2294 Mhz
 BIOS Version  : Dell Inc. A05, 11/8/2012
 Total Physical Memory: 65,462 MB

 Trying 'wmic cpu get /value'
 DeviceID      : CPU0
 L2CacheSize   : 2048
 L3CacheSize   : 4096
 MaxClockSpeed : 3101
 Name          : Intel(R) Xeon(R) CPU E5-2687W 0 @ 3.10GHz
 NumberOfCores : 8
 NumberOfLogicalProcessors: 16
 DeviceID      : CPU1
 L2CacheSize   : 2048
 L3CacheSize   : 4096
 MaxClockSpeed : 3101
 Name          : Intel(R) Xeon(R) CPU E5-2687W 0 @ 3.10GHz
 NumberOfCores : 8
 NumberOfLogicalProcessors: 16

 (End of data from sysinfo program)
```

General Notes

```
 Binaries were built on Windows 7 Professional (64-bit)

Submitted_by: <Alex_Shows@DELL.com>
Submitted: Mon Feb 11 17:38:59 EST 2013
Submission: cpu2006-20130211-25515.sub
```

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
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.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.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 15:20:11 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 February 2013.