



SPEC® CFP2006 Result

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Dell Inc.

SPECfp®_rate2006 = 218

Precision 7710 (Intel Xeon E3-1575M v5, 3.00 GHz)

SPECfp_rate_base2006 = 211

CPU2006 license: 55

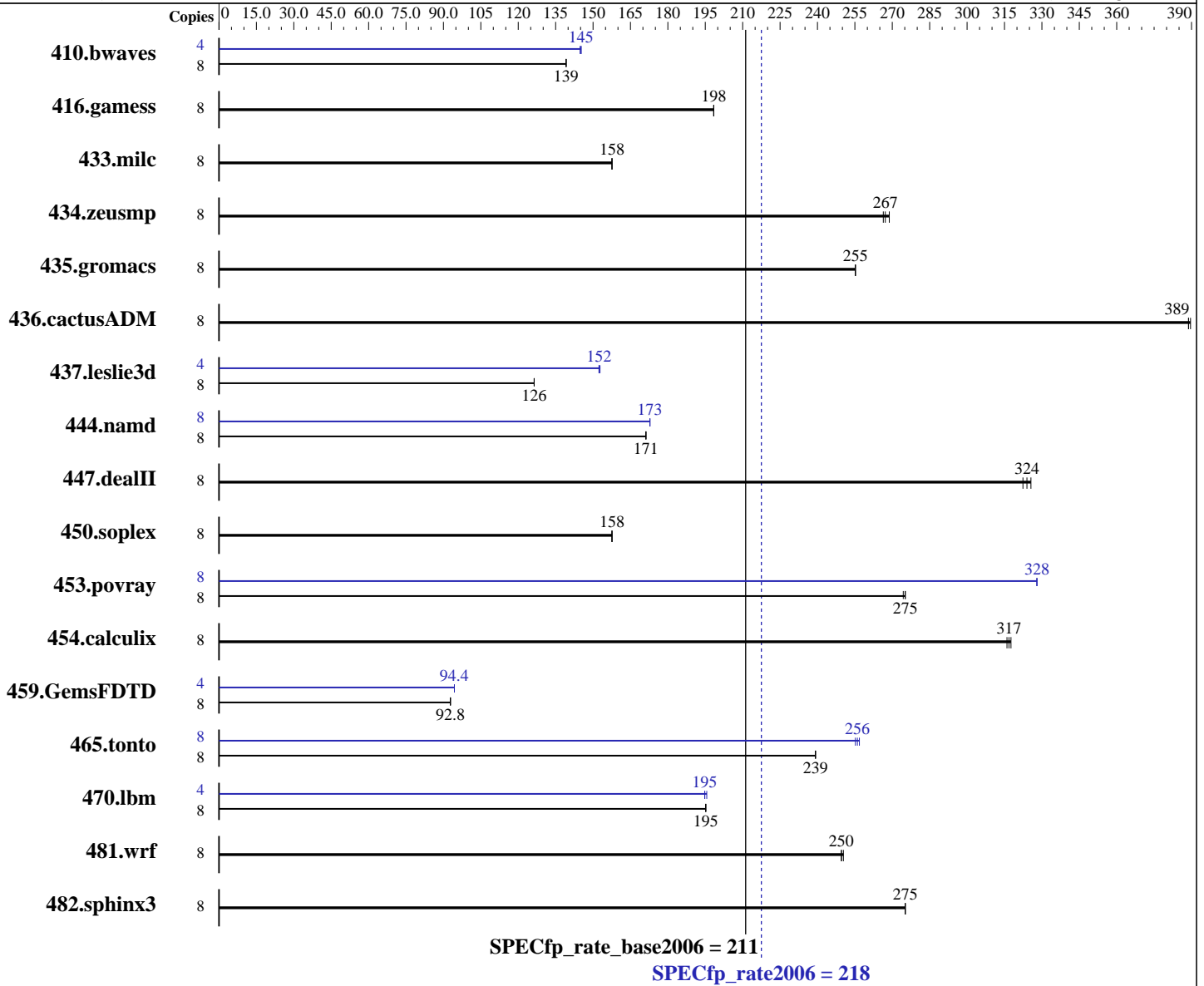
Test date: Aug-2016

Test sponsor: Dell Inc.

Hardware Availability: Aug-2016

Tested by: Dell Inc.

Software Availability: Aug-2016



Hardware

CPU Name: Intel Xeon E3-1575M v5
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
 CPU MHz: 3000
 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

Continued on next page

Software

Operating System: Microsoft Windows 10 Pro
 Build 10586
 Compiler: C/C++: Version 16.0.0.110 of Intel C++ Studio XE for Windows;
 Fortran: Version 16.0.0.110 of Intel Fortran Studio XE for Windows;
 Libraries: Version 18.00.30723 of Microsoft Visual Studio 2013
 Auto Parallel: No

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L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 64 GB (4 x 16 GB 2Rx4 PC4-2133P-E)
 Disk Subsystem: 512 GB Samsung NVMe SSD
 Other Hardware: None

File System: NTFS
 System State: Default
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap Library Version 11.0 from <http://www.microquill.com/>

