

XSupplicant 2.0 Windows Compile Guide

Windows Visual Studio 2005 Express with QT

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This document was written to help users who are trying to compile XSupplicant and XSupplicant UI for windows using Visual Studio 2005 Express. The author offers no guarantees implied or otherwise about the contents of this document or the processes it contains.

You will need about 7 GB of free space and about 2-3 hours of time depending on the speed of your computer.

Please send updates, correction, and suggestions for improving this document to jordan at open1x littledot org.

Credits:

The document was written and adapted from various works, namely:

- 1) http://www.qtnode.net/wiki?title=Qt4_with_Visual_Studio
- 2) Mike McCauley's write up on getting visual studio express working with XSupplicant
- 3) Terry Simons' write up on getting QT to work with XSupplicant

1) Install a SVN download tool like TortoiseSVN

a) Download

Download TortoiseSVN from <http://tortoisesvn.net/downloads>

This will download a file called "TortoiseSVN-1.4.7.11792-win32-svn-1.4.6.msi" to your computer.

b) Installation

Run the "TortoiseSVN-1.4.7.11792-win32-svn-1.4.6.msi" program.

c) Post Installation Setup

mkdir c:\SVN\XSupplicant_Project\trunk

Perform SVN Checkout to c:\SVN\XSupplicant_Project\trunk by right clicking on the trunk directory and selecting SVN Checkout.

URL of Repository: <https://open1x.svn.sourceforge.net/svnroot/open1x/trunk>

2) Install Visual Studio 2005 Express

a) Download

Download Visual C++ 2005 Express Edition from
<http://msdn.microsoft.com/vstudio/express/visualc/>.

This will download a file called "vcsetup.exe" to your computer.

b) Installation

NOTE: You need network connectivity for this as the installation process downloads what it needs.

Run the "vcsetup.exe" program. This will download and install the Visual Studio windows compiler.

During install select "Graphical IDE" (it should already be selected).

c) Post Installation Setup

NOTE: After install you will need to register, you do this from the installer window or from the help window

NOTE: You will need a Windows Live ID / Microsoft Passport to complete this process

NOTE: Once you have the license key you will enter this in the help menu register product section.

3) Install Service Pack 1 for Visual C++ 2005 Express

NOTE: If you are using the Microsoft system update tool, not just the OS update tool, it will do this for you.

a) Download

Download Visual C++ 2005 Express SP1 from
<http://download.microsoft.com/download/7/7/3/7737290f-98e8-45bf-9075-85cc6ae34bf1/vs80sp1-kb926748-x86-intl.exe>

This will download a file called "vs80sp1-kb926748-x86-intl.exe" to your computer.

b) Installation

Run the "vs80sp1-kb926748-x86-intl.exe" program to upgrade Visual Studio C++ 2005 express edition.

c) Post Installation Setup

NOTE: Make sure you open the Visual Studio Express at least once before proceeding beyond this point.

4) Install hotfix to address issues with Visual C++ Service Pack 1 and QT 4.x

NOTE: This patch is a bit of pain to find

NOTE: Here are the two Microsoft KB articles that describe the patch

<http://support.microsoft.com/kb/930198>

<http://support.microsoft.com/kb/930859>

NOTE: More information and links to the download

<http://connect.microsoft.com/VisualStudio/content/content.aspx?ContentID=3705>

<http://connect.microsoft.com/VisualStudio/Downloads/DownloadDetails.aspx?DownloadID=6002>

a) Download

NOTE: The download is on this page:

<http://go.microsoft.com/fwlink/?linkid=87465>

NOTE: The download is about half way down the page, for the Visual C++ Compiler, with the description:

FIX: Certain template code does not compile, and error C2244 occurs after you install Visual Studio 2005 Service Pack 1

This will download a file called "298251_ENU_i386_zip.exe" to your computer.

b) Installation

NOTE: When you extract it it has the patch for 930859, however the hotfix text says it is for 930198, regardless this is the one you want.

Run patch file "VS80sp1-KB930859-X86-ENU.exe"

5) Open Visual Studio Express and close it

6) Install SDK for Microsoft Vista

a) Download

NOTE: During the process you will probably have to validate your system.

