Welcome to the XMLFoundation August 2015

(still the fastest XML Parser on earth)

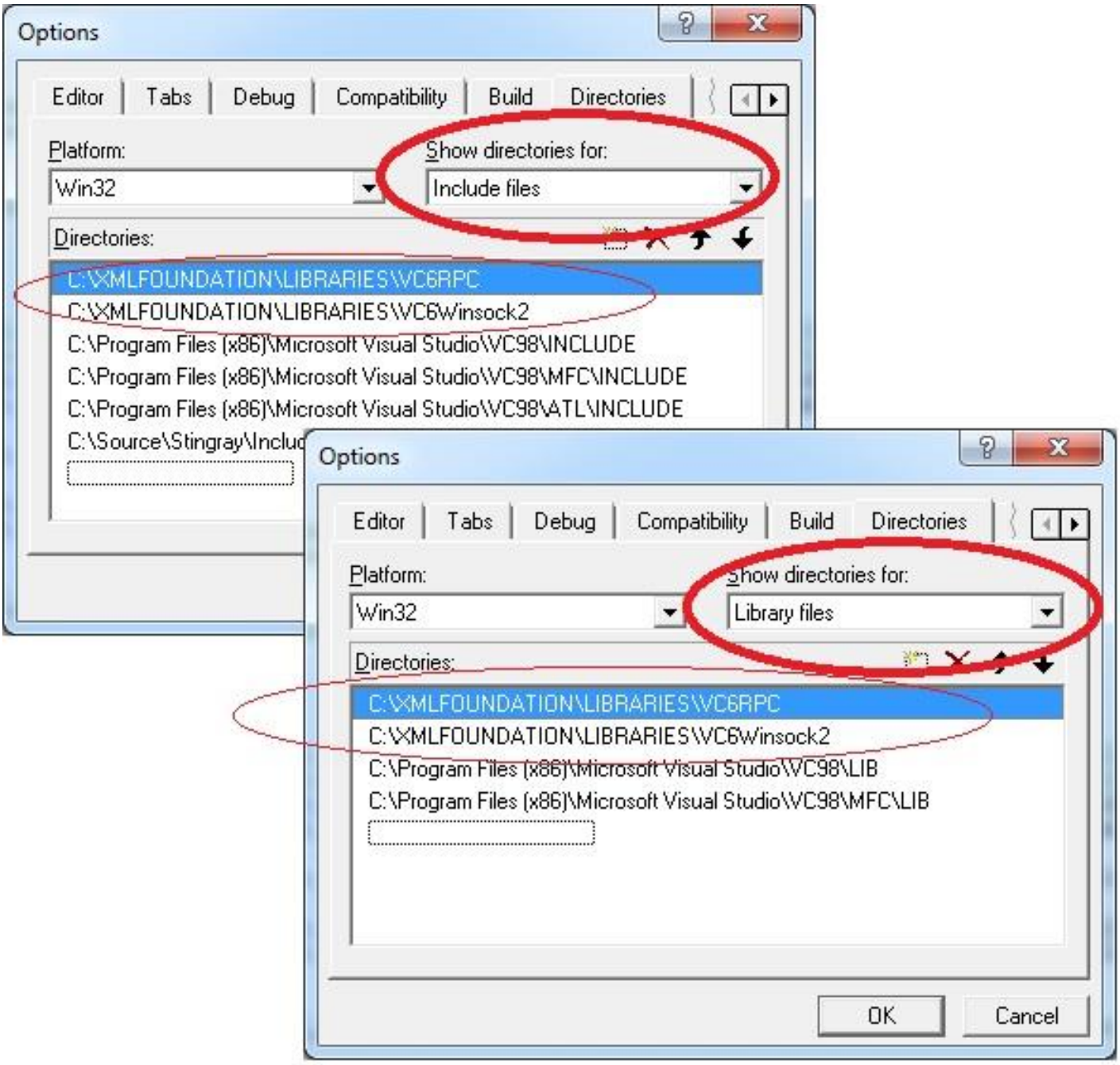
# Platform Expansion

A while back I made a future reaching decision to include the big fat openssl libraries into the XMLFoundation. They make the download huge and most of the examples do not use the openssl libraries, most people who use the XMLFoundation do not want openssl especially a binary for Windows Phone. Despite all that, those libraries need to be there to see the NTLM authentication work on all platforms that XMLFoundation supports. Now the XMLFoundation

is reaping the rewards from integrating openssl. Consider the class CSmtp, added into the XMLFoundation during August 2015. That project grew up and matured here on codeproject. The source code download in that project only contains one platform build of openssl binaries. I integrated CSmtp into the XMLFoundation and added support for all Microsoft compilers32 and 64 bit targets with the correct openssl libs ready to link as well as a Linux makefile. CSmtp is portable and it was well done, kudos to the builders. The CSmtp source download comes with *openssl-0.9.8l*, In the XMLFoundation, CSmtp uses newer versions of openssl. The big fat binaries are being shared by the NTLM code and the TLS code now - on many platforms.

