

CoCoA-5 - Support #240

GUI compilation: GMP is not naturally thread-safe

27 Sep 2012 18:24 - Anna Maria Bigatti

Status:	Closed	Start date:	27 Sep 2012
Priority:	Normal	Due date:	
Assignee:	John Abbott	% Done:	100%
Category:	GUI	Estimated time:	3.33 hours
Target version:	CoCoA-5.3.0	Spent time:	3.30 hours
Description			
Difficult to notice, but it appears that the GUI (rarely) crashes (maybe!) for GMP not being thread-safe (the GUI runs in two threads)			
One example making it crash is this			
<pre>XX := ((10^131070-1984)/64) / ((10^131232)/64);</pre>			
[Right now I cannot find the exact fix by John (i.e. how to compile GMP with the "thread-safe" option)]			
In conclusion, the GUI should be linked to a thread-safe gmp. Design a way to automatically deal with this problem.			
Related issues:			
Related to CoCoA-5 - Support #1393: GUI with Qt5		Feedback	13 Jan 2020

History

#1 - 27 Sep 2012 18:26 - Anna Maria Bigatti

The first failing computation was (by L.Robbiano)

```
Use QQ[x];
F:=2*x*(1-x);
Pop:= Subst(F, x, 0.2);
For N:=2 To 20 Do
  Pop := Subst(F, x, Pop)
EndFor;
```

#2 - 27 Sep 2012 18:26 - Anna Maria Bigatti

- % Done changed from 0 to 10

#3 - 28 Sep 2012 12:49 - John Abbott

- Category set to GUI

- Status changed from New to In Progress

- Assignee set to John Abbott

- % Done changed from 10 to 50

I confirmed the problem using the GUI on my computer (Mac OS 10.5.8).

I reinstalled GMP (version 5.0.5), selecting a threadsafe build, and confirmed that the problem no longer exists. The GMP configuration command I used was:

```
./configure --enable-cxx --disable-alloca
```

The second option is the one which ensures that the build is threadsafe (**but the GMP documentation says there will be a run-time speed penalty**).

I am slightly puzzled because it seems to me that the GMP documentation suggests that the default setting for alloca would be threadsafe in any case (perhaps Macs have a poor alloca function?)

#4 - 01 Oct 2012 11:38 - John Abbott

- Status changed from *In Progress* to *Resolved*

If Anna and Renzo confirm that my solution works for them too, I'll close this issue.

#5 - 01 Oct 2012 16:47 - Anna Maria Bigatti

it works for me!

#6 - 02 Apr 2014 17:33 - Anna Maria Bigatti

- Target version set to *CoCoA-5.1.0 Easter14*

#7 - 07 May 2014 13:43 - John Abbott

- Target version changed from *CoCoA-5.1.0 Easter14* to *CoCoA-5.1.1 Seoul14*

#8 - 02 Sep 2014 11:27 - John Abbott

- Target version changed from *CoCoA-5.1.1 Seoul14* to *CoCoA-5.?.?*

#9 - 02 Sep 2014 14:11 - John Abbott

JAA has confirmed (20140902) that the problem persists (with GMP 6.0.0 built without the `--disable-alloca` flag).

#10 - 28 Jan 2020 10:32 - John Abbott

- Related to Support #1393: *GUI with Qt5 added*

#11 - 17 Feb 2020 15:18 - John Abbott

- % Done changed from *50* to *60*

This issue is very old. GMP has surely changed over the last 5 years (but last update was about 2 years ago). The old Qt interface does not work any more. Should we just close this issue as "probably no longer relevant"?

#12 - 11 Mar 2020 21:34 - John Abbott

- *Status changed from Resolved to Closed*
- *Target version changed from CoCoA-5.?.? to CoCoA-5.3.0*
- *% Done changed from 60 to 100*
- *Estimated time set to 3.33 h*

No one seems to care about this issue; I'm pretty sure it has lost all relevance, so I'm closing it.