Download SDK for Microsoft Vista from

<http://www.microsoft.com/downloads/details.aspx?familyid=C2B1E300-F358-4523-B479-F53D234CDCCF&displaylang=en>

This will download a file called "setup.exe" to your computer.

b) Installation

NOTE: You will need network connectivity for this as the installation downloads what it needs.

NOTE: This SDK is needed as the Windows 2003 SDK does not have windot11.h.

NOTE: This step might take an hour or so to finish depending on download speeds and your CPU.

Run the "setup.exe" program. This will download and install the SDK for Microsoft Vista.

c) Post Installation Setup

Run integration tool from:

START -> Programs -> Microsoft Windows SDK

-> Visual Studio Registration -> Integrate Windows SDK with Visual Studio 2005

7) Install Microsoft Platform SDK for Microsoft Visual C++ 2005 Express

NOTE: You need this one in addition to the Vista one in step 6

NOTE: It says that it is for Windows Server 2003 but this is what you need for XP too

NOTE: During the process you will probably have to validate your system.

a) Download

Download the Microsoft Windows Server 2003 R2 Platform SDK Web Install from

<http://msdn2.microsoft.com/en-us/express/aa700755.aspx> and click on "Click on the Platform SDK" link in section 2 or you can download directly from <http://www.microsoft.com/downloads/details.aspx?familyid=0baf2b35-c656-4969-ace8-e4c0c0716adb&displaylang=en>

This will download a file called "PSDK-x86.exe" to your computer.

-OR-

You can also download the full CD image from

<http://www.microsoft.com/downloads/details.aspx?FamilyId=E15438AC-60BE-41BD-AA14-7F1E0F19CA0D&displaylang=en>

This will download a file called

"5.2.3790.2075.51.PlatformSDK_Svr2003R2_rtm.img" to your computer.

NOTE: To mount this in VMware or to burn it to a disk, you may need to rename it to a .iso instead of a .img.

b) Installation

NOTE: You will need an internet connection to do this if you are using the web install.

NOTE: If you are using the image, you do not need a network connection.

If you are using the web install run the "PSDK-x86.exe".

If you are using the CD install, run the "cd://setup.exe" or autorun should do this for you.

c) Post Installation Setup

Modify the following file (STEP 3 from web site above)

C:\Program Files\Microsoft Visual Studio 8\VC\vcpackages
\VCProjectEngine.Dll.Express.Config

Add to Include Line:

C:\Program Files\Microsoft Platform SDK for Windows Server 2003
R2\Include;
C:\Program Files\Microsoft Platform SDK for Windows Server 2003
R2\Include\mf;

Add to Library Line:

C:\Program Files\Microsoft Platform SDK for Windows Server 2003
R2\Lib;

Add to Path Line:

C:\Program Files\Microsoft Platform SDK for Windows Server 2003
R2\Bin;

Make sure the following file is deleted:

%USERPROFILE%\Local Settings\Application Data\Microsoft
\VCEexpress\8.0\vccomponents.dat

Modify the following file (STEP 4 from web site above)

c:\Program Files\Microsoft Visual Studio 8\VC\VCProductDefaults
\corewin_express.vsprops

Change the string that reads:

AdditionalDependencies="kernel32.lib"

to

AdditionalDependencies="kernel32.lib user32.lib gdi32.lib winspool.lib
comdlg32.lib advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib"

Modify the following file (STEP 5 from web site above)

C:\Program Files\Microsoft Visual Studio 8\VC\VCWizards\AppWiz
\Generic\Application\html\1033\AppSettings.htm

Edit the following lines:

In a text editor comment out lines 441 - 444 by putting a // in front of them
as shown here:

```
// WIN_APP.disabled = true;  
// WIN_APP_LABEL.disabled = true;  
// DLL_APP.disabled = true;  
// DLL_APP_LABEL.disabled = true;
```

8) Install Microsoft Windows Driver Development Kit DDK

NOTE: Information site about DDK

<http://www.microsoft.com/whdc/devtools/ddk/default.msp>

NOTE: We only need one file from this DDK

a) Download

Download the Windows Server 2003 SP1 DDK from

http://download.microsoft.com/download/9/0/f/90f019ac-8243-48d3-91cf-81fc4093ecfd/1830_usa_ddk.iso

b) Installation

NOTE: During the install make sure to add the "Network Samples" to the list of things that you install

