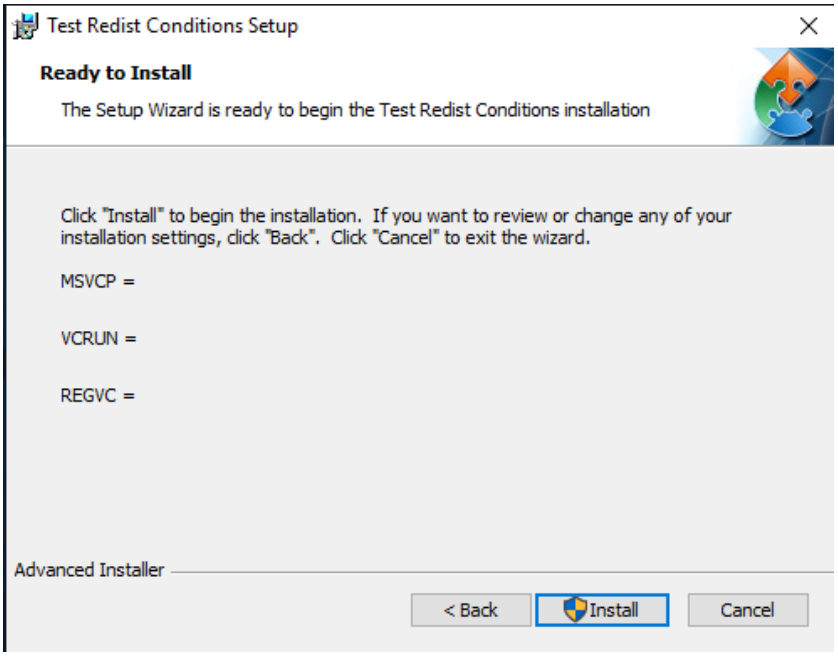
VC++ redist install problem

den 24 augusti 2016
21:34

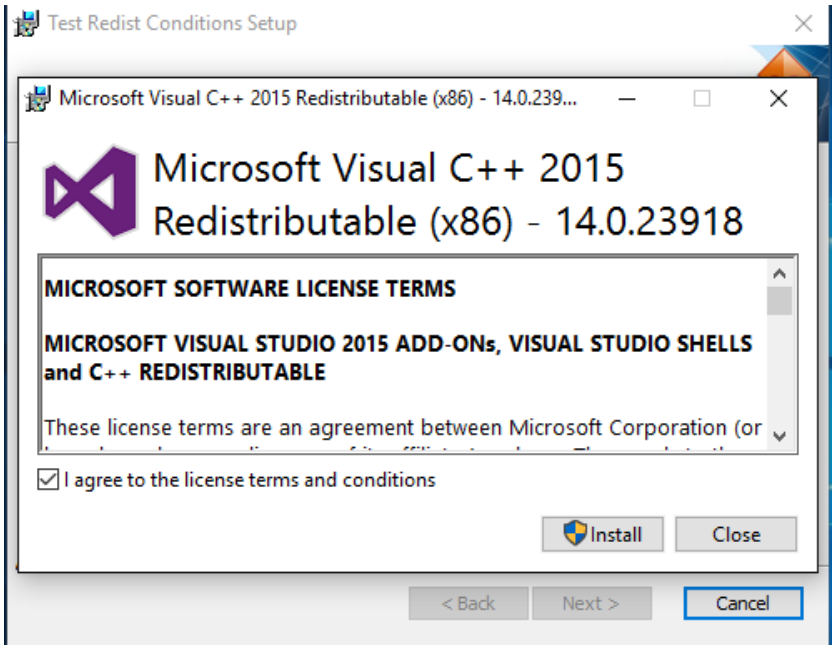
1. 32-bit package, installs Microsoft Visual C++ 2015 Redistributable (x86) - 14.0.23918 as a prerequisite.
2. Also includes three searches for the same installation conditions as the prerequisite. The result of the searches are shows on one of the dialog pages.
3. But for the file searches I'm having problems getting the minimum version to work. It seems to be off by one, so to test this I'm searching for minimum version 14.0.23917 of msvcp140.dll, and minimum version 14.0.23918 of vcruntime140.dl.

These are the steps:

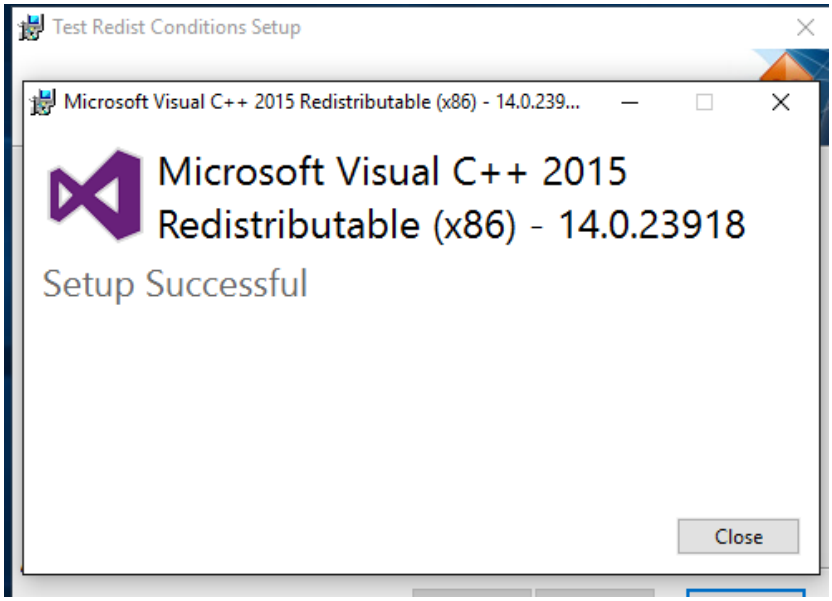
1. Run the installer on a clean Windows 10 Pro 64-bit system. You don't need to run the whole installation, you can cancel after the prerequisite has been installed.



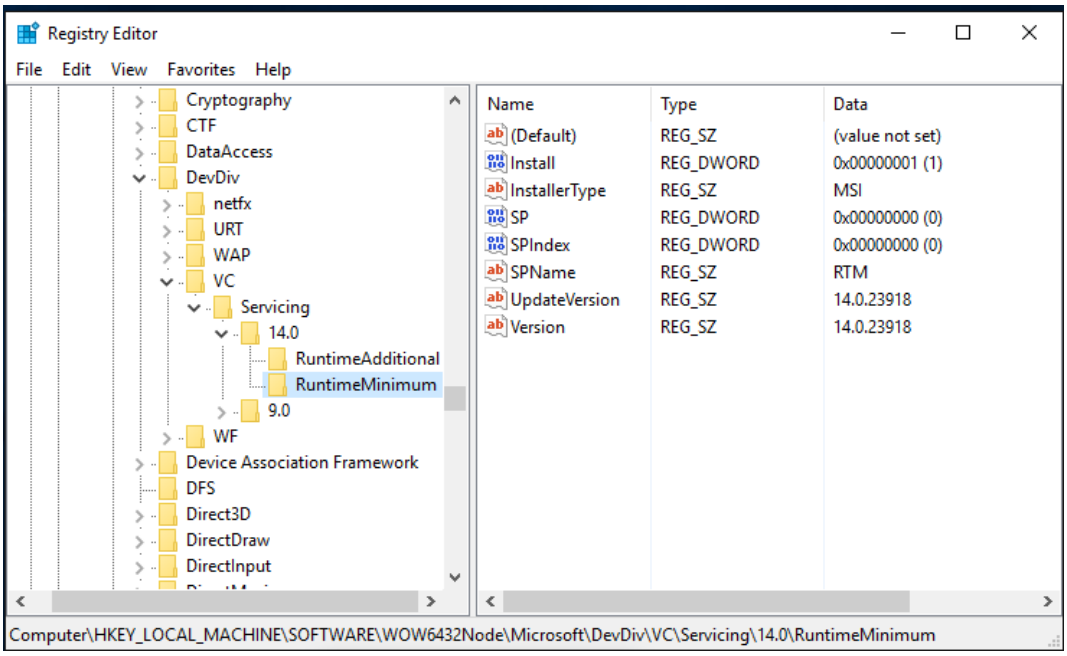
No previous existing files or reg keys exist.

