

Kepler - Bug #5172

Exceptions are sometimes thrown during sensor workflow run

09/08/2010 04:15 PM - Sean Riddle

Status:	Resolved	Start date:	09/08/2010
Priority:	Normal	Due date:	
Assignee:	Daniel Crawl	% Done:	0%
Category:	sensor-view	Estimated time:	0.00 hour
Target version:	sensor-view-0.9.0	Spent time:	0.00 hour
Bugzilla-Id:	5172		

Description

When running a sensor workflow (importing the localhost sensor simulator site), I will intermittently encounter one of three exceptions. I haven't checked, but I suspect that any sensor names given are not consistent between instances of an exception. Kepler will intercept the exception properly, and display an error message, stopping the workflow.

The exceptions are attached below:

--Exception 1 start--  
ptolemy.kernel.util.InternalErrorException: Failed to compute port depth for .Unnamed1.sensor8.data  
at ptolemy.actor.util.CausalityInterfaceForComposites.\_computeInputDepth(CausalityInterfaceForComposites.java:696)  
at ptolemy.actor.util.CausalityInterfaceForComposites.\_computeOutputPortDepth(CausalityInterfaceForComposites.java:756)  
at ptolemy.actor.util.CausalityInterfaceForComposites.\_computeInputDepth(CausalityInterfaceForComposites.java:692)  
at ptolemy.actor.util.CausalityInterfaceForComposites.\_computeActorDepth(CausalityInterfaceForComposites.java:527)  
at ptolemy.actor.util.CausalityInterfaceForComposites.getDepthOfPort(CausalityInterfaceForComposites.java:373)  
at ptolemy.domains.de.kernel.DEDirector.\_getDepthOfIOPort(DEDirector.java:1582)  
at ptolemy.domains.de.kernel.DEDirector.\_enqueueTriggerEvent(DEDirector.java:1541)  
at ptolemy.domains.de.kernel.DEReceiver.put(DEReceiver.java:162)  
at ptolemy.actor.AbstractReceiver.putToAll(AbstractReceiver.java:332)  
at ptolemy.actor.IOPort.broadcast(IOPort.java:288)  
at ptolemy.actor.TypedIOPort.broadcast(TypedIOPort.java:238)  
at org.kepler.sensor.actor.Sensor.fire(Sensor.java:323)  
at ptolemy.domains.de.kernel.DEDirector.fire(DEDirector.java:568)  
at ptolemy.actor.CompositeActor.fire(CompositeActor.java:459)  
at ptolemy.actor.Manager.iterate(Manager.java:749)  
at ptolemy.actor.Manager.execute(Manager.java:351)  
at ptolemy.actor.Manager.run(Manager.java:1164)  
at ptolemy.actor.Manager\$3.run(Manager.java:1217)  
--Exception 1 stop--

