



# SPEC® CINT2006 Result

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Dell Inc.

SPECint®\_rate2006 = 268

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

SPECint\_rate\_base2006 = 252

CPU2006 license: 55

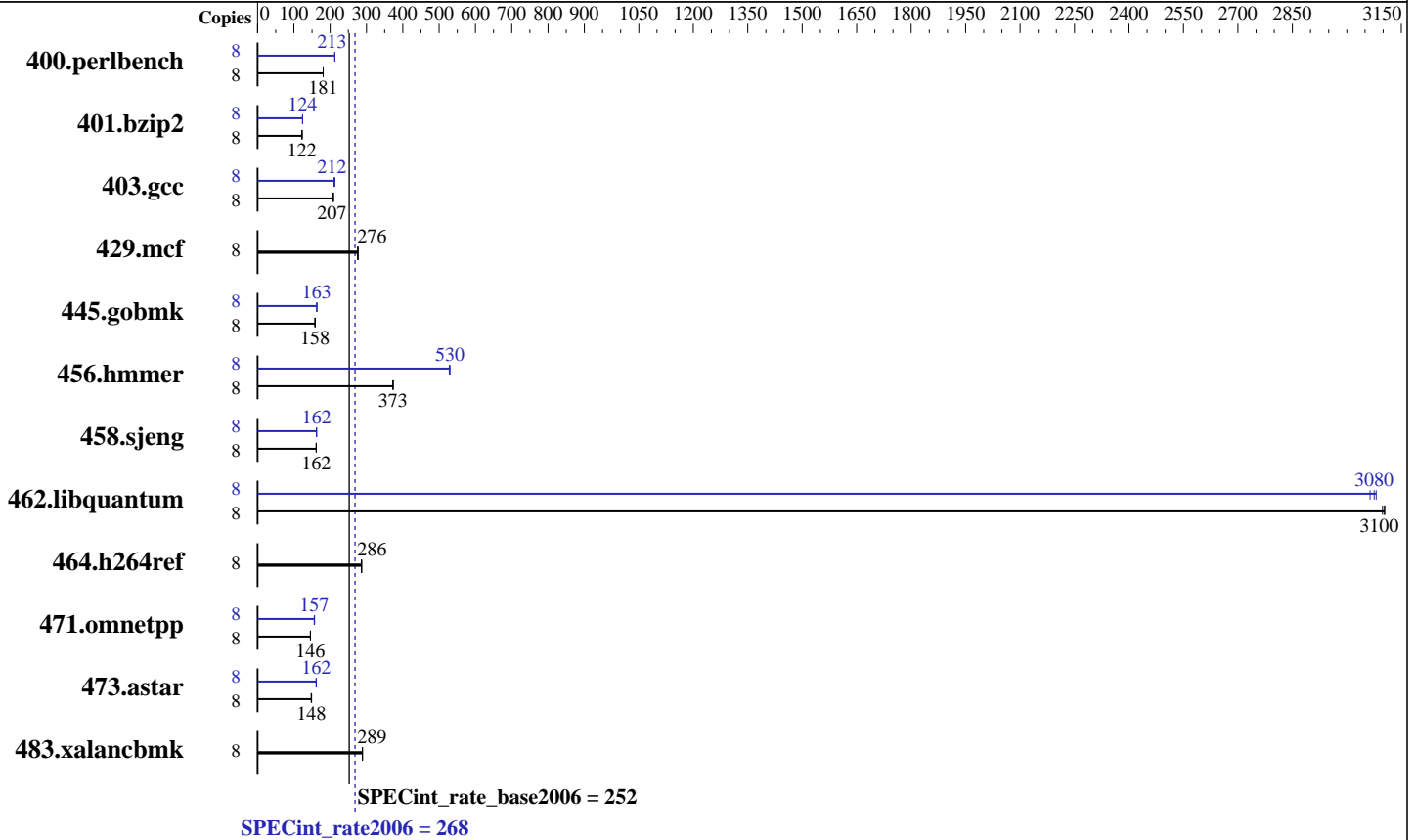
Test date: Aug-2016

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  
 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