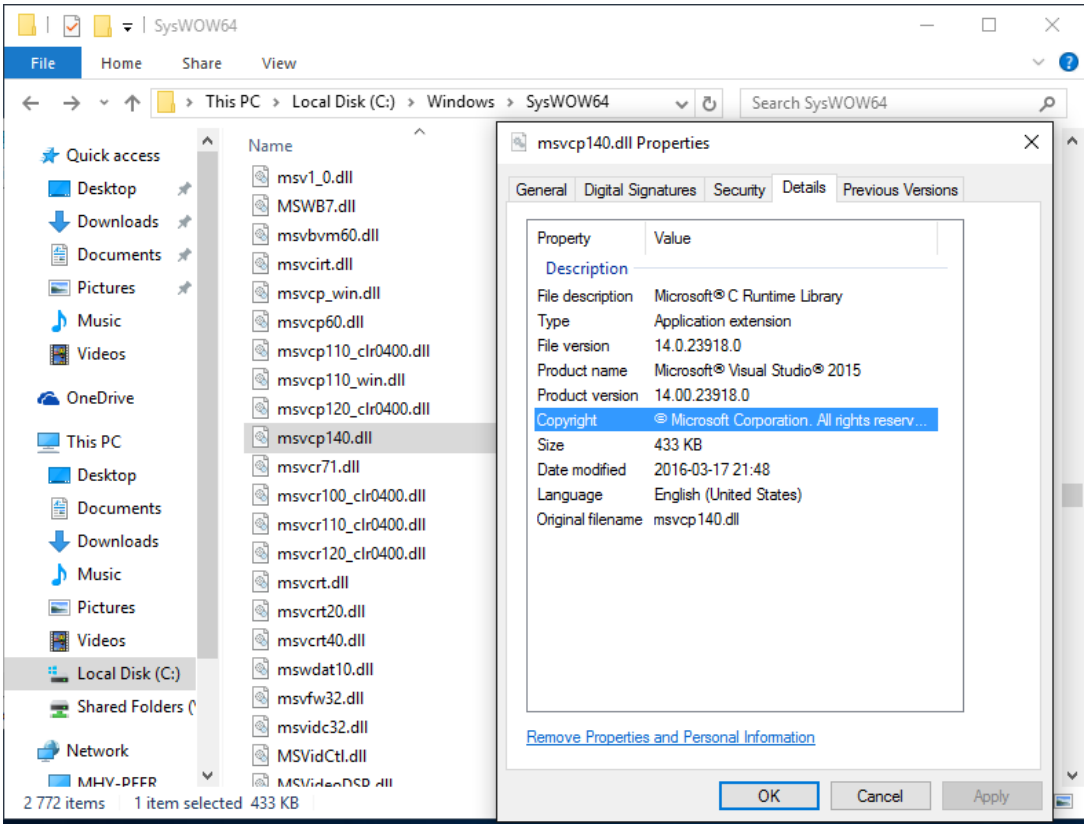


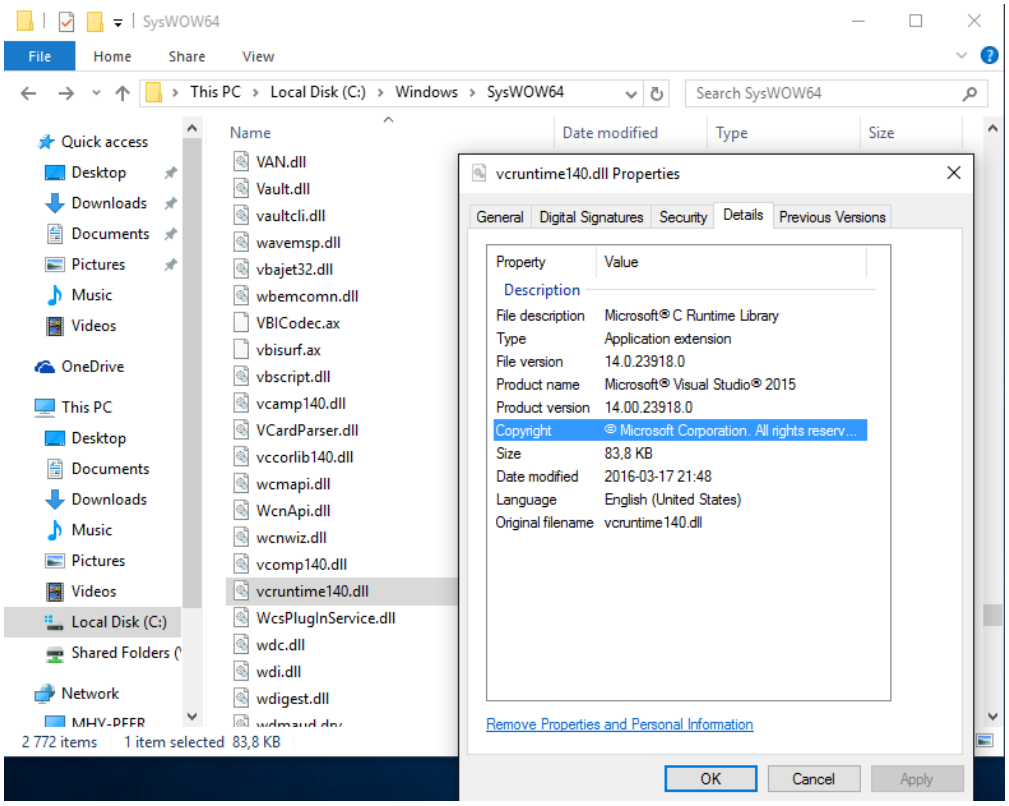
Install 14.0.23918 x86.

