

## Exiv2 - Patch #1119

### libxmp missing from the install folder when building statically libexiv2

23 Sep 2015 07:40 - Emmanuel d'Angelo

|                        |             |                        |             |
|------------------------|-------------|------------------------|-------------|
| <b>Status:</b>         | Closed      | <b>Start date:</b>     | 23 Sep 2015 |
| <b>Priority:</b>       | Normal      | <b>Due date:</b>       |             |
| <b>Assignee:</b>       | Robin Mills | <b>% Done:</b>         | 100%        |
| <b>Category:</b>       | build       | <b>Estimated time:</b> | 3.00 hours  |
| <b>Target version:</b> | 0.26        |                        |             |

#### Description

We build and use libexiv2 with the following workflow (linux + windows):

1. download a clean copy of a given svn revision
2. configure a cmake build targeting a temporary install folder
3. build and install (from our build.bat/build.sh script)
4. copy the content of install\_folder/lib/ into our dependency lib folder.

While this workflow works well when building libexiv2 as a dynamic library, it fails when building it statically (the symbols from XMP SDK are undefined in the output static library).

There are 2 ways to solve this issue:

- either by tweaking the cmake build to disable building a separate libxmp when building statically:

```
cmake -DEXIV2_ENABLE_SHARED=OFF -DEXIV2_ENABLE_XMP=ON -DEXIV2_ENABLE_LIBXMP=OFF ...
```

- or by copying libxmp.a to the install folder, which is performed by the attached patch.

Best regards,

Emmanuel

#### Related issues:

Related to Exiv2 - Feature # 1041: CMake toolchain for windows

Closed

15 Mar 2015

#### Associated revisions

**Revision 3961 - 23 Sep 2015 14:14 - Robin Mills**

#1119. Thank You, Emmanuel for your help and patch.

#### History

**#1 - 23 Sep 2015 07:42 - Robin Mills**

I will not work on CMake issues.

**#2 - 23 Sep 2015 07:57 - Emmanuel d'Angelo**

Fine for me. The patch is here in case you want to propagate the fix to other users of the library (or hope that google will help users getting this issue too in finding this ticket). In our case, we updated our build scripts to use solution number 1.

**#3 - 23 Sep 2015 08:15 - Robin Mills**

- File *Rafa.jpg* added

Thank You, Emmanuel.

I'm very frustrated by CMake/Visual Studio. I've spent a lot of time on it and it's still not working very well. You'll have seen that TModes wants me to revert your patch from last week. I'm sure CMake/Visual Studio works OK once you understand it. I don't understand it.

I'm also very frustrated by Visual Studio 2013 and 2015. I spent 12 hours yesterday trying to get the wretched thing to install correctly on Windows/7. Total frustration.

Time for me to take the dog for a run and calm down. *Rafa.jpg*

**#4 - 23 Sep 2015 09:11 - Emmanuel d'Angelo**

Enjoy your walk :-)

**#5 - 23 Sep 2015 10:01 - Robin Mills**

- Status changed from *New* to *Assigned*

- Assignee set to *Robin Mills*

- Target version set to *0.26*

Thanks. I've calmed down now. Thanks for being nice.

This is an interesting find. The Exiv2/Visual Studio policy is to build "all dlls, or all static" and not to mix them. However, *xmpsdk.a* is different. It's always built as a static library and linked into *libexiv2*. I'm surprised that it hasn't been copied and linked correctly.

I know Daniel made changes relating to the copying. Perhaps something was disturbed. However, Daniel's an excellent engineer and I am not blaming him. I will investigate the issue.

I need to invest more time in the buildServer's CMake support to find those issues.

**#6 - 23 Sep 2015 11:18 - Emmanuel d'Angelo**

Well, it took me quite some time to realize what was happening, especially since I could see that the *xmpsdk* files were built correctly and the dynamic lib build was all right.

My guess: when building a dynamic lib it's not noticeable, because the final dynamic library will be linked with the (always static) *libxmp*, and so it copies the symbols and the code at link time. This link time copy phase does not take place when everything is built statically. You don't notice this either when building the executable *exiv2* because the *cmake* settings are still valid. In our case (using *libexiv2* without using *exiv2*), then the symbols are missing.

Note that in my patch I only uncomment a line that was already there. Perhaps it was gone at some point because its effects could not be observed (see above). Anyway, I don't blame anyone either, we have a working setup on our side, we know where our build errors come from (and how to fix them), and I've reported back to the project any issue that I had to solve :-)

**#7 - 23 Sep 2015 14:15 - Robin Mills**

Fix submitted r3961 It's not identical to your patch, as I will explain.