## Software

Operating System: Microsoft Windows 10 Pro  
 Build 10586  
 Compiler: C/C++: Version 16.0.0.110 of Intel C++ Studio XE for Windows;  
 Libraries: Version 18.00.30723 of Microsoft Visual Studio 2013  
 Auto Parallel: No  
 File System: NTFS  
 System State: Default  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap Library Version 11.0 from <http://www.microquill.com/>



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	433	181	<b>433</b>	<b>181</b>	433	181	8	367	213	367	213	<b>367</b>	<b>213</b>
401.bzip2	8	632	122	631	122	<b>631</b>	<b>122</b>	8	621	124	621	124	<b>621</b>	<b>124</b>
403.gcc	8	308	210	<b>310</b>	<b>207</b>	310	207	8	306	210	303	213	<b>304</b>	<b>212</b>
429.mcf	8	264	276	264	277	<b>264</b>	<b>276</b>	8	264	276	264	277	<b>264</b>	<b>276</b>
445.gobmk	8	<b>530</b>	<b>158</b>	530	158	530	158	8	<b>515</b>	<b>163</b>	515	163	515	163
456.hammer	8	<b>200</b>	<b>373</b>	200	373	200	374	8	141	530	<b>141</b>	<b>530</b>	141	528
458.sjeng	8	599	162	<b>599</b>	<b>162</b>	599	162	8	<b>597</b>	<b>162</b>	597	162	597	162
462.libquantum	8	53.4	3100	53.5	3100	<b>53.4</b>	<b>3100</b>	8	<b>53.9</b>	<b>3080</b>	54.1	3060	53.8	3080
464.h264ref	8	618	286	619	286	<b>618</b>	<b>286</b>	8	618	286	619	286	<b>618</b>	<b>286</b>
471.omnetpp	8	343	146	<b>343</b>	<b>146</b>	343	146	8	320	157	320	156	<b>320</b>	<b>157</b>
473.astar	8	<b>379</b>	<b>148</b>	378	149	379	148	8	<b>347</b>	<b>162</b>	347	162	347	162
483.xalancbmk	8	191	289	<b>191</b>	<b>289</b>	191	289	8	191	289	<b>191</b>	<b>289</b>	191	289

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 32-bit binaries with the command:  
 "ipsxe-comp-vars.bat ia32 vs2010" (shortcut provided in the Intel(r) Parallel Studio XE 2016 program folder)  
 Note that this ipsxe-comp-vars.bat passes the vs2010 parameter, but that is a flag to the batch file and does not change the Visual Studio compiler version used, which is listed above as

## Platform Notes

Sysinfo program c:\CPU200~1.0-2\Docs\sysinfo  
 \$Rev: 6775 \$ \$Date:: 2011-08-16 #\$ \8787f7622badcf24e01c368b1db4377c  
 running on DESKTOP-DQ7JMF0 Wed Aug 10 18:30:05 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
```

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## Platform Notes (Continued)

```
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

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

C++ benchmarks:
  icl -Qvc12
```

## Base Portability Flags

```
403.gcc: -DSPEC_CPU_WIN32
464.h264ref: -DWIN32
483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword
```

## Base Optimization Flags

```
C benchmarks:
  -QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F256000000