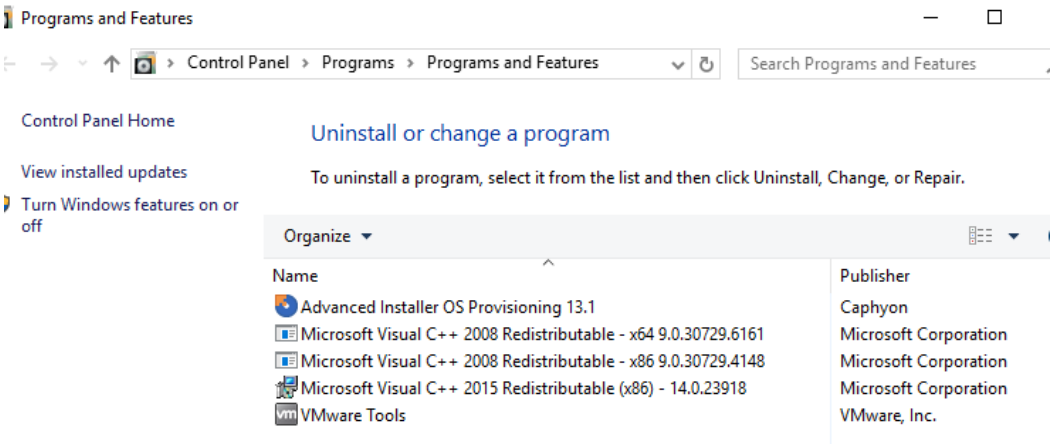


2. Now we have the 14.0.23918 x86 redist package installed. We find the files and the registry key.

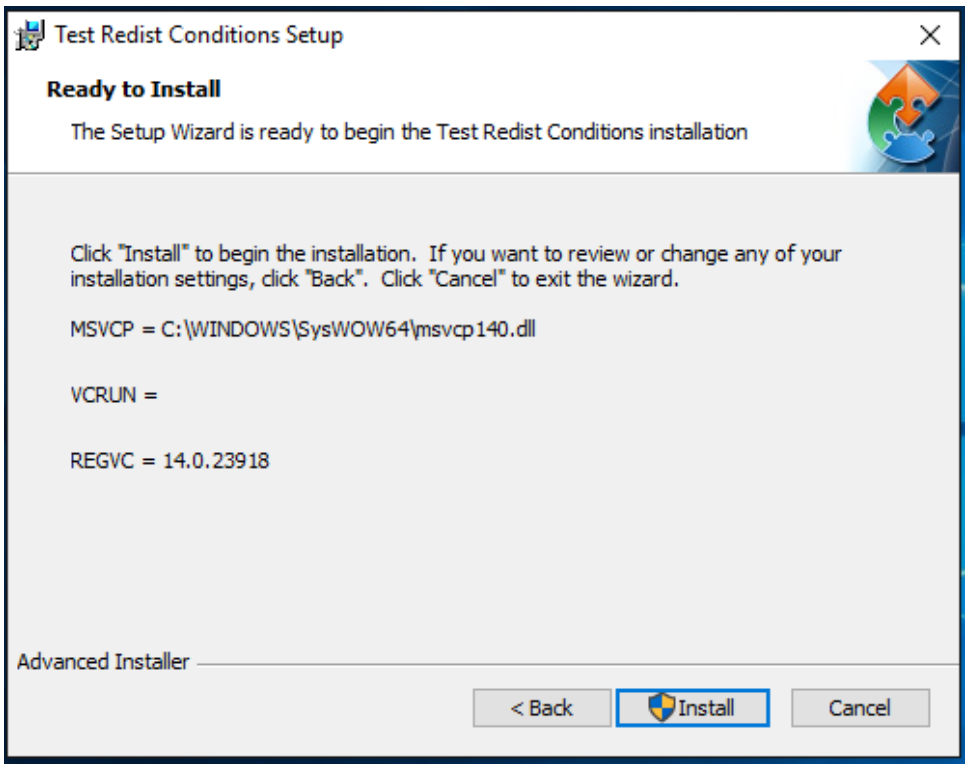

Registry Editor
File Edit View Favorites Help
Cryptography
CTF
DataAccess
DevDiv
netfx
URT
WAP
VC
Servicing
14.0
RuntimeAdditional
RuntimeMinimum
9.0
WF
Device Association Framework
DFS
Direct3D
DirectDraw
DirectInput
Name Type Data
(Default) REG_SZ (value not set)
Install REG_DWORD 0x00000001 (1)
InstallerType REG_SZ MSI
SP REG_DWORD 0x00000000 (0)
SPIndex REG_DWORD 0x00000000 (0)
SPName REG_SZ RTM
UpdateVersion REG_SZ 14.0.23918
Version REG_SZ 14.0.23918
Computer\HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Microsoft\DevDiv\VC\Servicing\14.0\RuntimeMinimum


SysWOW64
File Home Share View
This PC › Local Disk (C:) › Windows › SysWOW64
Search SysWOW64
Quick access
Desktop
Downloads
Documents
Pictures
Music
Videos
OneDrive
This PC
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Shared Folders
Network
Name
msv1_0.dll
MSWB7.dll
msvbvm60.dll
msvcirt.dll
msvcp_win.dll
msvcp60.dll
msvcp110_clr0400.dll
msvcp110_win.dll
msvcp120_clr0400.dll
msvcp140.dll
msvcr71.dll
msvcr100_clr0400.dll
msvcr110_clr0400.dll
msvcr120_clr0400.dll
msvcrt.dll
msvcrt20.dll
msvcrt40.dll
mswdat10.dll
msvfw32.dll
msvidc32.dll
MSVidCtl.dll
2 772 items 1 item selected 433 KB
msvcp140.dll Properties
General Digital Signatures Security Details Previous Versions
Property Value
Description
File description Microsoft® C Runtime Library
Type Application extension
File version 14.0.23918.0
Product name Microsoft® Visual Studio® 2015
Product version 14.00.23918.0
Copyright © Microsoft Corporation. All rights reserv...
Size 433 KB
Date modified 2016-03-17 21:48
Language English (United States)
Original filename msvcp140.dll
Remove Properties and Personal Information
OK Cancel Apply



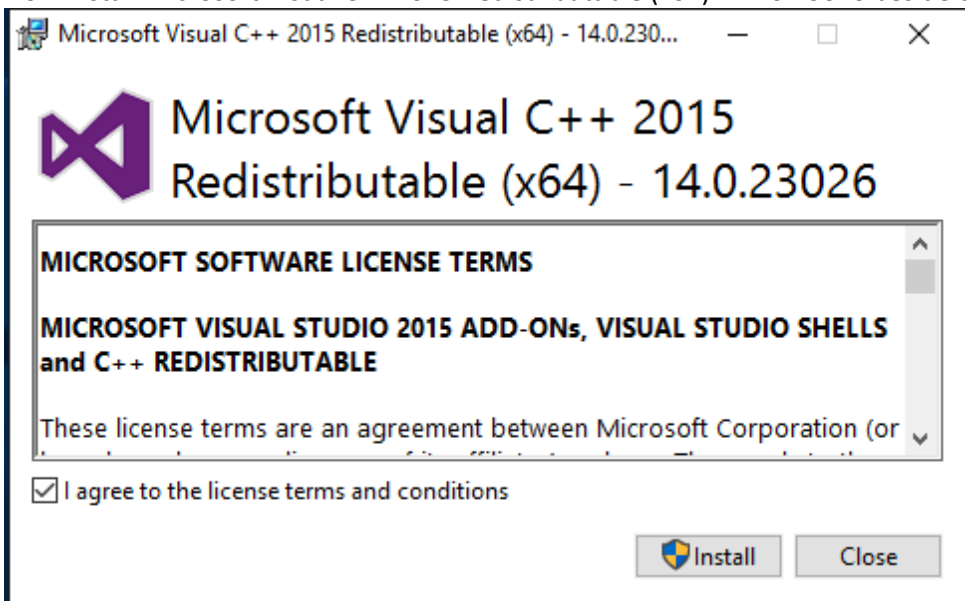


3. Now run the installer again to see what happens.



The msvcp140.dd is found using minimum version 14.0.23917, but vcruntime140.dll is not found using minimum version 14.0.23918!
The installer does not attempt to install the prerequisite again, which indicates that the installation conditions were all true.

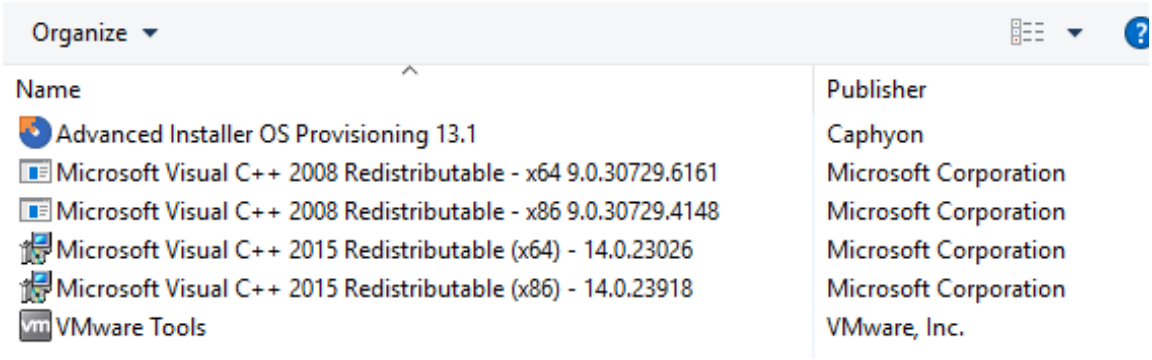
4. Now install Microsoft Visual C++ 2015 Redistributable (x64) - 14.0.23026 beside the x86 package.

