

Conversion Tools - Bug #11945

Potential deadlock in frame_generator_pre when running multi-threaded conversion

10/06/2026 09:13 AM - Alexandru Lungu

Status:	Test	Start date:	
Priority:	Normal	Due date:	
Assignee:	Octavian Adrian Gavril	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:		reviewer:	Alexandru Lungu
billable:	No	production:	No
vendor_id:	GCD	env_name:	
case_num:		topics:	Conversion
version_reported:			
version_resolved:	16789		
Description			

History

#1 - 10/06/2026 09:16 AM - Alexandru Lungu

- Assignee set to Octavian Adrian Gavril

I hit a case in conversion when two threads were racing on the same TRPL code. This made both stuck. In rules/annotations/frame_generator_pre.xml:

```
<variable name="mockFormAst" type="com.goldencode.ast.Aast" multiThreadAccess="true" /> <!-- line 118, GLO
BAL
-->
...
<while>iter.hasNext()
  <action>ref = iter.next()</action>
  <action>mockFormAst = EMPTY_FORM_AST.duplicateFresh()</action>
  <action>mockFormAst.setHidden(true)</action>
  <action>copy.graft(mockFormAst)</action>
  <action>execLib("processForm", mockFormAst, ...)</action>
```

- 1. Thread A sets mockFormAst = X and grafts X.
- 2. Thread B sets mockFormAst = Y before A's next iteration.
- 3. A's next graft also uses Y, and so does B's. Y ends up in two trees, or grafted twice into the same parent. The second graft makes the current tail, Y, point to Y as its next sibling, so the chain loops back on itself.
- 4. The next addChild on that parent spins forever. Both trees are corrupted, which is why both threads hang at the same spot.

#2 - 10/06/2026 09:19 AM - Octavian Adrian Gavril

I'm looking into this right away.

#3 - 10/06/2026 10:45 AM - Octavian Adrian Gavril

I investigated the area, and it's pretty clear that mockFormAst should not be shared across threads. It shouldn't be declared as a global variable either, since it's only used within that <while> loop. I might have marked it that way by mistake when I flagged EMPTY_FORM_AST.

I think I just ran into this blocker while converting a module app for #10566.

I'm creating a branch and committing the fix right now.

#4 - 10/06/2026 12:51 PM - Octavian Adrian Gavril

- Status changed from New to WIP
- % Done changed from 0 to 100
- reviewer Alexandru Lungu added

Created branch **11945a**.

I moved the mockFormAst declaration from global to rule-set scope. This is committed in **rev16788**.

Alex, please review the change.

#5 - 10/06/2026 12:51 PM - Octavian Adrian Gavril

- Status changed from WIP to Review

#6 - 10/07/2026 05:16 AM - Alexandru Lungu

- Status changed from Review to Internal Test

I am OK with the changes. It also fixes the conversion in question.
Feel free to smoke test some conversions. When ready, please let me know so I can grant the green light for merging.

#7 - 10/07/2026 07:12 AM - Octavian Adrian Gavril

Alexandru Lungu wrote:

I am OK with the changes. It also fixes the conversion in question.
Feel free to smoke test some conversions. When ready, please let me know so I can grant the green light for merging.

I completed full conversion regression testing for **Hotel GUI**, **Hotel ChUI**, **ChUI regression testing app**, and the **OO application**. All conversions completed successfully, with no changes in the generated output.

Is any additional testing required?

#8 - 10/07/2026 08:00 AM - Alexandru Lungu

- *Status changed from Internal Test to Merge Pending*

No, please merge to trunk now.

#9 - 10/07/2026 08:07 AM - Octavian Adrian Gavril

- *Status changed from Merge Pending to Test*

- *version_resolved set to 16789*

- *topics Conversion added*

Branch **11945a** was merged into trunk as rev. **16789** and archived.