# (unofficial) VC6.sp7

I will be brief on this since "nobody" cares about VC6. I have a custom VC6 build that creates my 32 bit application that installs 64 bit binaries which exist inside the 32 bit binaries as bound resources. The new TCP connection information provided by GProcess in this release of the XMLFoundation uses newer interfaces and has IPV6 support so VC6 apps **must** use the updated Winsock2 libraries and **may** use the updated RPC libraries(my apps use them). This essentially updates core libraries and header files normally addressed by a "Service pack", however my compiler is unsupported so i had to do it myself. This core library upgrade might be helpful to someone else so it is included in the XMLFoundation where we support the unsupported and do the un-doable. It's simple enough to use the VC6 update by selecting "Tools" then "Options" then adding the include and library paths so that the files are found in the XMLFoundation and not in the C Runtime. The new example, SMTPandTLS will not compile in VC6 unless you replace the Winsock libraries.




# GProcess

Just because some new class or functionality shows up in the XMLFoundation in August 2015 does not mean it is something new or experimental. I have a portable routine that returns a list of processes. It works for Windows CE, Windows 98, Windows Phone, Win32 and Win64, Android, IOS, and Linux. It obtains all the process information available if running as Administrator or it obtains a lesser set of process information available when running as non-administrator in Windows. It works everywhere, with all compilers, it is well debugged and it is

a worthy contribution to the XMLFoundation. The new code is in GProcess.cpp and the new Example program SMTPandTLS shows how to use it.

# VS2015

I updated the VS2012 and VS2013 workspaces. I recently verified every XMLFoundation example program in 64 bit, 32 bit, Debug, and Release under VS2013 . A while back I decided to stop "migrating" the workspace into new Microsoft compilers. Instead I create a new workspace for each compiler, this works in more environments. In the case of VS2015, keeping the other workspaces reveals major differences in the C-Runtime that the compilers use. When I was a young cocky C++ programmer several times i thought i found bugs in Microsoft code only to later discover that i was somehow misusing some underdocumented API call. Now I am well "seasoned" (even smoked and marinated). I am slower to hurl bug accusations at Microsoft, however I did find a few bugs in the C-Runtime libraries that ship with VS2015. Hopefully this problem will be corrected in the next Service Pack since that compiler is still supported. The bug that I found causes the link to fail on all example programs that require openssl in VS2015. Look at the first two pages of source code in CSmtp.cpp to see the details on this bug. The VS2012 and VS2013 compilers produce working binaries of the same example. This is why I still use VC6.

# Networked

Companies like DynDns have made a business by helping folks determine what their WAN IP address is. If your ISP changes your home IP address occasionally and you need to know your IP address to connect from remote, then you can make use of a new method in GSocketHelpers.cpp bool ExternalIP() which will obtain the WAN IP that bridges the Internet to your LAN. I have a real application that needs to obtain the WAN IP, additionally it can be helpful to enumerate the local IP's bound to physical or virtual Network adapters – this reveals how many networks that the machine can bridge to. Finally along with the information needed to build a route map for reachable IP subnets, I wanted a list of active TCP connections revealing ports in use and the applications responsible. This need is not specific to my application, it is a general utility need that many applications might find useful. The new sample application titled SMTPandTLS gathers up this information and emails it to you like this:

```
----------------------------Wan IP---------------------------------------
73.3.213.175
---------------------Network Interfaces---------------------------------
Host:MY_COMPUTER_NAME
Type[5]:10.0.0.6
Type[1]:127.0.0.1
Type[1]:192.168.3.1
Type[1]:192.168.121.1
---------------------Network Connections--------------------------------
TO=23.195.144.35 port:47873    FROM=10.0.0.6 port: 39872      C:\VMware Workstation\vmware.exe
TO=23.99.205.208 port:47873    FROM=10.0.0.6 port: 59601      C:\Internet Explorer\IEXPLORE.EXE
```

```
TO=65.55.246.20 port:47873      FROM=10.0.0.6 port: 57298       C:\Internet Explorer\IEXPLORE.EXE
TO=204.79.197.210 port:47873  FROM=10.0.0.6 port: 57810       C:\Internet Explorer\IEXPLORE.EXE

------------------------Processes-------------------------------------------
pid:3288   iusb3mon    [Intel(R) USB 3.0 Monitor] C:\Program Files (x86)\Intel\Intel
USB3                        pid:460   IAStorIcon     [C:\Program Files\Intel Rapid Storage Technology\IAStorIcon.exe]
pid:980   iexplore#1     [C:\Program Files (x86)\Internet Explorer\IEXPLORE.EXE]
pid:2596   firefox     [[XMLFoundation - CodeProject]
pid:32   http://www.codeproject.com/Article] C:\Program Files (x86)\Mozilla Firefox\firefox.exe
pid:6716   SMTPandTLS     [C:\XMLFoundation\Examples\C++\SMTPandTLS\Debug\SMTPandTLS.exe]
```

Thats whats new for August 2015.  Let me hear from you in the comments below, Gimme a high 5 or something.  I work hard to put this code together clean and clearly labeled, again you will find the new code strategically commented with helpful insights.  Recently I have been doing some study on what can be done with digital sound waves and tempo recognition, if you have 10 minutes and 10 seconds to hear it download it here, or hear it here.