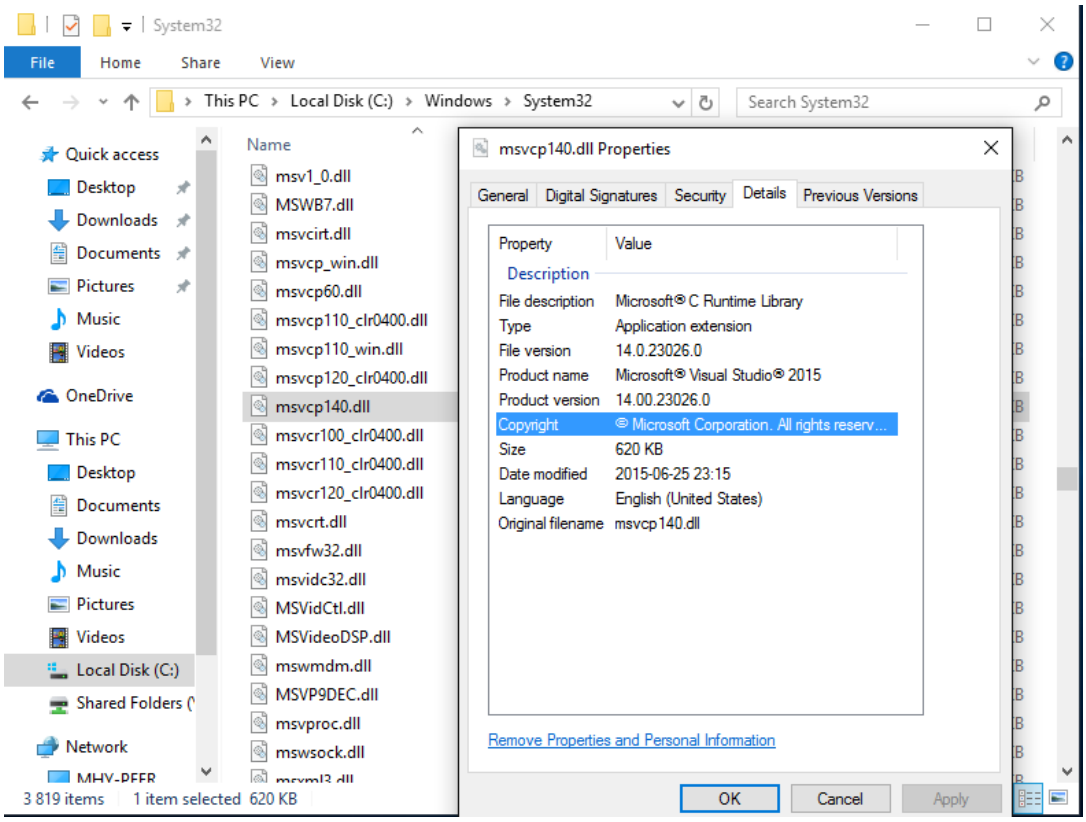


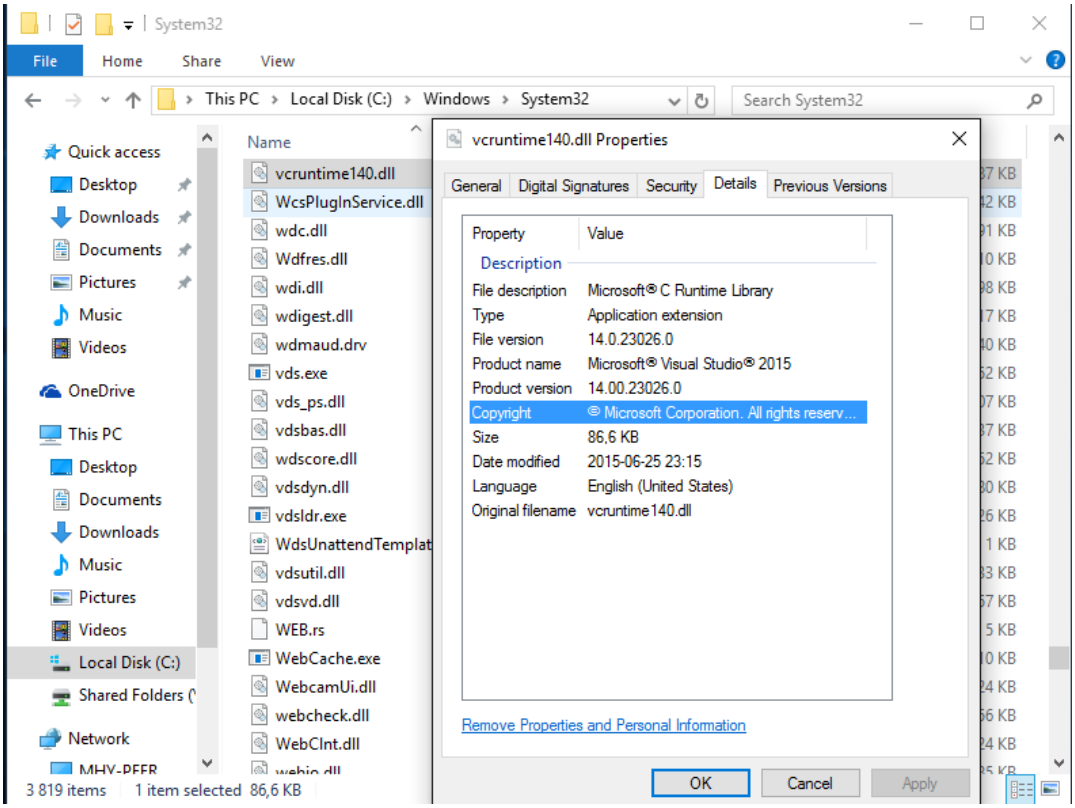
5. The x64 and x86 files and reg keys are set as expected:

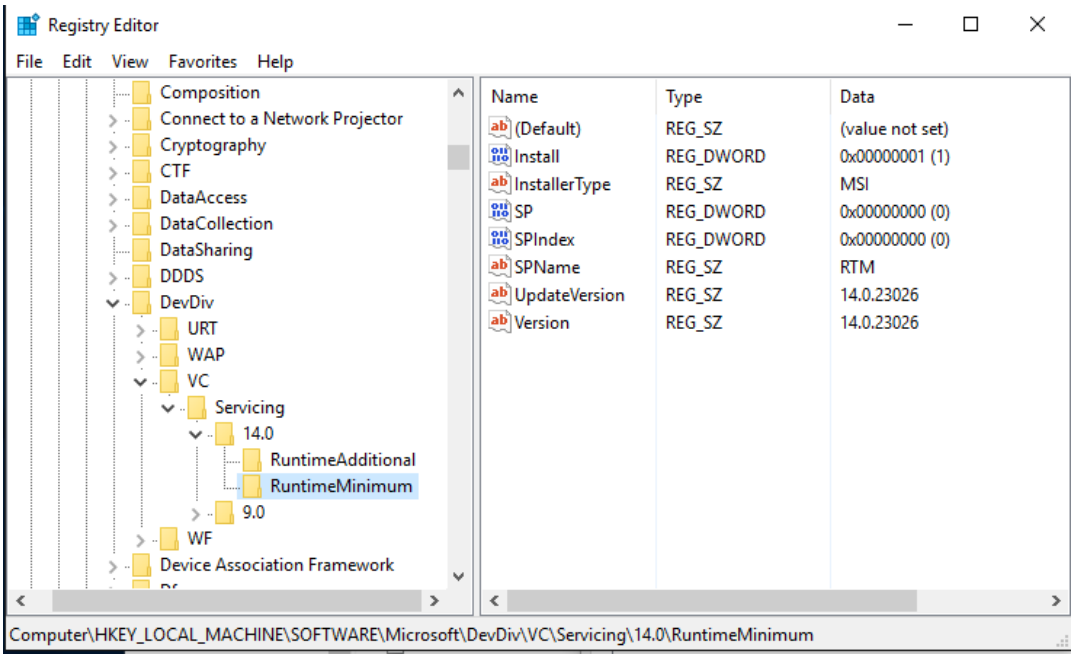
Uninstall or change a program

To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.

