SPEC® CFP2006 Result

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Dell Inc.

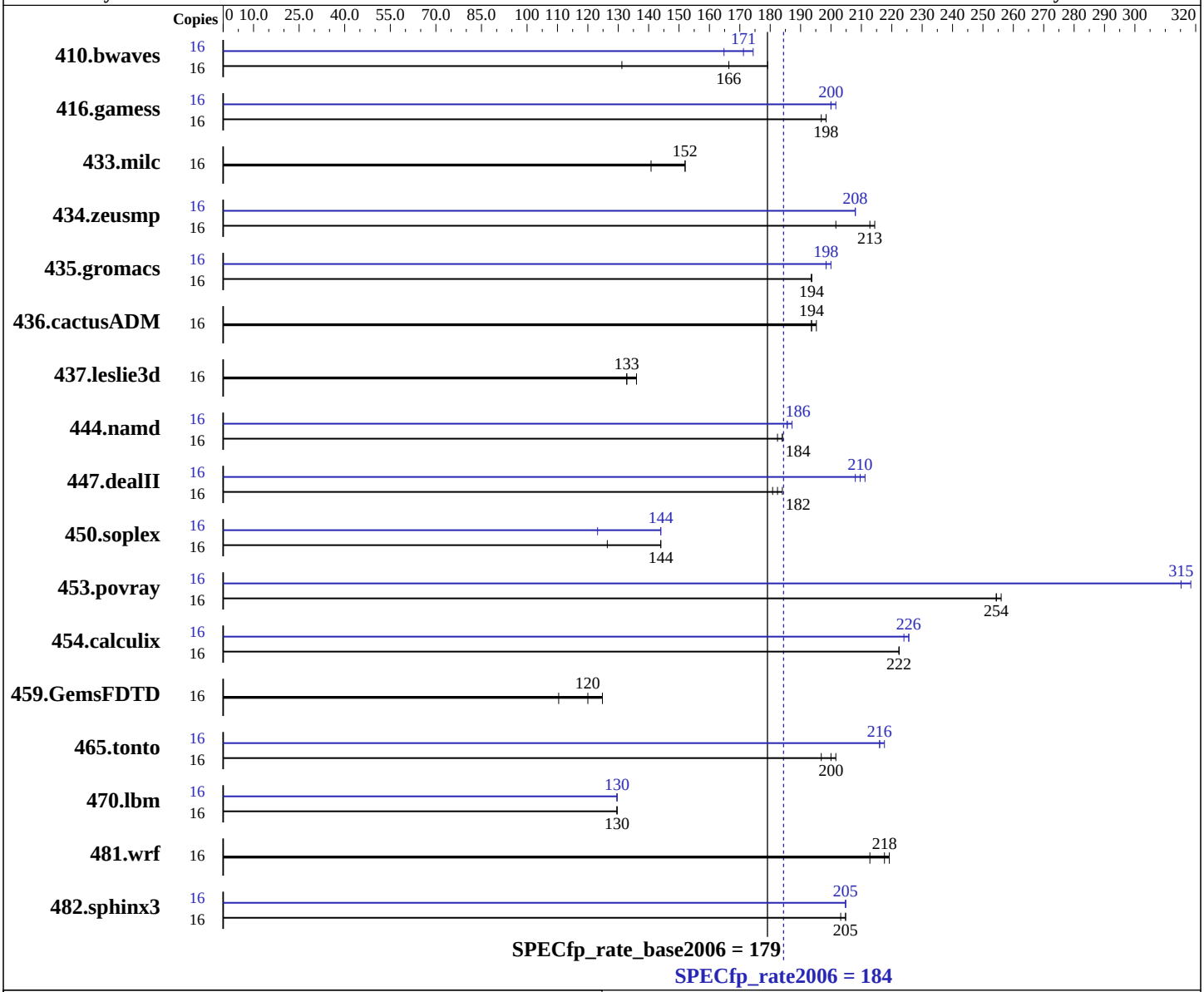
Dell Precision T7500 (Intel Xeon X5570, 2.93 GHz)

SPECfp®_rate2006 = 184

SPECfp_rate_base2006 = 179

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

Test date: Mar-2009
Hardware Availability: Apr-2009
Software Availability: Feb-2009



Hardware

CPU Name:	Intel Xeon X5570
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 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 Vista Business SP1 (64-bit)
Compiler:	Intel C++ Compiler for Intel 64, Version 11.0 Build 20090131 Package ID: w_cproc_p_11.0.072 Intel Visual Fortran Compiler for Intel 64, Version 11.0 Build 20090131 Package ID: w_cprof_p_11.0.072 Microsoft Visual Studio 2008 SP1
Auto Parallel:	No
File System:	NTFS