--Exception 2 start--  
ptolemy.kernel.util.InternalErrorException: Because:  
Attempt to get depth of ioPort .Unnamed1.CR800.sensors that was not sorted.  
at ptolemy.domains.de.kernel.DEReceiver.put(DEReceiver.java:165)  
at ptolemy.actor.AbstractReceiver.putToAll(AbstractReceiver.java:332)  
at ptolemy.actor.IOPort.broadcast(IOPort.java:288)  
at ptolemy.actor.TypedIOPort.broadcast(TypedIOPort.java:238)  
at org.kepler.sensor.actor.Sensor.fire(Sensor.java:323)  
at ptolemy.domains.de.kernel.DEDirector.fire(DEDirector.java:568)  
at ptolemy.actor.CompositeActor.fire(CompositeActor.java:459)  
at ptolemy.actor.Manager.iterate(Manager.java:749)  
at ptolemy.actor.Manager.execute(Manager.java:351)  
at ptolemy.actor.Manager.run(Manager.java:1164)  
at ptolemy.actor.Manager\$3.run(Manager.java:1217)  
Caused by: ptolemy.kernel.util.IllegalActionException: Attempt to get depth of ioPort .Unnamed1.CR800.sensors that was not sorted.  
at ptolemy.actor.util.CausalityInterfaceForComposites.getDepthOfPort(CausalityInterfaceForComposites.java:379)  
at ptolemy.domains.de.kernel.DEDirector.\_getDepthOfIOPort(DEDirector.java:1582)  
at ptolemy.domains.de.kernel.DEDirector.\_enqueueTriggerEvent(DEDirector.java:1541)  
at ptolemy.domains.de.kernel.DEReceiver.put(DEReceiver.java:162)  
... 10 more  
Caused by: ptolemy.kernel.util.IllegalActionException: Attempt to get depth of ioPort .Unnamed1.CR800.sensors that was not sorted.  
at ptolemy.actor.util.CausalityInterfaceForComposites.getDepthOfPort(CausalityInterfaceForComposites.java:379)  
at ptolemy.domains.de.kernel.DEDirector.\_getDepthOfIOPort(DEDirector.java:1582)

```

at ptolamy.domains.de.kernel.DEDirector._enqueueTriggerEvent(DEDirector.java:1541)
at ptolamy.domains.de.kernel.DEReceiver.put(DEReceiver.java:162)
at ptolamy.actor.AbstractReceiver.putToAll(AbstractReceiver.java:332)
at ptolamy.actor.IOPort.broadcast(IOPort.java:288)
at ptolamy.actor.TypedIOPort.broadcast(TypedIOPort.java:238)
at org.kepler.sensor.actor.Sensor.fire(Sensor.java:323)
at ptolamy.domains.de.kernel.DEDirector.fire(DEDirector.java:568)
at ptolamy.actor.CompositeActor.fire(CompositeActor.java:459)
at ptolamy.actor.Manager.iterate(Manager.java:749)
at ptolamy.actor.Manager.execute(Manager.java:351)
at ptolamy.actor.Manager.run(Manager.java:1164)
at ptolamy.actor.Manager$3.run(Manager.java:1217)
--Exception 2 stop--

--Exception 3 start--
java.util.ConcurrentModificationException
at java.util.LinkedList$ListItr.checkForComodification(LinkedList.java:617)
at java.util.LinkedList$ListItr.next(LinkedList.java:552)
at ptolamy.actor.util.CausalityInterfaceForComposites._computeInputDepth(CausalityInterfaceForComposites.java:669)
at ptolamy.actor.util.CausalityInterfaceForComposites._computeOutputPortDepth(CausalityInterfaceForComposites.java:756)
at ptolamy.actor.util.CausalityInterfaceForComposites._computeInputDepth(CausalityInterfaceForComposites.java:692)
at ptolamy.actor.util.CausalityInterfaceForComposites._computeActorDepth(CausalityInterfaceForComposites.java:527)
at ptolamy.actor.util.CausalityInterfaceForComposites.getDepthOfPort(CausalityInterfaceForComposites.java:373)
at ptolamy.domains.de.kernel.DEDirector._getDepthOfIOPort(DEDirector.java:1582)
at ptolamy.domains.de.kernel.DEDirector._enqueueTriggerEvent(DEDirector.java:1541)
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at ptolamy.actor.CompositeActor.fire(CompositeActor.java:459)
at ptolamy.actor.Manager.iterate(Manager.java:749)
at ptolamy.actor.Manager.execute(Manager.java:351)
at ptolamy.actor.Manager.run(Manager.java:1164)
at ptolamy.actor.Manager$3.run(Manager.java:1217)
--Exception 3 stop--

```

## History

### #1 - 09/24/2010 04:04 PM - Daniel Crawl

I've also seen this exception occasionally when using the Sensor actors. It's possible that the Sensor actor is doing something not allowed in DE.

To reproduce, follow the instructions described here:

<https://kepler-project.org/developers/incubation/kepler-engineering-view-for-reap/running-sensor-simulator>

Note that it may take a few minutes before the exception occurs.

### #2 - 10/07/2010 10:42 AM - Sean Riddle

One more found:

```

java.lang.NullPointerException
at diva.canvas.toolbox.BasicHighlighter.repaint(BasicHighlighter.java:204)
at diva.canvas.toolbox.BasicHighlighter.repaint(BasicHighlighter.java:189)
at diva.canvas.AbstractFigureContainer.repaint(AbstractFigureContainer.java:124)
at diva.canvas.CompositeFigure.repaint(CompositeFigure.java:415)
at diva.canvas.AbstractFigure.repaint(AbstractFigure.java:236)
at diva.canvas.AbstractFigure.repaint(AbstractFigure.java:224)
at diva.canvas.toolbox.LabelFigure.setString(LabelFigure.java:405)
at org.kepler.sensor.actor.Sensor.fire(Sensor.java:321)
at ptolamy.domains.de.kernel.DEDirector.fire(DEDirector.java:568)
at ptolamy.actor.CompositeActor.fire(CompositeActor.java:459)
at ptolamy.actor.Manager.iterate(Manager.java:749)
at ptolamy.actor.Manager.execute(Manager.java:351)
at ptolamy.actor.Manager.run(Manager.java:1164)
at ptolamy.actor.Manager$3.run(Manager.java:1217)