I commented off that INSTALL in June 2012. That was when most of the CMake/Visual Studio work was done while I was between contracts. I think the INSTALL was removed because it usually requires sudo privileges. However, you're right. The shared library and executables are happy. However your application needs to link the installed libxml symbols.

When we do a sudo make install, we should install libxmp.a in /usr/local/lib. I messed with the code, and concluded that your code is correct. It should go into xmpsdk/CMakeLists.txt. I'm not going to restrict it to the static build: # 1119 Install libxmp.a for use by third party applications

(Thanks, Emmanuel)

```
INSTALL(TARGETS xmp ${INSTALL_TARGET_STANDARD_ARGS} )
```

So, the main part of xmpsdk/CMakeLists.txt is now: 23 IF( EXIV2\_ENABLE\_XMP AND EXIV2\_ENABLE\_LIBXMP )

```
24 ADD_LIBRARY( xmp STATIC ${XMP_SRC} )
25 GET_TARGET_PROPERTY( XMP_LIB xmp LOCATION )
26 TARGET_LINK_LIBRARIES(xmp ${EXPAT_LIBRARIES})
27 # 1119 Install libxmp.a for use by third party applications (Thanks, Emmanuel)
28 INSTALL(TARGETS xmp ${INSTALL_TARGET_STANDARD_ARGS} )
29 ENDIF()
```

#### #8 - 23 Sep 2015 18:03 - Robin Mills

- Status changed from Assigned to Resolved
- % Done changed from 0 to 100
- Estimated time set to 3.00

I'm going to mark this as "Resolved/100%". That means that I don't expect to do further work on this matter. If nothing else arises relating to this issue, it'll be closed before we ship v0.26.

#### #9 - 13 Oct 2015 19:55 - Robin Mills

- Status changed from Resolved to Closed

#### #10 - 09 Jan 2019 20:21 - Wolfgang Bauer

Robin Mills wrote:

*I'm going to mark this as "Resolved/100%". That means that I don't expect to do further work on this matter. If nothing else arises relating to this issue, it'll be closed before we ship v0.26.*

Unfortunately, installing a static lib is not really acceptable for some Linux distributions, openSUSE in particular.

It was not a problem for us in 0.26, as we just deleted libxmp.a, so sorry for not reporting that earlier.

But now in 0.27.0, the new exiv2Config.cmake refers to that file, and not having it installed breaks other packages that try to use that via cmake... I probably should open a new issue about that (right?), but I thought I should mention it here anyway.

See <https://api.opensuse.org/request/show/662725> for the discussion. (I hope that can be read without logging in...)

#### #11 - 09 Jan 2019 20:56 - Robin Mills

Best Wishes for 2019. We try to make life easier, and it gets harder!

Can I ask you to report this as an issue on <http://github.com/exiv2/exiv2>. Last we agreed to change the name of that library.

When you report this could you explain a little more about *installing a static lib is not really acceptable for some Linux distributions, openSUSE in particular*. Are you saying that we should be building a shared library, or do you have another suggestion?

As you can see, I read and service issues reported on Redmine. With the release of v0.27, I wanted to make Redmine read-only and haven't found a way to do that.

**#12 - 09 Jan 2019 21:58 - Wolfgang Bauer**

Robin Mills wrote:

| *Best Wishes for 2019.*

Best wishes for you as well!

| *Can I ask you to report this as an issue on <http://github.com/exiv2/exiv2>. Last we agreed to change the name of that library.*

Of course, I will do tomorrow...

Sorry, didn't know about the change.

And don't worry, it's just some detail we apparently need to sort out somehow. (and definitely will, in one way or the other, I'm sure. ;-)

**#13 - 09 Jan 2019 22:04 - Robin Mills**

We'll sort it out. We always do.

There's no way for you to know that I want Redmine to be read-only. I've hunted through all the settings and can't find a way. I could go to the server and change some permissions in the file system. At worst Redmine could crash. Even worse: Redmine pretends that everything is OK. Software? It's an invisible enemy!

**Files**

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|   |           |             |                   |
|---|-----------|-------------|-------------------|
| libxmp-copy-to-install-shared-off.patch | 550 Bytes | 23 Sep 2015 | Emmanuel d'Angelo |
| Rafa.jpg                                | 270 KB    | 23 Sep 2015 | Robin Mills       |