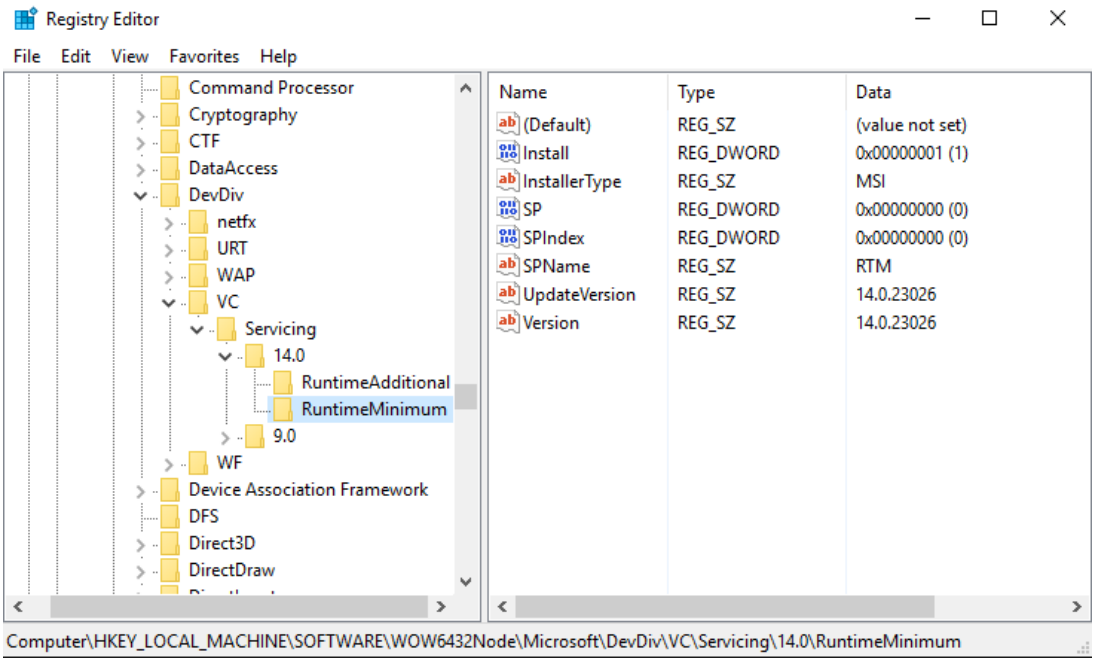






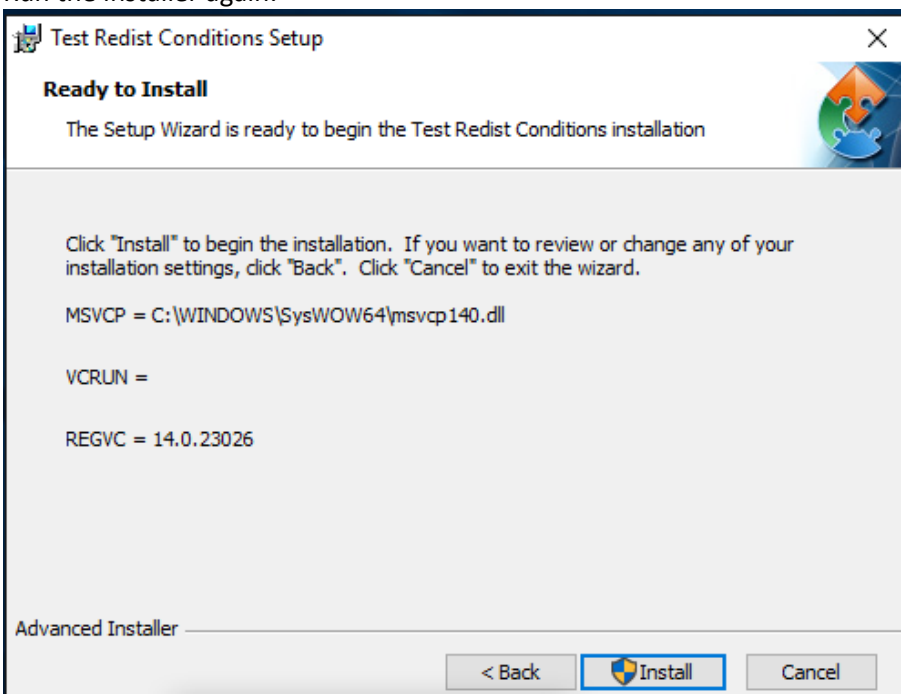


But the 32-bit key has been overwritten:



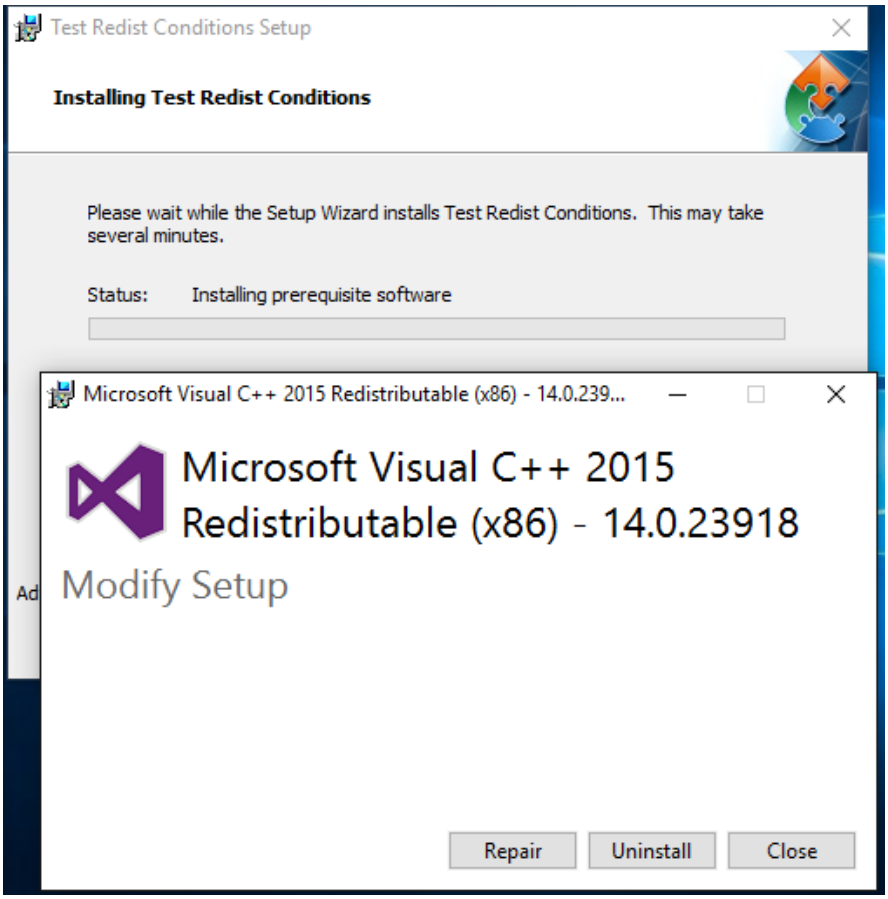
The 32-bit files in C:\Windows\SysWOW64 are OK, though.