C++ benchmarks:
  -QxCORE-AVX2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
  /F256000000 shlw32M.lib -link /FORCE:MULTIPLE
```



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## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icl -Qvc12 -Qstd=c99

456.hmmr: C:\Program Files (x86)\IntelSWTools\parallel\_studio\_xe\_2016.0.041ompilers\_and\_libraries\_2016\windows/bin/intel64/icl.exe

458.sjeng: C:\Program Files (x86)\IntelSWTools\parallel\_studio\_xe\_2016.0.041ompilers\_and\_libraries\_2016\windows/bin/intel64/icl.exe

462.libquantum: C:\Program Files (x86)\IntelSWTools\parallel\_studio\_xe\_2016.0.041ompilers\_and\_libraries\_2016\windows/bin/intel64/icl.exe  
-Qstd=c99

C++ benchmarks (except as noted below):

icl -Qvc12

473.astar: C:\Program Files (x86)\IntelSWTools\parallel\_studio\_xe\_2016.0.041ompilers\_and\_libraries\_2016\windows/bin/intel64/icl.exe

## Peak Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
456.hmmr: -DSPEC\_CPU\_P64  
458.sjeng: -DSPEC\_CPU\_P64  
462.libquantum: -DSPEC\_CPU\_P64  
464.h264ref: -DWIN32  
473.astar: -DSPEC\_CPU\_P64  
483.xalancbmk: -Qoption,cpp,--no\_wchar\_t\_keyword

## Peak Optimization Flags

C benchmarks:

400.perlbench: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
/F256000000 shlw32M.lib -link /FORCE:MULTIPLE

401.bzip2: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias  
/F256000000

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## Peak Optimization Flags (Continued)

403.gcc: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qopt-prefetch /F256000000

429.mcf: basepeak = yes

445.gobmk: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O2 -Qprec-div- -Qansi-alias /F256000000

456.hmmer: -Qauto-ilp32 -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1)  
-Qprof\_use(pass 2) -Qipo(1) -O3(1) -Qprec-div-(1)  
-Qopt-prefetch(1) /F256000000

458.sjeng: -Qauto-ilp32 -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1)  
-Qprof\_use(pass 2) -Qipo(1) -O3(1) -Qprec-div-(1)  
-Qunroll14(1) /F256000000

462.libquantum: -Qauto-ilp32 -QxCORE-AVX2 -Qipo -O3 -Qprec-div-  
-Qopt-prefetch /F256000000

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -QxCORE-AVX2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qansi-alias  
-Qopt-ra-region-strategy=block /F256000000 shlw32M.lib  
-link /FORCE:MULTIPLE

473.astar: -Qauto-ilp32 -QxCORE-AVX2 -Qipo -O3 -Qprec-div-  
-Qopt-prefetch /F256000000 shlw64M.lib

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

```
456.hmmer -link -LIBPATH:C:\Program Files (x86)\IntelSWTools\parallel_studio_xe_2016.0.041\compiler_and_libraries_2016\windows\compiler\lib\intel64 -link -LIBPATH:C:\Program Files (x86)\Microsoft SDKs\Windows7.1A\lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/lib/AMD64
458.sjeng -link -LIBPATH:C:\Program Files (x86)\IntelSWTools\parallel_studio_xe_2016.0.041\compiler_and_libraries_2016\windows\compiler\lib\intel64 -link -LIBPATH:C:\Program Files (x86)\Microsoft SDKs\Windows7.1A\lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/lib/AMD64
462.libquantum -link -LIBPATH:C:\Program Files (x86)\IntelSWTools\parallel_studio_xe_2016.0.041\compiler_and_libraries_2016\windows\compiler\lib\intel64 -link -LIBPATH:C:\Program Files (x86)\Microsoft SDKs\Windows7.1A\lib
-link -LIBPATH:C:/Program Files (x86)/Microsoft Visual Studio 12.0/VC/lib/AMD64
```

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## Peak Other Flags (Continued)

C++ benchmarks:

```
473.exe -link /FORCE:MULTIPLE -link -LIBPATH:C:\Program Files (x86)\IntelSWTools\parallel_studio_xe_2016.0.04\compiler_and_libraries_2016\windows\compiler\lib\intel64 -link -LIBPATH:C:\Program Files (x86)\Microsoft SDKs\Windows7.1A\lib
```

```
-link -LIBPATH:C:\Program Files (x86)\Microsoft Visual Studio 12.0\VC\lib\AMD64
```

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 other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Tue Sep 13 11:45:55 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 6 September 2016.