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	781	139	<u>780</u>	<u>139</u>	780	139	4	376	145	374	145	<u>374</u>	<u>145</u>
416.gamess	8	791	198	789	198	<u>789</u>	<u>198</u>	8	791	198	789	198	<u>789</u>	<u>198</u>
433.milc	8	<u>466</u>	<u>158</u>	466	158	465	158	8	<u>466</u>	<u>158</u>	466	158	465	158
434.zeusmp	8	<u>272</u>	<u>267</u>	274	266	271	269	8	<u>272</u>	<u>267</u>	274	266	271	269
435.gromacs	8	224	255	224	255	<u>224</u>	<u>255</u>	8	224	255	224	255	<u>224</u>	<u>255</u>
436.cactusADM	8	<u>246</u>	<u>389</u>	246	390	246	389	8	<u>246</u>	<u>389</u>	246	390	246	389
437.leslie3d	8	595	126	595	126	<u>595</u>	<u>126</u>	4	<u>247</u>	<u>152</u>	247	152	246	153
444.namd	8	375	171	375	171	<u>375</u>	<u>171</u>	8	372	173	<u>372</u>	<u>173</u>	372	173
447.dealII	8	<u>282</u>	<u>324</u>	284	322	281	326	8	<u>282</u>	<u>324</u>	284	322	281	326
450.soplex	8	<u>424</u>	<u>158</u>	424	158	423	158	8	<u>424</u>	<u>158</u>	424	158	423	158
453.povray	8	155	274	155	275	<u>155</u>	<u>275</u>	8	<u>130</u>	<u>328</u>	130	328	130	328
454.calculix	8	<u>208</u>	<u>317</u>	208	318	209	316	8	<u>208</u>	<u>317</u>	208	318	209	316
459.GemsFDTD	8	914	92.8	<u>914</u>	<u>92.8</u>	913	92.8	4	<u>450</u>	<u>94.4</u>	450	94.4	449	94.4
465.tonto	8	329	239	330	239	<u>329</u>	<u>239</u>	8	<u>307</u>	<u>256</u>	307	257	308	255
470.lbm	8	<u>564</u>	<u>195</u>	564	195	563	195	4	282	195	<u>282</u>	<u>195</u>	281	196
481.wrf	8	358	250	357	250	<u>358</u>	<u>250</u>	8	358	250	357	250	<u>358</u>	<u>250</u>
482.sphinx3	8	<u>567</u>	<u>275</u>	567	275	566	275	8	<u>567</u>	<u>275</u>	567	275	566	275

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

Compiler Invocation Notes

To compile these binaries, the Intel Compiler 16.0 was set up to generate 64-bit binaries with the command:
 "psxevars.bat intel64" (shortcut provided in the Intel(r) Parallel Studio XE 2016 program folder)

Submit Notes

The config file option 'submit' was used.



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Platform Notes

Sysinfo program c:\CPU200~1.0-2/Docs/sysinfo
\$Rev: 6775 \$ \$Date:: 2011-08-16 # \$ \8787f7622badcf24e01c368b1db4377c
running on DESKTOP-DQ7JMF0 Thu Aug 11 02:14:23 2016

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 10 Pro
OS Version : 10.0.10586 N/A Build 10586
System Manufacturer: Dell Inc.
System Model : Precision 7710
Processor(s) : 1 Processor(s) Installed.
 [01]: Intel64 Family 6 Model 94 Stepping 3 GenuineIntel ~3000 Mhz
BIOS Version : Dell Inc. 01.06.06, 7/27/2016
Total Physical Memory: 65,420 MB

Trying 'wmic cpu get /value'

DeviceID : CPU0
L2CacheSize : 1024
L3CacheSize : 8192
MaxClockSpeed : 3000
Name : Intel(R) Xeon(R) CPU E3-1575M v5 @ 3.00GHz
NumberOfCores : 4
NumberOfLogicalProcessors: 8

(End of data from sysinfo program)

General Notes

450.soplex (base): "getline_test" src.alt was used.
447.dealII (base): "max_prototype" src.alt was used.
447.dealII (base): "cxx11_make_pair" src.alt was used.
450.soplex (base): "getline_test" src.alt was used.
447.dealII (base): "max_prototype" src.alt was used.
447.dealII (base): "cxx11_make_pair" src.alt was used.

Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU
+ 64GB memory using Windows 8.1 Enterprise 64-bit

Base Compiler Invocation

C benchmarks:
icl -Qvc12 -Qstd=c99

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Base Compiler Invocation (Continued)

C++ benchmarks:

icl -Qvc12

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icl -Qvc12 -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
 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
 -DSPEC_CPU_BOOST_CONFIG_MSC_VER -DSPEC_NEED_ALGORITHM
 450.soplex: -DSPEC_CPU_P64 -DSPEC_GETLINE_TEST
 453.povray: -DSPEC_CPU_P64
 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:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 shlw64M.lib -link /FORCE:MULTIPLE

C++ benchmarks:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
/F1000000000 shlw64M.lib -link /FORCE:MULTIPLE

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

`-QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE`

Peak Compiler Invocation

C benchmarks:

`icl -Qvc12 -Qstd=c99`

C++ benchmarks:

`icl -Qvc12`

Fortran benchmarks:

`ifort`

Benchmarks using both Fortran and C:

`icl -Qvc12 -Qstd=c99 ifort`

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: `-QxCORE-AVX2 -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qansi-alias -Qopt-prefetch -Qauto-ilp32
/F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE`

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: `-QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000
sh1W64M.lib -link /FORCE:MULTIPLE`

447.dealII: basepeak = yes

450.soplex: basepeak = yes

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Peak Optimization Flags (Continued)

453.povray: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 sh1W64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -QxCORE-AVX2 -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo
-O3 -Qprec-div- -Qansi-alias -Qopt-prefetch /F1000000000
sh1W64M.lib -link /FORCE:MULTIPLE

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: Same as 410.bwaves

465.tonto: -QxCORE-AVX2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000
sh1W64M.lib -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-windows.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-windows.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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