5. Run the installer again:

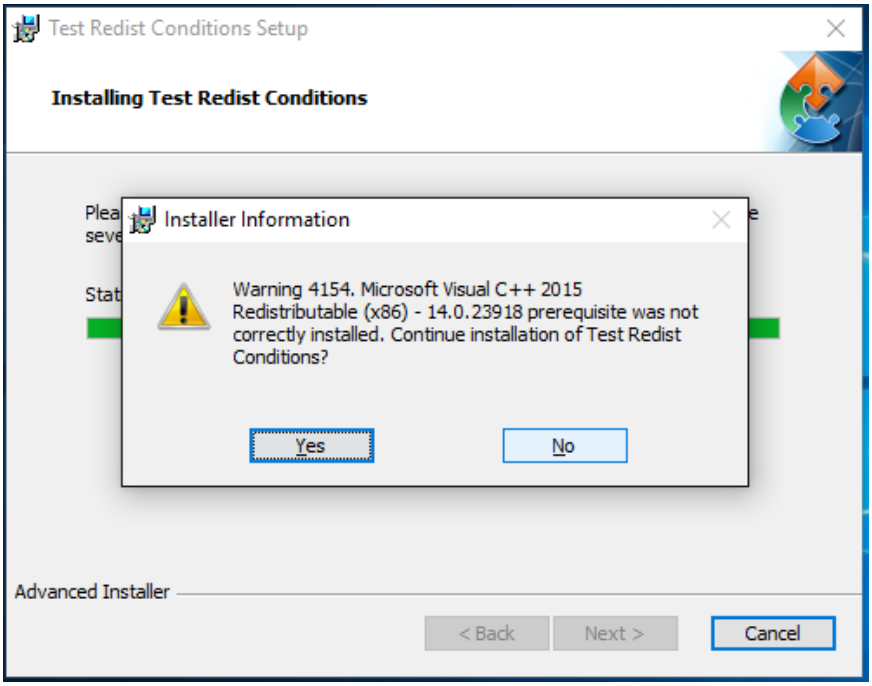


Now the overwritten 32-bit reg key is found.

The installer tries to install the x86 redist again:

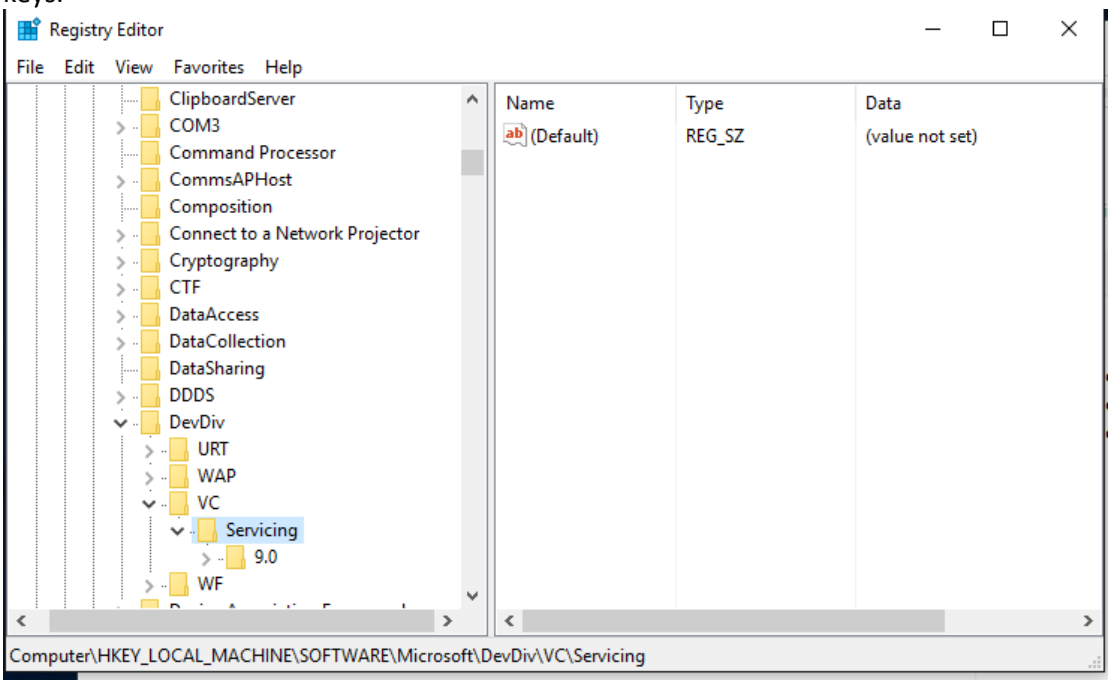


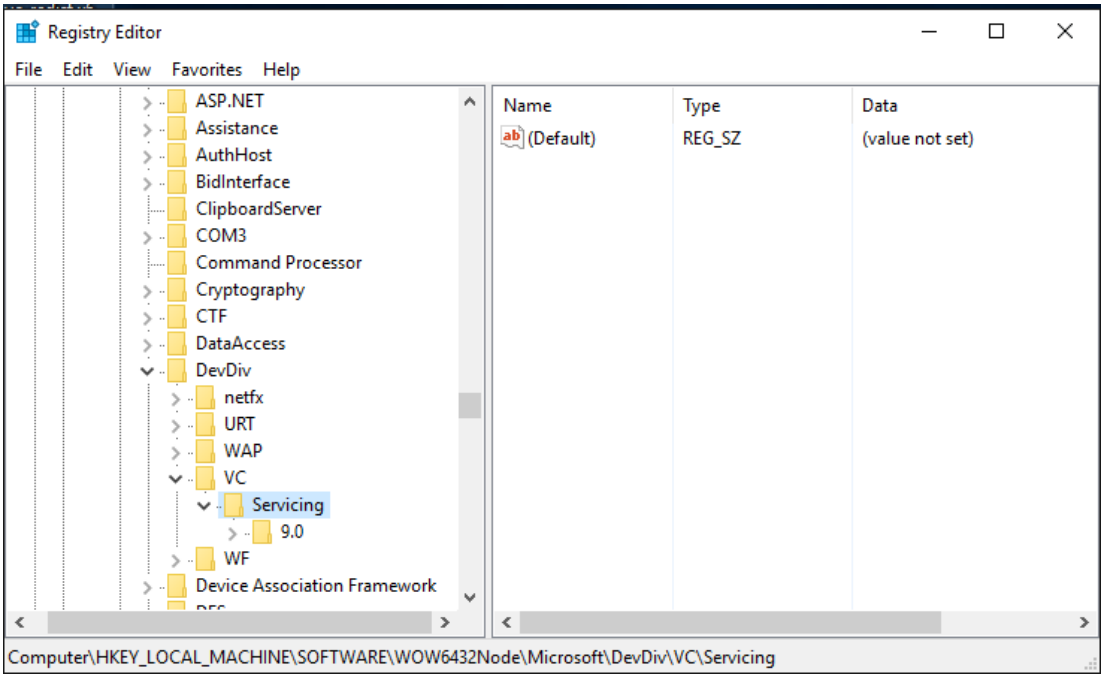
Close this dialog, continue the installation.



The prereq installation fails according to the new behavior of 2015 redist packages, as described in https://msdn.microsoft.com/en-us/library/ms235299.aspx.

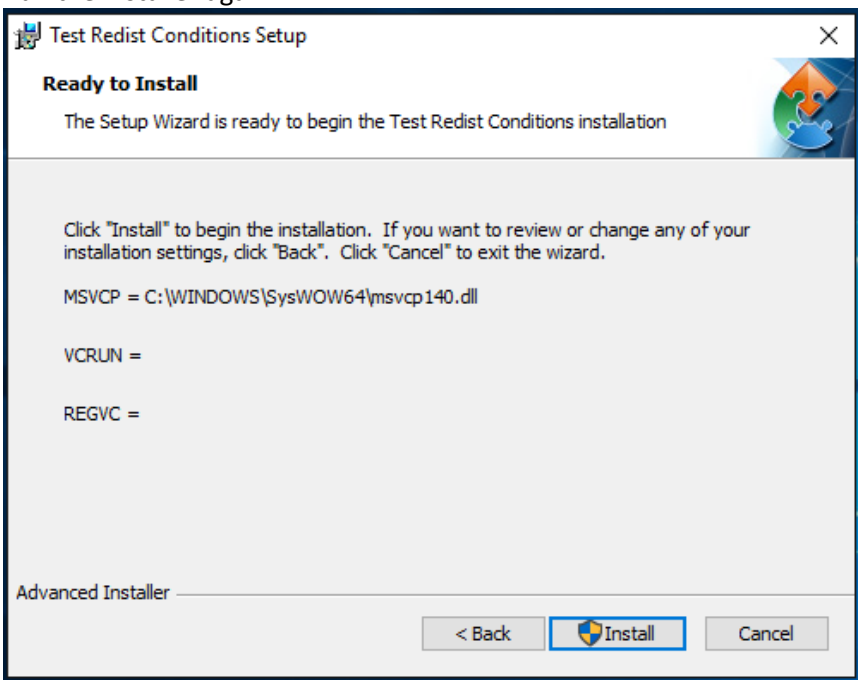
6. Now uninstall the x64 redist package. This has the effect of deleting both the 64-bit and 32-bit reg keys:



