

## libosmo-netif - Bug #3812

### stream\_test fails depending on where it is run

02/21/2019 03:18 PM - neels

<b>Status:</b> Stalled	<b>Start date:</b> 02/21/2019
<b>Priority:</b> Normal	<b>Due date:</b>
<b>Assignee:</b>	<b>% Done:</b> 0%
<b>Category:</b>	
<b>Target version:</b>	
<b>Spec Reference:</b>	

**Description**

[msuraev](#), your new stream\_test fails for me.  
On my home laptop sporadically, on my office box reliably.

```
1: stream_test FAILED (testsuite.at:8)

▶ cat tests/testsuite.dir/1/testsuite.log
# *- compilation *-
1. testsuite.at:4: testing stream_test ...
../../../../src/libosmo-netif/tests/testsuite.at:8: $abs_top_builddir/tests/stream/stream_test
--- experr 2019-02-21 16:12:24.956776809 +0100
+++ /n/s/dev/make/libosmo-netif/tests/testsuite.dir/at-groups/1/stderr 2019-02-21 16:12:33.9846
65754 +0100
@@ -12,8 +12,7 @@
 autoreconnecting test step 6 [client OK, server OK], FD reg 1

 autoreconnecting test step 5 [client OK, server OK], FD reg 1
-[ CONNECTED] osmo_stream_cli_rcv(): connection closed with srv
-[ NONE] osmo_stream_cli_reconnect(): retrying in 9 seconds...
+connection closed with srv

 autoreconnecting test step 4 [client OK, server OK], FD reg 0

@@ -37,7 +36,6 @@
 non-reconnecting test step 2 [client OK, server OK], FD reg 1

 non-reconnecting test step 1 [client OK, server OK], FD reg 1
-[ CONNECTED] osmo_stream_cli_rcv(): connection closed with srv
-[ NONE] osmo_stream_cli_reconnect(): not reconnecting, disabled.
+connection closed with srv

-non-reconnecting test step 0 [client OK, server OK], FD reg 0
+non-reconnecting test step 0 [client OK, server OK], FD reg 1
1. testsuite.at:4: 1. stream_test (testsuite.at:4): FAILED (testsuite.at:8)
```

#### Associated revisions

##### Revision 1ab218d2 - 03/14/2019 12:03 PM - osmith

tests: AM\_LDFLAGS = -noinstall for all tests

Fix a symbol lookup error when building a new test on systems where a previous libosmonetif.so is installed. Symptoms described here in detail: <https://osmocom.org/issues/3812#note-10>

-no-install causes libtool to generate output files that link against libraries in the build tree, instead of linking against the future installation paths and generating a wrapper script. The wrapper script should override the library paths, but at least on Debian, it does not work as it should. Test binaries won't be installed anyway, so we can safely use -no-install and work around the problem.

See also:

<https://autotools.io/libtool/wrappers.html>

Related: OS#3812  
Change-Id: I94ccff42dfba71aaf59bb30ca312db0bac58c27d

## History

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### #1 - 02/21/2019 03:27 PM - msuraev

- Status changed from New to In Progress

### #2 - 02/21/2019 03:31 PM - msuraev

Can you attach your config.log? I'm unable to reproduce this yet.

### #3 - 02/21/2019 03:50 PM - msuraev

Also, please add output of "ldd ./tests/stream/stream\_test" - I'm unable to reproduce this on your office box under my user so it could be smth specific to your build.

### #4 - 02/21/2019 04:25 PM - neels

ldd uncovered the cause:

In a successful run, stream\_test links libosmo-netif.so from the build tree.  
In a failing run, stream\_test links a libosmo-netif.so from /usr/local/lib.

The only difference between a successful and a failing run, from the same build tree, is:  
in a failing run, env contains LD\_LIBRARY\_PATH=/usr/local/lib

Somehow, setting LD\_LIBRARY\_PATH changes the preference of which library gets linked.  
It should **always** link the library just now built in the source tree, regardless of the environment variables.  
Instead, pointing an LD\_LIBRARY\_PATH to /usr/local/lib makes it prefer the installed library.

We need to find a way to use the build-tree library even if LD\_LIBRARY\_PATH is set.  
Why? Consider a user is installing to a custom ~/prefix/lib, then merely passing LD\_LIBRARY\_PATH pointing there would break the build.

### #5 - 02/21/2019 04:35 PM - neels

How to reproduce:

- build and install libosmo-netif tag 0.4.0
- export LD\_LIBRARY\_PATH=/usr/local/lib
- 'make check' in current master of libosmo-netif (fe3527da2ac691c961f767c97d70bfe00d1e4d10)

The combination of an older library installed and the LD\_LIBRARY\_PATH in the env causes the test failure.

### #6 - 02/21/2019 04:36 PM - neels

- Priority changed from Immediate to Normal

A workaround is to remove the system-installed libosmo-netif, hence downgrading priority

### #7 - 02/21/2019 04:50 PM - msuraev

- Priority changed from Normal to Low

The combination of an older library installed and the LD\_LIBRARY\_PATH in the env causes the test failure.

Note: this might happen with any test in any of osmocom projects. In general I think the "solution" would be to not use LD\_LIBRARY\_PATH together with 'make check'. We should double-check with libtool docs to see how it's meant to interact with LD\_LIBRARY\_PATH.

