

## CoCoA - Bug #402

### Problem with 64-bit BOOST on Linux (Werner)

13 Sep 2013 16:14 - John Abbott

<b>Status:</b>	Closed	<b>Start date:</b>	13 Sep 2013
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	John Abbott	<b>% Done:</b>	100%
<b>Category:</b>	Portability	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>		<b>Spent time:</b>	6.35 hours
<b>Description</b>			
Werner says: ./configure complains that it does not find some Boost libraries. I searched my system and I have Boost installed (at least I think so). Two of the mentioned libraries exist in the directory /usr/lib64; the third one also seems to exist but its name is extended by -mt on my system (in fact, it seems that I have two copies of most Boost libraries and one always has an additional -mt in its name).			
<b>Related issues:</b>			
Related to CoCoALib - Feature #340: "configure" does not set BOOST if there a...		<b>Closed</b>	<b>09 Apr 2013</b>

### History

#### #1 - 13 Sep 2013 16:17 - John Abbott

Output of ./configure command

```
[seiler@spencer CoCoALib-0.9953]$ ./configure
Starting configuration process for CoCoALib...
```

```
Using GMP version 5.0.2 with gmpxx at system default location
```

```
Not using BOOST ==> compilation of CoCoA5+GUI disabled
```

```
REASON: CoCoA-5 needs the following missing BOOST sublibraries: libboost_thread libboost_filesystem libboost_system
```

```
The C++ compiler is g++
```

```
The C++ compilation flags are "-Wall -pedantic -fPIC -O2"
```

```
OPTIONAL external libraries:
```

```
Not using Frobbly
```

```
Not using GSL
```

```
Not using Normaliz
```

```
-----
CoCoALib configuration process complete
```

```
Configuration info saved in file configuration/autoconf.mk
```

```
Output of "make" (relevant parts)
```

```
=====
```

```
[seiler@spencer CoCoALib-0.9953]$ make
```

```
=====
```

```
Compiling CoCoALib-0.9953
```

```
  CXX = g++
```

```
  CXXFLAGS = -Wall -pedantic -fPIC -O2
```

```
  CXXFLAGS_DEFINES = -DCoCoA_ULONGLONG2LONG=1
```

```
=====
```

```
[...]
```

```
-----
*** Compilation of CoCoALib completed. ***
```

```
-----
make[2]: Leaving directory `/home/seiler/CoCoA/CoCoALib-0.9953/src'
```

```
make[2]: Entering directory `/home/seiler/CoCoA/CoCoALib-0.9953/doc'
```

```
make[2]: Leaving directory `/home/seiler/CoCoA/CoCoALib-0.9953/doc'
```

```
make[2]: Entering directory `/home/seiler/CoCoA/CoCoALib-0.9953/src/server'
```

```
Compiling CoCoA4io.o
```

```
Compiling SocketStream.o
```

```
Compiling RegisterServerOps.o
```

```
Compiling RegisterServerOpsUser.o
Compiling RegisterServerOpsFrobby.o
Compiling ServerOp.o
Compiling CoCoAServer.o
g++: Fehler: fehlendes Argument für »-L«
make[2]: *** [CoCoAServer] Fehler 1
make[2]: Leaving directory `/home/seiler/CoCoA/CoCoALib-0.9953/src/server'
make[1]: *** [server] Fehler 2
make[1]: Leaving directory `/home/seiler/CoCoA/CoCoALib-0.9953'
make: *** [default] Fehler 2
```

## #2 - 13 Sep 2013 17:28 - John Abbott

I note that Werner's transcript reports a problem with an arg to -L.

Perhaps the configuration scripts do not work as they should when BOOST is deemed to be absent? JAA will investigate.

## #3 - 12 Oct 2013 20:05 - John Abbott

- Category set to Portability

- Status changed from New to In Progress

- Assignee set to John Abbott

JAA is considering simplifying the script for locating BOOST:  
essentially it stops as soon as it finds an installation (first in the path).  
If that installation is not sufficiently complete then it produces an error.

I suppose I could try to make it search for the first sufficiently complete installation? Seems trickier, and the extra complexity may not be worth it.

## #4 - 13 Oct 2013 19:52 - John Abbott

- % Done changed from 0 to 10

JAA has sent to Werner 4 modified files -- awaiting confirmation that they work for him.

The "solution" is a cheap hack (in the script boost-find-lib.sh); it might not work if there are both lib64 and lib versions of BOOST, and the user wants to the lib version -- this scenario could arise if a user wants to compile a 32-bit version on a 32+64 bit system. Is it worth trying to allow this?

There was also a stupid design decision in configure.

## #5 - 14 Oct 2013 11:51 - John Abbott

- % Done changed from 10 to 20

Werner reports that a quick check suggests that my hack works.

## #6 - 16 Oct 2013 16:33 - John Abbott

- *Status changed from In Progress to Feedback*

- *% Done changed from 20 to 80*

There was one true (design) error: I have now modified `configure` and `fixed_part2` so that they are now sensible/correct.

I have added a hack to `boost-find-lib.sh` which looks for a `lib64/` directory first, and uses it if it exists; otherwise it looks for `lib/`, and uses that. This will probably make it tricky to do a 32-bit build on a 32-64 platform (but is this really such a problem?).

I hope that 32-64 platforms will eventually be entirely supplanted by proper 64-bit platforms; at that point the hack will become a pointless waste of time.

**#7 - 23 Oct 2013 21:44 - John Abbott**

- *Status changed from Feedback to Closed*

- *% Done changed from 80 to 100*

The matter was finally resolved via Skype -- an extra complication arose because Werner had an "anomalous" multiple installation of BOOST on his computer :-)

Regarding this issue as fully resolved, so closing.