Run "cd://setup.exe" from the CD ISO

c) Post Installation Setup

NOTE: This file comes from the DDK Network Samples and is the only reason the DDK is required

Copy file from DDK to XSupplicant src tree

From: C:\WINDDK\3790.1830\src\network\ndis\ndisprot\sys\nuiouser.h

To:

C:\SVN\XSupplicant_Project\trunk\xsupplicant\vs2005\ndis_proto_driver

d) Debuggers - Optional

Install debuggers from Windows DDK CD

Run "cd://debuggers/setup_x86.exe"

9) Install QT from Trolltech

a) Download

Download QT 4.3.4 source files from

<ftp://ftp.trolltech.com/qt/source/qt-win-opensource-src-4.3.4.zip>

b) Installation

Uncompress QT sources to c:\qt\

Open SDK build environment window (an SDK command shell)

START -> Programs -> Microsoft Windows SDK -> CMD Shell

Configure QT for building (from inside the SDK build environment window)

NOTE: This step will take about 10 minutes

NOTE: You will get prompted a few times to accept things
configure.exe

Compile QT (from inside the SDK build environment window)

NOTE: This step will take about 1.5 hours

nmake

c) Post Installation Setup:

NOTE: You have to do this before you can compile anything based on QT

My Computer -> Properties -> Advanced -> Environment Variables

Add QT environmental variables to the System Variables

QMAKESPEC=win32-msvc2005

QTDIR=c:\qt\qt-win-opensource-src-4.3.4

10) Add the following packages to the C:\SVN\XSupplicant_Project\ directory

a) Download

zlib 1.2.3 (<http://www.zlib.net/>)

Source: <http://www.zlib.net/zlib123.zip>

Win32 Binary: <http://www.zlib.net/zlib123-dll.zip>

iconv 1.9.2 (<http://www.gnu.org/software/libiconv/>)

Source: <http://mirrors.kernel.org/gnu/libiconv/libiconv-1.11.tar.gz>

Win32 Binary: <http://www.zlatkovic.com/pub/libxml/iconv-1.9.2.win32.zip>

openssl 0.9.8d (<http://www.openssl.org/source/>)

Source: <http://www.openssl.org/source/openssl-0.9.8e.tar.gz>

Win32 Binary: <http://www.zlatkovic.com/pub/libxml/openssl-0.9.8a.win32.zip>

libxml 2.6.27 (<http://xmlsoft.org/>)

Win32 Binary: <http://www.zlatkovic.com/pub/libxml/libxml2-2.6.28.win32.zip> (Site
for the maintainer of the port)

libtnc 1.16 (<http://www.sf.net/projects/libtnc>)

Source: http://sourceforge.net/project/showfiles.php?group_id=168708

b) Installation

Extract the zlib binary package to c:\SVN\XSupplicant_Project\

Extract the iconv binary package to c:\SVN\XSupplicant_Project\

Extract the openssl binary package to c:\SVN\XSupplicant_Project\

Extract the libxml binary package to c:\SVN\XSupplicant_Project\

Extract the libtnc source package to c:\SVN\XSupplicant_Project\

c) Post Installation Setup

NOTE: You will need to setup the following environmental variables (for example) so that the build process can find the correct libraries. In Windows you do this from the properties of My Computer -> Advanced -> Environmental Variables -> System Variables. The paths listed below are examples. Please use the paths pertaining to the exact versions you downloaded.

ICONVDIR=c:\SVN\XSupplicant_Project\iconv-1.9.2.win32
LIBTNCDIR=c:\SVN\XSupplicant_Project\libtnc-1.16
LIBXML2DIR=c:\SVN\XSupplicant_Project\libxml2-2.6.30+.win32
OPENSSLDIR=c:\SVN\XSupplicant_Project\openssl-0.9.8d.win32
ZLIBDIR=c:\SVN\XSupplicant_Project\zlib-1.2.3.win32