

Kepler - Bug #5460

Mac OS X: Matlab Actors fail in Kepler.app

08/14/2011 11:25 AM - Christopher Brooks

Status:	Resolved	Start date:	08/14/2011
Priority:	Normal	Due date:	
Assignee:	David Welker	% Done:	0%
Category:	actors	Estimated time:	0.00 hour
Target version:	2.3.0	Spent time:	0.00 hour
Bugzilla-Id:	5460		

Description

Models that use the Matlab interface fail when started under Mac OS X by double clicking on Kepler.app.

This is a new Mac running Mac OS X 10.7.

I had to make some changes to Matlab interface, these should be folded into the Kepler-2.3 tree.

The problem is that in the devel tree, ant run-only was failing with:

```
ptolemy.kernel.util.IllegalActionException: .MatlabExpression.MatlabExpression: ptolemy.kernel.util.IllegalActionException: Token 0.0 is of type double
```

```
in .MatlabExpression.MatlabExpression
```

Because:

```
.MatlabExpression.MatlabExpression: ptolemy.kernel.util.IllegalActionException: Token 0.0 is of type double
```

```
at ptolemy.actor.AtomicActor.iterate(AtomicActor.java:500)
```

```
at ptolemy.actor.sched.StaticSchedulingDirector.fire(StaticSchedulingDirector.java:188)
```

```
at ptolemy.actor.CompositeActor.fire(CompositeActor.java:458)
```

```
at ptolemy.actor.Manager.iterate(Manager.java:742)
```

```
at ptolemy.actor.Manager.execute(Manager.java:351)
```

```
at ptolemy.actor.Manager.run(Manager.java:1111)
```

```
at ptolemy.actor.Manager$PtolemyRunThread.run(Manager.java:1641)
```

```
Caused by: ptolemy.kernel.util.IllegalActionException: .MatlabExpression.MatlabExpression:
```

```
ptolemy.kernel.util.IllegalActionException: Token 0.0 is of type double
```

```
at ptolemy.matlab.Expression.fire(Expression.java:436)
```

```
at ptolemy.actor.AtomicActor.iterate(AtomicActor.java:461)
```

```
... 6 more
```

```
Caused by: ptolemy.kernel.util.IllegalActionException: .MatlabExpression.MatlabExpression:
```

```
ptolemy.kernel.util.IllegalActionException: Token 0.0 is of type double
```

```
at ptolemy.matlab.Expression.fire(Expression.java:436)
```

```
at ptolemy.actor.AtomicActor.iterate(AtomicActor.java:461)
```

```
at ptolemy.actor.sched.StaticSchedulingDirector.fire(StaticSchedulingDirector.java:188)
```

```
at ptolemy.actor.CompositeActor.fire(CompositeActor.java:458)
```

```
at ptolemy.actor.Manager.iterate(Manager.java:742)
```

```
at ptolemy.actor.Manager.execute(Manager.java:351)
```

```
at ptolemy.actor.Manager.run(Manager.java:1111)
```

```
at ptolemy.actor.Manager$PtolemyRunThread.run(Manager.java:1641)
```

I fixed this in

New Revision: 61797

Modified:

trunk/ptolemy/matlab/Engine.java

trunk/ptolemy/matlab/Expression.java

Log:

Better error messages if time and iteration cannot be set. Properly handle DoubleToken and IntToken in Engine.put(). It is a mystery as to why this bug did appear before.

However, with Kepler-2.3 rc1, I'm not even getting that far.