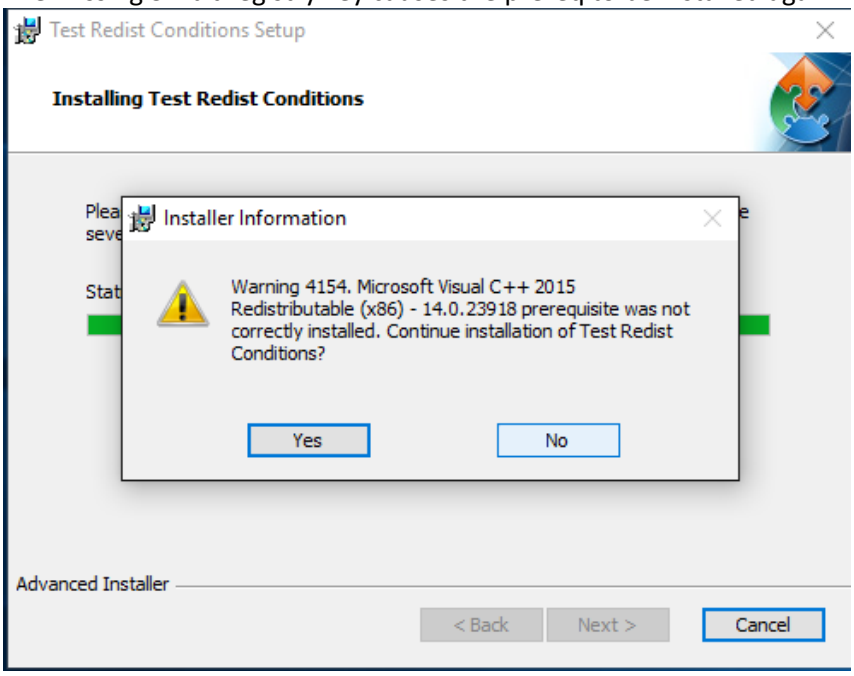


The msvcp140.dll and vcruntime140.dll files version 14.0.23918 are still in C:\Windows\SysWOW64.
The msvcp140.dll and vcruntime140.dll files version 14.0.23026 in C:\Windows\System32 have not been deleted!

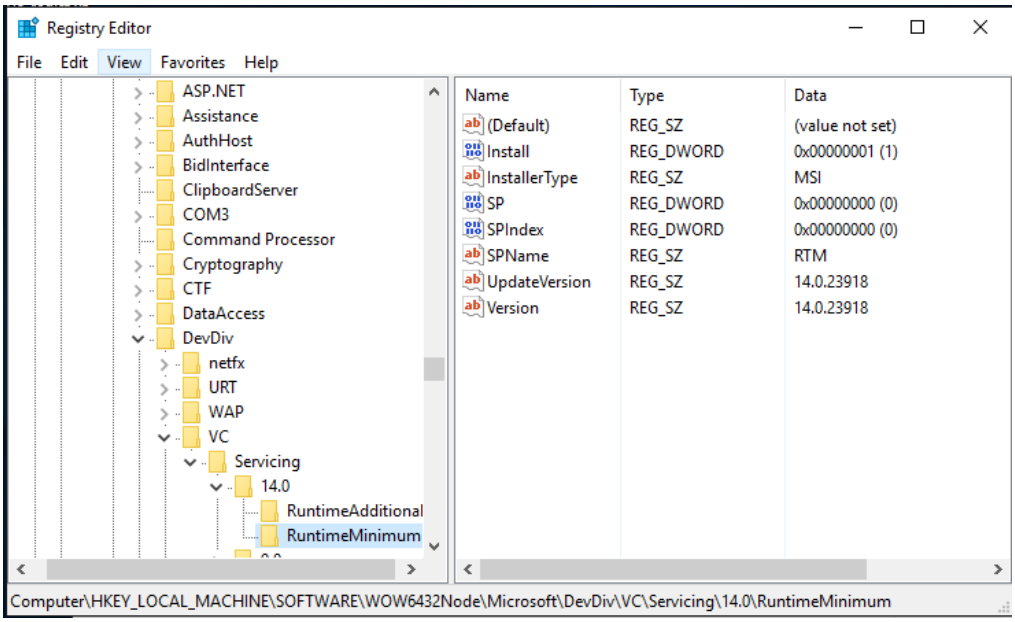
7. Run the installer again:



The missing 32-bit registry key causes the prereq to be installed again:

