

## Kepler - Bug #5655

### sdm spa Repeat is a duplicate of a Ptolemy actor

08/06/2012 04:39 PM - Christopher Brooks

<b>Status:</b>	Resolved	<b>Start date:</b>	08/06/2012
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	jianwu jianwu	<b>% Done:</b>	0%
<b>Category:</b>	actors	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	2.4.0	<b>Spent time:</b>	0.00 hour
<b>Bugzilla-Id:</b>	5655		
<b>Description</b>			
./actors/src/org/sdm/spa/Repeat.java FIXME: No documentation? If possible, Deprecate and extend ptolemy/src/ptolemy/domains/sdf/lib/Repeat.java			

### History

#### #1 - 08/07/2012 01:56 PM - jianwu jianwu

These two actors have different ports and parameters. Ptolemy one has one input port and two parameters; Sdm one has two input ports and no parameter.

#### #2 - 08/07/2012 02:12 PM - Christopher Brooks

Kepler actors/src/org/sdm/spa/Repeat.java has:

```
public TypedIOPort portOutput;  
public TypedIOPort portInput;  
public TypedIOPort portNum;
```

Ptolemy sdf/lib/Repeat has:

```
/** The repetition factor. It is of type integer and has a default * value of 2. It must be greater than zero.  
*/  
public Parameter numberOfTimes;
```

```
/** The number of tokens in a block. It is of type integer and has a  
* default value of 1. It must be greater than zero.  
*/  
public Parameter blockSize;
```

input and output ports from SDFTransformer

The way I would handle is to modify Ptolemy's sdf/lib/Repeat.java so that numberOfTimes is a PortParameter. See actor/lib/Ramp.java for an example. Basically, with PortParameters, the update() method should be called once.

Then, modify the Kepler moml/filter classes to change the name of the actor and the name of the ports. There could be some trickiness here, you probably want to change the name of the ports first.

#### #3 - 09/11/2012 01:57 PM - jianwu jianwu

I dig more into the two actors and found more differences:

1) sdf/lib/Repeat works with SDF, not PN (no output with PN director); org/sdm/spa/Repeat works with PN, not SDF (only 1 can be set for SDF iterations parameter)

2) sdf/lib/Repeat has a parameter called 'blockSize' and can accept a serial of input tokens (e.g. from Ramp actor); org/sdm/spa/Repeat doesn't have such a parameter, and only the first token is processed if a serial of input tokens are sent to portInput port.

I don't know why org/sdm/spa/Repeat is built. My guess is that it tries to have repeat behavior with PN.

With such big differences, it might not be a good choice to merge them. Maybe we should update their documents, having a 'see also' link to the other repeat actor?

#### #4 - 09/11/2012 02:05 PM - Christopher Brooks

Could you add the sdf/lib/Repeat PN test case as an attachment?

I'll take a look and possibly fold it in to the Ptolemy II tests.

Maybe the thing to do is update the sdm/spa/Repeat documentation and then retarget this to 2.X?

The Ptolemy documentation should probably not be updated to mention Kepler until we verify that Repeat will not work in PN.

**#9 - 09/11/2012 02:11 PM - jianwu jianwu**

I updated the all four workflows. I'll update Kepler repeat actor documentation and re-target it to 2.X.

**#10 - 09/11/2012 07:20 PM - Christopher Brooks**

ptolemy-repeat-actor-in-PN at <http://bugzilla.ecoinformatics.org/attachment.cgi?id=434> will work if the FiringCountLimit of the Const is set to 2 instead of 1.

If FiringCountLimit is set to 1, then under PN the Const actor fires only once, which means the Repeat actor gets only one token instead of the two that it requires.

**#11 - 09/12/2012 11:00 AM - jianwu jianwu**

Hi Christopher, you are right. Either setting FiringCountLimit of Const actor to be 2, or setting blockSize of Repeat actor to be 1 will work. If I just replace the PN with SDF, the same workflow will throw an exception of Repeat when I tried to run it. But PN director doesn't throw an exception. That's why I thought repeat actor doesn't work with PN. Also its class name (ptolemy.domains.sdf.lib.Repeat) seems it might only work with SDF. :)

After discussion with Dan, I think the best way now is only updating ptolemy/domains/sdf/lib/Repeat.java by changing its numberOfTimes from parameter to portparameter. It will cover all the behaviors we need for Repeat. As for sdm/spa/Repeat.java, since its behavior is a little different when using SDF (it only output 1). I will comment the code to be deprecated. Old workflows using this actor can still be opened and run. And since sdm/spa/Repeat.java is not in the actor tree, new workflows will not use it.

**#12 - 09/18/2012 04:04 PM - jianwu jianwu**

after discussion, we will go with comment 11.

**#13 - 09/20/2012 10:39 AM - jianwu jianwu**

The changes are done based on comment 11. The bug is fixed at kepler version 30712 and ptolemy version 64693.

**#14 - 03/27/2013 02:31 PM - Redmine Admin**

Original Bugzilla ID was 5655

**Files**

---

ptolemy-repeat-demo-in-PN.xml	23.5 KB	09/11/2012	jianwu jianwu
kepler-repeat-demo-in-SDF.xml	35 KB	09/11/2012	jianwu jianwu
ptolemy-repeat-demo-in-SDF.xml	33.9 KB	09/11/2012	jianwu jianwu
kepler-repeat-demo-PN.xml	26.2 KB	09/11/2012	jianwu jianwu