When I run the SDF MatlabExpression model, I get:

```
ptolemy.kernel.util.IllegalActionException: matlabEngine.open(null) : can't find Matlab engine. Try starting Matlab by hand as an application to verify that Matlab is set up properly and the license is correct. Under Windows, try running "matlab /regserver", the Matlab C API communicates with Matlab via COM, and apparently the COM interface is not automatically registered when Matlab is installed. Under Linux and other types of UNIX, csh must be installed in /bin/csh.
```

```
at ptolemy.matlab.Engine.open(Engine.java:280)
at ptolemy.matlab.Engine.open(Engine.java:232)
at ptolemy.matlab.Expression.preinitialize(Expression.java:303)
at ptolemy.actor.Director.preinitialize(Director.java:1010)
at ptolemy.actor.Director.preinitialize(Director.java:991)
at ptolemy.domains.sdf.kernel.SDFDirector.preinitialize(SDFDirector.java:647)
at ptolemy.actor.CompositeActor.preinitialize(CompositeActor.java:1735)
at ptolemy.actor.Manager.preinitializeAndResolveTypes(Manager.java:983)
at ptolemy.actor.Manager.initialize(Manager.java:643)
at ptolemy.actor.Manager.execute(Manager.java:340)
at ptolemy.actor.Manager.run(Manager.java:1164)
at ptolemy.actor.Manager$3.run(Manager.java:1217)
```

The Console application reports:

```
8/14/11 11:17:34.240 AM [0x0-0x156156].org.kepler.build.runner.Kepler: [null] matlab: Command not found.
8/14/11 11:17:34.241 AM [0x0-0x156156].org.kepler.build.runner.Kepler: [null] ptmatlabEngOpen: failed!
```

However, the matlab directory is in my path, see

<https://kepler-project.org/developers/teams/build/setting-up-mac-os-x-to-use-the-matlab-interface>

Related issues:

Blocked by Kepler - Bug #5459: Kepler 2.3 blocking bug

Resolved

08/14/2011

History

#1 - 08/14/2011 04:11 PM - Christopher Brooks

The best way to handle this is to create a symbolic link:

```
sudo ln -s /Applications/MATLAB_R2011a.app/bin/matlab /usr/bin/matlab
I updated
```

<https://kepler-project.org/developers/teams/build/setting-up-mac-os-x-to-use-the-matlab-interface>

Unfortunately, adding a PATH variable to ~/.MacOSX/environment.plist has the undesired effect of overriding the previous settings, which in the default is

```
/usr/bin:/bin:/usr/sbin:/sbin:/Applications/Kepler-2.3/Kepler.app/Contents/Resources/Java/r-2.3.0/lib:/Applications/Kepler-2.3/Kepler.app/Contents/Resources/Java/common-2.3.0/lib/ptolemy/matlab:/Applications/Kepler-2.3/Kepler.app/Contents/Resources/Java/common-2.3.0/lib:/Applications/Kepler-2.3/Kepler.app/Contents/Resources/Java/ptolemy-kepler-2.3.0/lib/ptolemy-lib
```

One possibility is to set PATH to

```
/usr/bin:/bin:/usr/sbin:/sbin:/Applications/MATLAB_R2011a.app/bin
```

but this seems risky since the PATH might include

#2 - 08/14/2011 04:22 PM - Christopher Brooks

Reopening this because changes to the Matlab interface need to be folded in to the 2.3.0 release.

#3 - 08/22/2011 11:52 AM - Derik Barseghian

Hey Christopher, I've looked through the changes post 61797 and don't see any obvious reason not to move all the way to 61907 for ptolemy-kepler-2.3. But let me know if you prefer an earlier revision.

#4 - 08/22/2011 12:40 PM - Christopher Brooks

Moving to r61797 in the pttl tree seems reasonable.

The ChangeLog is at

<http://chess.eecs.berkeley.edu/ptexternal/nightly/ChangeLog.txt>

#5 - 08/24/2011 01:48 PM - Derik Barseghian

I moved 2.3 to pttl r61797, and at kepler r28349 i updated the ptolemy-kepler-2.3.0 branch. So it should be fixed but Christopher can you verify once I release another set of 2.3.0 installers?

#6 - 10/05/2011 05:38 PM - Christopher Brooks

I was able to run the Matlab interface in Kepler-2.3 "rc1". So I'm closing this one.

#7 - 03/27/2013 02:30 PM - Redmine Admin

Original Bugzilla ID was 5460