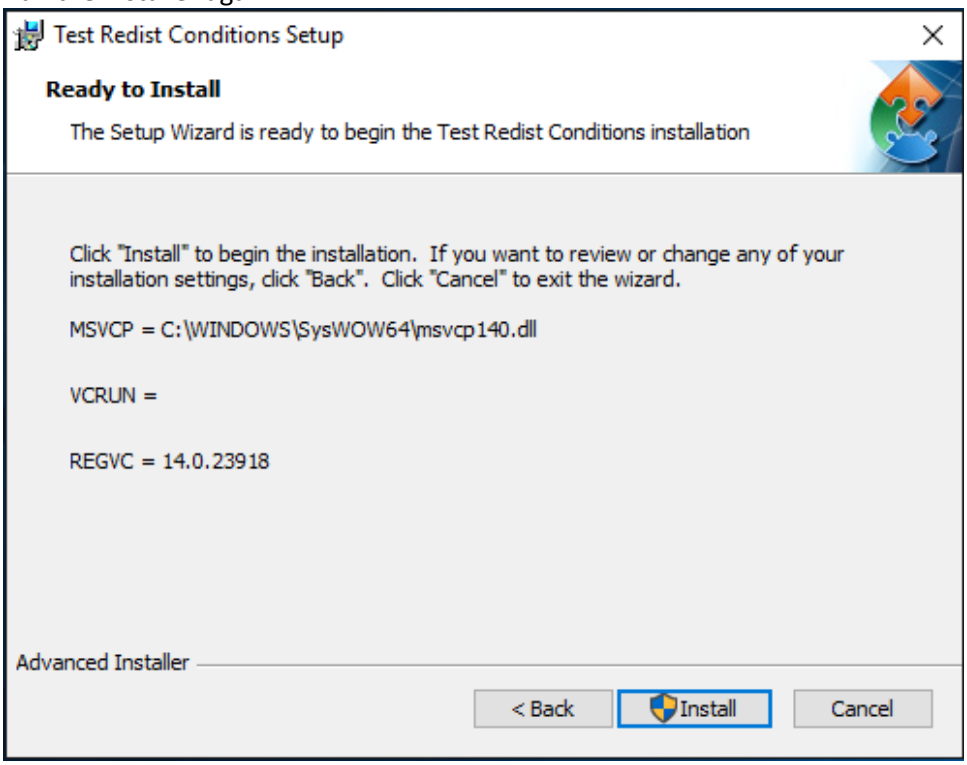


8. Repair the installation of x86 14.0.23918.

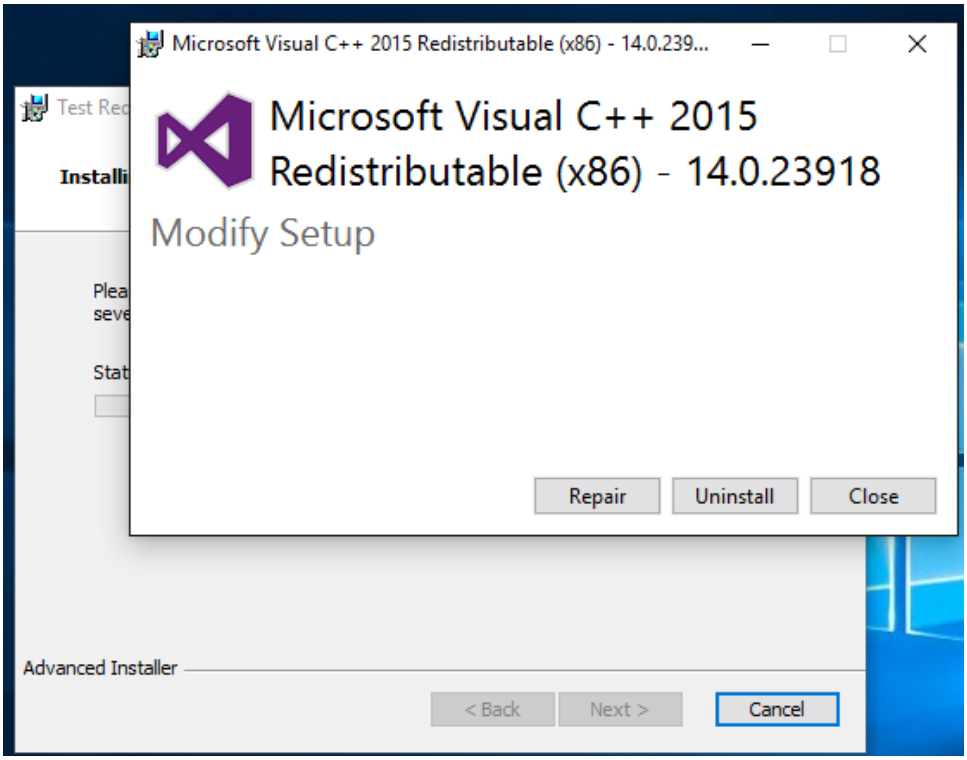


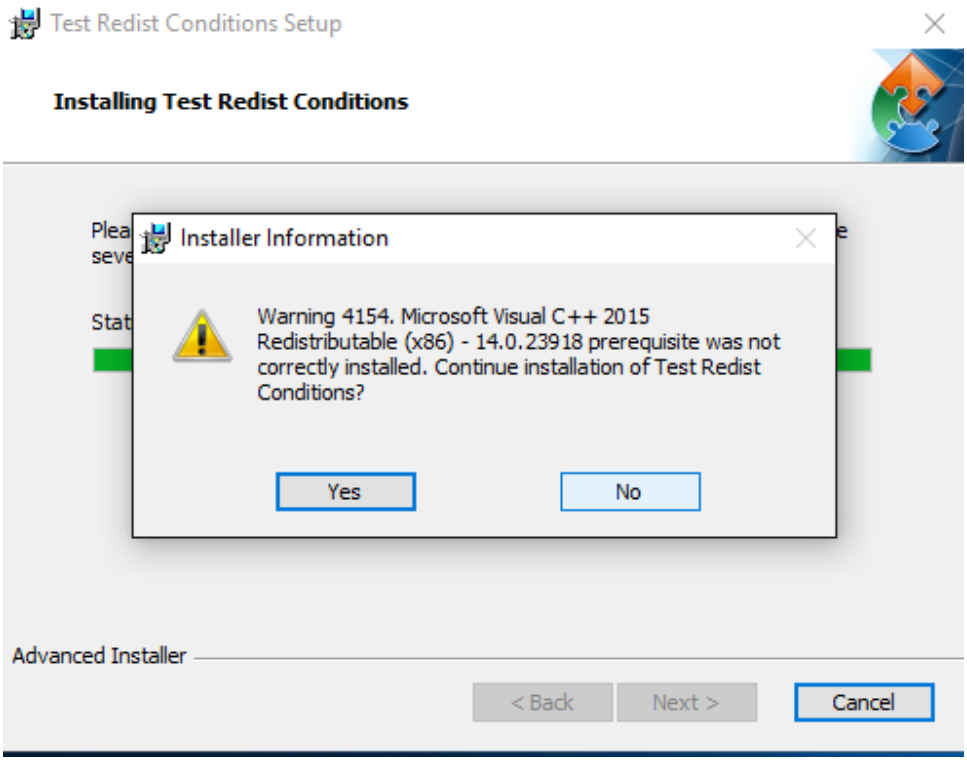
The registry key is restored.

9. Run the installer again:

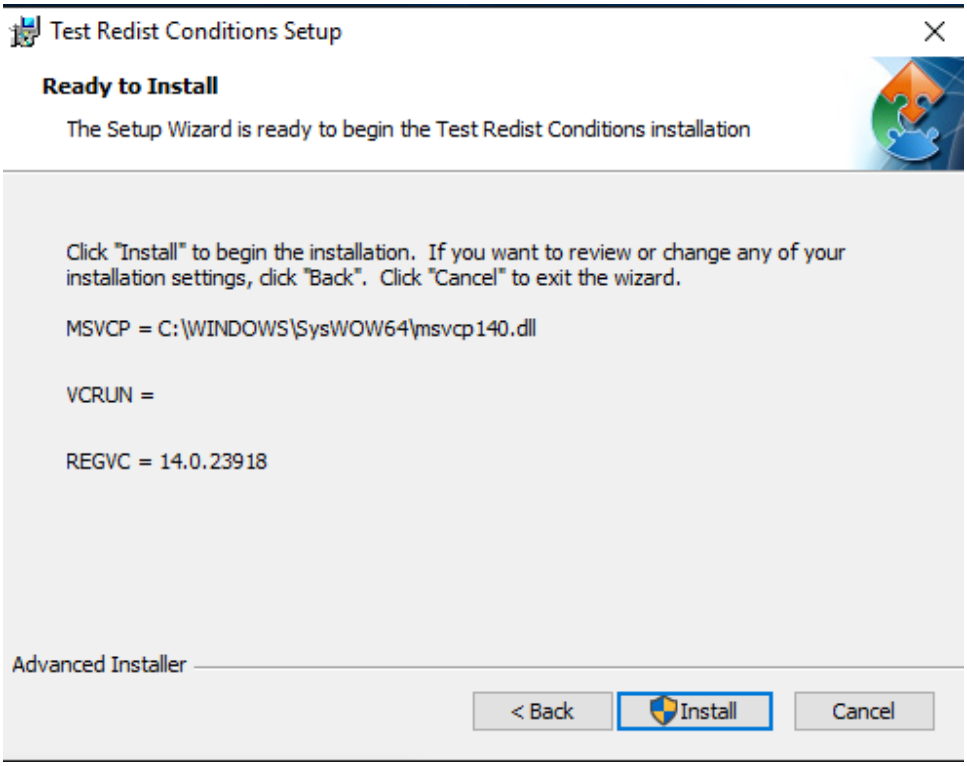


But the installer still tries to install the prerequisite:





10. Now I manually delete C:\Windows\system32\msvc140.dll and C:\Windows\system32\vcruntime.dll that were left behind by the x64 redist package.
11. Run the installer again:



Now the installer does not try to install the x86 redist package again!

Conclusions?

1. The redist packages are very buggy. The x64 package deletes and overwrite the x86 package's registry keys, and doesn't remove the x64 files from C:\Windows\system32.
2. The installer's evaluation of conditions is also buggy. Looking at items 9-11 above, it seems that the installer is actually finding the x64 files in C:\Windows\system32. And since these have version 14.0.23026, which is less than the minimum 14.0.23918, the installer tries to install the x86 redist package again. After I manually delete the left-behind files, the installation conditions evaluate correctly again.
3. The Searches that I added for the 32-bit files seem to be evaluating wrong. If the minimum version is set t0 14.0.23918 the search fails, but if it is set to 14.0.23917 the search finds the 14.0.23918 version files.