```

### #3 - 10/08/2010 04:01 PM - Daniel Crawl

Here's another exception:

```
Exception in thread "Thread-51" java.lang.NullPointerException
at ptolemy.actor.util.CausalityInterfaceForComposites._computeInputDepth(CausalityInterfaceForComposites.java:681)
at ptolemy.actor.util.CausalityInterfaceForComposites._computeActorDepth(CausalityInterfaceForComposites.java:526)
at ptolemy.actor.util.CausalityInterfaceForComposites.getDepthOfActor(CausalityInterfaceForComposites.java:341)
at ptolemy.domains.de.kernel.DEDirector._getDepthOfActor(DEDirector.java:1567)
at ptolemy.domains.de.kernel.DEDirector._enqueueEvent(DEDirector.java:1504)
at ptolemy.domains.de.kernel.DEDirector.fireAt(DEDirector.java:771)
at ptolemy.actor.Director.fireAtCurrentTime(Director.java:439)
at org.kepler.sensor.actor.Sensor$ReadDataThread.run(Sensor.java:551)
```

### #4 - 10/26/2010 02:51 PM - Daniel Crawl

Another GUI exception:

```
Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException
at sun.java2d.pipe.DuctusShapeRenderer.renderPath(DuctusShapeRenderer.java:93)
at sun.java2d.pipe.DuctusShapeRenderer.fill(DuctusShapeRenderer.java:50)
at sun.java2d.pipe.PixelToParallelogramConverter.fill(PixelToParallelogramConverter.java:146)
at sun.java2d.SunGraphics2D.fill(SunGraphics2D.java:2646)
at diva.canvas.toolbox.LabelFigure.paint(LabelFigure.java:307)
at diva.canvas.CompositeFigure.paint(CompositeFigure.java:303)
at diva.canvas.FigureLayer.paint(FigureLayer.java:393)
at diva.canvas.CanvasPane.paint(CanvasPane.java:216)
at diva.canvas.JCanvas.paint(JCanvas.java:202)
at javax.swing.JComponent.paintChildren(JComponent.java:862)
at javax.swing.JComponent.paint(JComponent.java:1038)
at javax.swing.JComponent._paintImmediately(JComponent.java:5098)
at javax.swing.JComponent.paintImmediately(JComponent.java:4882)
at javax.swing.RepaintManager.paintDirtyRegions(RepaintManager.java:811)
at javax.swing.RepaintManager.paintDirtyRegions(RepaintManager.java:713)
at javax.swing.RepaintManager.seqPaintDirtyRegions(RepaintManager.java:693)
at javax.swing.SystemEventQueueUtilities$ComponentWorkRequest.run(SystemEventQueueUtilities.java:125)
at java.awt.event.InvocationEvent.dispatch(InvocationEvent.java:209)
at java.awt.EventQueue.dispatchEvent(EventQueue.java:633)
at java.awt.EventDispatchThread.pumpOneEventForFilters(EventDispatchThread.java:296)
at java.awt.EventDispatchThread.pumpEventsForFilter(EventDispatchThread.java:211)
at java.awt.EventDispatchThread.pumpEventsForHierarchy(EventDispatchThread.java:201)
at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:196)
at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:188)
at java.awt.EventDispatchThread.run(EventDispatchThread.java:122)
```

### #5 - 10/29/2010 05:25 PM - Daniel Crawl

fireAtCurrentTime() is now being called in a ChangeRequest and this appears to stop the exceptions related to DE. This was a suggestion by Edward Lee as a workaround for a concurrency bug in the DE Director:

<http://lists.nceas.ucsb.edu/kepler/pipermail/kepler-dev/2008-January/012099.html>

### #6 - 11/02/2010 12:32 PM - Christopher Brooks

I took a quick look at the  
Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException  
at  
sun.java2d.pipe.DuctusShapeRenderer.renderPath(DuctusShapeRenderer.java:93)

stack trace and did not find much:

<http://stackoverflow.com/questions/1143099/what-causes-a-nullpointerexception-in-the-awt-eventqueue-0-thread> - suggests using Eclipse to break on a NPE and then follow the object back.

Looking around, it could be caused by running on one machine and displaying on another.

I suspect that there is either a threading bug somewhere that causes this stack trace or there is a general bug that is not specific to this bug report that is causing it.

To track down this stack trace, we'd need to know more about the platform, the JDK and how to replicate the bug.

**#7 - 12/08/2010 11:53 AM - Derik Barseghian**

I also get the BasicHighlighter (comment#2) and DuctusShapeRenderer (comment#4) NPEs, on os X 10.6, java 1.6.

**#8 - 02/14/2011 01:45 PM - Derik Barseghian**

changing bugs from REAP to Kepler product

**#9 - 02/18/2011 04:17 PM - Derik Barseghian**

Dealing with the BasicHighlighter exception is probably the most important because when it happens workflow execution stops.

**#10 - 04/07/2011 11:14 AM - Daniel Crawl**

I updated the actor to change the icon text in the Swing thread and this appears to fix the problem.

**#11 - 03/27/2013 02:29 PM - Redmine Admin**

Original Bugzilla ID was 5172