SPEC® CFP2006 Result

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Dell Inc.

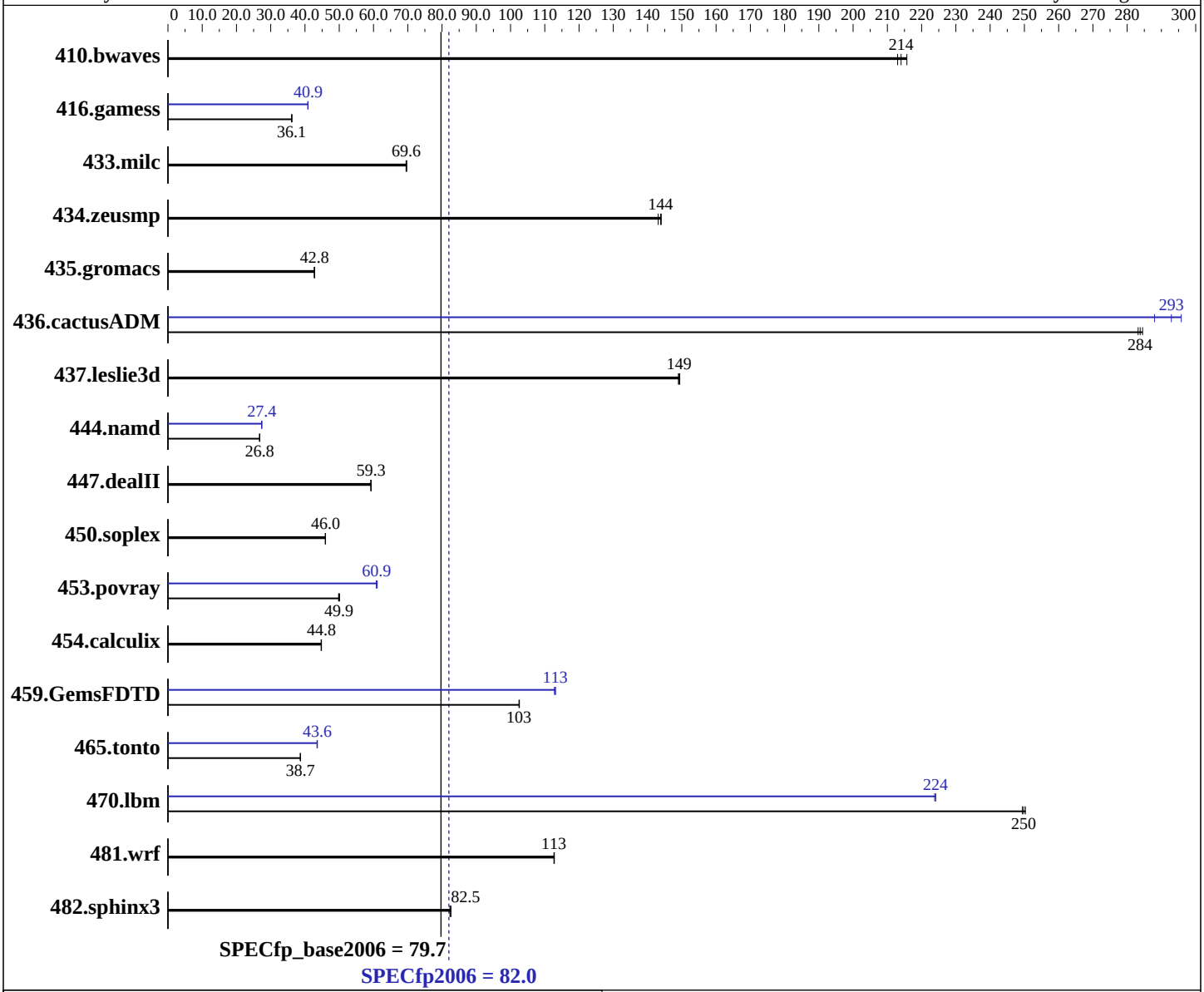
Dell Precision T3610 (Intel Xeon E5-1650 v2, 3.50 GHz)

SPECfp®2006 = 82.0

SPECfp_base2006 = 79.7

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

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



Hardware

CPU Name:	Intel Xeon E5-1650 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.90 GHz
CPU MHz:	3500
FPU:	Integrated
CPU(s) enabled:	6 cores, 1 chip, 6 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: 12 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (8 x 4 GB 1Rx8 PC3-14900R-13, ECC)
Disk Subsystem: 1 x 500 GB 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	63.8	213	**63.5**	**214**	63.0	216	63.8	213	**63.5**	**214**	63.0	216
416.gamess	541	36.2	543	36.1	**542**	**36.1**	480	40.8	478	40.9	**479**	**40.9**
433.milc	132	69.7	**132**	**69.6**	132	69.5	132	69.7	**132**	**69.6**	132	69.5
434.zeusmp	63.2	144	**63.3**	**144**	63.6	143	63.2	144	**63.3**	**144**	63.6	143
435.gromacs	167	42.8	167	42.7	**167**	**42.8**	167	42.8	167	42.7	**167**	**42.8**
436.cactusADM	42.0	285	**42.1**	**284**	42.2	283	41.5	288	40.4	296	**40.8**	**293**
437.leslie3d	62.9	149	**63.0**	**149**	63.1	149	62.9	149	**63.0**	**149**	63.1	149
444.namd	**300**	**26.8**	300	26.8	300	26.7	294	27.3	**293**	**27.4**	293	27.4
447.dealII	193	59.3	**193**	**59.3**	193	59.2	193	59.3	**193**	**59.3**	193	59.2
450.soplex	182	45.9	181	46.0	**181**	**46.0**	182	45.9	181	46.0	**181**	**46.0**
453.povray	**107**	**49.9**	106	50.1	107	49.8	**87.4**	**60.9**	87.1	61.1	87.5	60.8
454.calculix	184	44.8	**184**	**44.8**	184	44.7	184	44.8	**184**	**44.8**	184	44.7
459.GemsFDTD	**104**	**103**	104	103	103	103	94.1	113	93.8	113	**93.8**	**113**
465.tonto	**255**	**38.7**	255	38.6	254	38.7	226	43.6	**226**	**43.6**	226	43.5
470.lbm	**55.0**	**250**	55.1	249	54.9	250	61.3	224	61.4	224	**61.3**	**224**
481.wrf	**99.1**	**113**	99.1	113	99.0	113	**99.1**	**113**	99.1	113	99.0	113
482.sphinx3	**236**	**82.5**	237	82.3	236	82.6	**236**	**82.5**	237	82.3	236	82.6

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

Operating System Notes

```
OMP_NUM_THREADS=6 (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 T3610-GLDN-PC Tue Nov 19 19:56:14 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  : Precision T3610
Processor(s)  : 1 Processor(s) Installed.
     [01]: Intel64 Family 6 Model 62 Stepping 4 GenuineIntel ~3501 Mhz
BIOS Version  : Dell Inc. A03, 9/5/2013
Total Physical Memory: 32,712 MB

Trying 'wmic cpu get /value'
DeviceID      : CPU0
L2CacheSize   : 1536
L3CacheSize   : 12288
MaxClockSpeed : 3501
Name          : Intel(R) Xeon(R) CPU E5-1650 v2 @ 3.50GHz
NumberOfCores : 6
NumberOfLogicalProcessors: 12

(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

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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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