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L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (6x4 GB DDR3-1333R, ECC, CL9)
Disk Subsystem:	1 x 146 GB SAS 15000 RPM
Other Hardware:	None

System State:	Default
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library 8.1 for x64

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	1660	131	1211	179	**1308**	**166**	16	**1271**	**171**	1241	174	1318	165
416.gamess	16	1575	198	1589	197	**1579**	**198**	16	1566	200	1558	202	**1562**	**200**
433.milc	16	1038	141	**971**	**152**	971	152	16	1038	141	**971**	**152**	971	152
434.zeusmp	16	721	202	**686**	**213**	681	214	16	701	208	703	208	**702**	**208**
435.gromacs	16	589	194	588	194	**588**	**194**	16	573	200	**578**	**198**	578	198
436.cactusADM	16	977	195	**985**	**194**	988	194	16	977	195	**985**	**194**	988	194
437.leslie3d	16	1105	136	1137	133	**1128**	**133**	16	1105	136	1137	133	**1128**	**133**
444.namd	16	**700**	**184**	703	182	700	184	16	688	187	**689**	**186**	692	186
447.dealII	16	1010	181	994	184	**1002**	**182**	16	**870**	**210**	866	211	878	208
450.soplex	16	1053	126	**926**	**144**	924	144	16	1076	123	924	144	**924**	**144**
453.povray	16	**334**	**254**	334	254	332	256	16	**270**	**315**	268	318	270	315
454.calculix	16	593	222	594	222	**593**	**222**	16	**587**	**226**	588	224	587	226
459.GemsFDTD	16	1538	110	1364	125	**1417**	**120**	16	1538	110	1364	125	**1417**	**120**
465.tonto	16	**790**	**200**	784	202	799	197	16	**730**	**216**	725	218	730	216
470.lbm	16	1700	130	**1702**	**130**	1706	130	16	**1704**	**130**	1701	130	1706	130
481.wrf	16	840	213	817	219	**820**	**218**	16	840	213	817	219	**820**	**218**
482.sphinx3	16	1530	203	**1520**	**205**	1520	205	16	1528	205	**1519**	**205**	1518	205

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

```
BIOS Settings
  Memory Node Interleaving set to NUMA.
  Hyper-Threading Technology set to ON.
```

General Notes

```
Binaries were built on Windows Vista Business (64-bit)
```

Base Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64 /assume:underscore
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 -Qlowercase /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_WINDOWS_ICL
454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
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:
-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F512000000

C++ benchmarks:
-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qopt-prefetch
-Qcxx_features /F512000000 shlw64mt.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F1000000000

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
`-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000`

Peak Compiler Invocation

C benchmarks:
`icl -Qvc9 -Qstd=c99`

C++ benchmarks:
`icl -Qvc9`

Fortran benchmarks:
`ifort`

Benchmarks using both Fortran and C:
`icl -Qvc9 -Qstd=c99 ifort`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:

433.milc: `basepeak = yes`

470.lbm: `-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000`

482.sphinx3: `-QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- -Qunroll2 /F512000000`

C++ benchmarks:

444.namd: `-Qprof_gen`(pass 1) `-QxSSE4.2`(pass 2) `-Qauto-ilp32`(pass 2) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Oa /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE`

447.dealII: `-Qprof_gen`(pass 1) `-QxSSE4.2`(pass 2) `-Qauto-ilp32`(pass 2) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qscalar-rep- /F512000000 shlw64mt.lib -link /FORCE:MULTIPLE`

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Peak Optimization Flags (Continued)

450.soplex: -Qprof_gen(pass 1) -QxSSE4.2 -Qauto-ilp32
-Qprof_use(pass 2) -Qipo -O3 -Qprec-div- /F512000000
shlw64mt.lib -link /FORCE:MULTIPLE

453.povray: -Qprof_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)
-Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4
-Qansi-alias /F512000000 shlw64mt.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div-
-Qopt-prefetch /F1000000000

416.gamess: -Qprof_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)
-Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0
-Qansi-alias -Qscalar-rep- /F1000000000

434.zeusmp: -Qprof_gen(pass 1) -QxSSE4.2 -Qauto-ilp32
-Qprof_use(pass 2) -Qipo -O3 -Qprec-div- /F1000000000

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -Qprof_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)
-Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto
/F1000000000

Benchmarks using both Fortran and C:

435.gromacs: -Qprof_gen(pass 1) -QxSSE4.2(pass 2) -Qauto-ilp32(pass 2)
-Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F1000000000

436.cactusADM: basepeak = yes

454.calculix: -QxSSE4.2 -Qauto-ilp32 -Qipo -O3 -Qprec-div- /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/dell.ic11.0.windows.flags.20090710.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/dell.ic11.0.windows.flags.20090710.xml

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