### #8 - 02/23/2019 12:52 PM - neels

msuraev wrote:

I think the "solution" would be to not use LD\_LIBRARY\_PATH together with 'make check'. We should double-check with libtool docs to see how it's meant to interact with LD\_LIBRARY\_PATH.

That's a workaround. If the user needs to adjust the environment to be able to find installed library files and is then unable to do 'make check', your workaround doesn't work.

A solution would be something that allows setting whichever LD\_LIBRARY\_PATH and still have 'make check' work.

I'd prefer a way to make Makefile.am stronger than LD\_LIBRARY\_PATH, but in some projects, instead of linking library files, we directly compile .c files into the test binary.

#### #9 - 02/23/2019 12:53 PM - neels

- Assignee deleted (msuraev)

- Priority changed from Low to Normal

#### #10 - 03/13/2019 01:23 PM - osmith

- File log.txt added

I ran into this issue even **without having LD\_LIBRARY\_PATH set**. Here is how to reproduce it, run this script in the local libosmo-netif.git checkout.

```
#!/bin/sh -ex
: make distclean
env

git checkout 0fe9b3664a8d0b74d5e1c67593b350d67de3f98f # previous commit
autoreconf -fi
./configure
make clean
make check
make install

git checkout fa7df8726001146c902d3a93e2a4b425fa9024b0 # current master
autoreconf -fi
./configure
make clean
make check
```

The second "make check" fails, full output is attached.

testsuite.log contains:

```
5. testsuite.at:29: testing amr_test ...
./testsuite.at:32: $abs_top_builddir/tests/amr/amr_test
stderr:
/home/user/code/osmo-dev/src/libosmo-netif/tests/amr/.libs/amr_test: symbol lookup error: /home/user/code/osmo-dev/src/libosmo-netif/tests/amr/.libs/amr_test: undefined symbol: osmo_amr_oa_to_bwe
```

ldd shows that everything links against /usr/local/lib:

```
$ ldd tests/amr/.libs/amr_test
linux-vdso.so.1 (0x00007ffcc8d11000)
libtalloc.so.2 => /usr/lib/x86_64-linux-gnu/libtalloc.so.2 (0x00007fa3a203d000)
libosmogsm.so.11 => /usr/local/lib/libosmogsm.so.11 (0x00007fa3a1ddb000)
libosmocore.so.12 => /usr/local/lib/libosmocore.so.12 (0x00007fa3a1bb2000)
libosmonetif.so.6 => /usr/local/lib/libosmonetif.so.6 (0x00007fa3a19a2000)
libc.so.6 => /lib/x86_64-linux-gnu/libc.so.6 (0x00007fa3a1603000)
libdl.so.2 => /lib/x86_64-linux-gnu/libdl.so.2 (0x00007fa3a13ff000)
libgnutls.so.30 => /usr/lib/x86_64-linux-gnu/libgnutls.so.30 (0x00007fa3a1066000)
libsctp.so.1 => /usr/lib/x86_64-linux-gnu/libsctp.so.1 (0x00007fa3a0e63000)
/lib64/ld-linux-x86-64.so.2 (0x00007fa3a2455000)
libz.so.1 => /lib/x86_64-linux-gnu/libz.so.1 (0x00007fa3a0c49000)
libp11-kit.so.0 => /usr/lib/x86_64-linux-gnu/libp11-kit.so.0 (0x00007fa3a09e4000)
libidn.so.11 => /lib/x86_64-linux-gnu/libidn.so.11 (0x00007fa3a07b0000)
libtasn1.so.6 => /usr/lib/x86_64-linux-gnu/libtasn1.so.6 (0x00007fa3a059d000)
libnettle.so.6 => /usr/lib/x86_64-linux-gnu/libnettle.so.6 (0x00007fa3a0366000)
libhogweed.so.4 => /usr/lib/x86_64-linux-gnu/libhogweed.so.4 (0x00007fa3a0131000)
libgmp.so.10 => /usr/lib/x86_64-linux-gnu/libgmp.so.10 (0x00007fa39feae000)
libffi.so.6 => /usr/lib/x86_64-linux-gnu/libffi.so.6 (0x00007fa39fca5000)
libpthread.so.0 => /lib/x86_64-linux-gnu/libpthread.so.0 (0x00007fa39fa88000)
```

**#11 - 03/13/2019 01:56 PM - osmith**

It turns out, that at least in Debian 9, the following file exists by default:

```
$ sudo cat /etc/ld.so.conf.d/libc.conf
# libc default configuration
/usr/local/lib
```

**#12 - 03/13/2019 02:08 PM - msuraev**

I'm not sure it's actually related: I've got problem with amr-test despite not having anything in /usr/local/lib on ubuntu. And adding "amr\_amr\_test\_LDFLAGS = -no-install" to tests/Makefile.am fixed it for me. The same flag is used with stream tests so I think it's entirely different issue.

**#13 - 03/13/2019 02:09 PM - msuraev**

- Status changed from In Progress to Stalled

**#14 - 03/13/2019 04:15 PM - osmith**

[msuraev](https://gerrit.osmocom.org/#/c/libosmo-netif/+/-/13241): using -noinstall fixes it for me too, created a patch: <https://gerrit.osmocom.org/#/c/libosmo-netif/+/-/13241>

You are right, then the stream\_test issue is a completely different one.

**Files**

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log.txt	35.7 KB	03/13/2019	osmith
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