

Kepler - Bug #3115

Need to check Kepler for memory leaks

01/31/2008 01:04 PM - Dan Higgins

Status:	Resolved	Start date:	01/31/2008
Priority:	Normal	Due date:	
Assignee:	Sean Riddle	% Done:	0%
Category:	general	Estimated time:	0.00 hour
Target version:	1.0.0	Spent time:	0.00 hour
Bugzilla-Id:	3115		
Description			
Need to do some testing to see if Kepler memory leaks occur (i.e. does memory use increase even when workflows closed).			
This was investigated 6 months (or more) ago, but has not been checked recently.,			

History

#1 - 01/31/2008 02:10 PM - Christopher Brooks

This thread concerning memory leaks might be of use:

Jackie wrote:

I narrowed down the memory leak a bit and found out one main cause. It looks like it's coming from executing MoML change requests. For example, issuing multiple calls like `NamedObj.requestChange(new MoMLChangeRequest(...))` would quickly overflow the memory.

--jackie

----- Original Message -----

From: "Christopher Brooks" <cxb@eecs.berkeley.edu>

To: "Jackie Man-Kit Leung" <jleung@berkeley.edu>

Cc: <ptresearch@chess.eecs.berkeley.edu>

Sent: Friday, November 30, 2007 2:51 PM

Subject: Re: Increasing memory usage after running multiple rounds of test

Hi Jackie,
Welcome to the world of memory leaks.
See [\\$PTII/doc/coding/performance.htm](#)

Calling `MoMLParser.reset` and `MoMLParser.purgeAllModelRecords()` might not free up all memory. It is easier to look and see what memory is leaking and fix it than it is to try to figure it out without leakage data.

Definitely try to work within a non-gui environment at first. Using the test environment is the way to go.

There are several products available.

Check out HP's JMeter, which is free.

See also JProfiler and JProbe.

We can buy copies of these products, though it might take awhile to do so.

Can you look over [\\$PTII/doc/coding/performance.htm](#) and updated it as necessary?

_Christopher

Christopher,

I have been chasing a memory leak problem that causes the tcl script to crash during regression testing. The jvm basically throws a `OutOfMemoryException` and stop functioning for subsequent tests. This

happens even if i call MomlParser.purgeAllModelRecord() and MomlParser.reset() in-between all the tests. Some memory is not being released but i am not sure what. I put in some print statements and found that the amount of memory leak is highly non-uniform (i.e. some model tests have zero leak). Plus, i found that the order in which these models get run change the amount of leak for a particular model test as well.

I think there are two possibilities: one is because Ptolemy II is caching the actors, which is unlikely because i think calling MomlParser.purgeAllModelRecord() and MomlParser.reset() would have solved the problem, if that's the case. Another possibility i thought of is that some of the tokens may be cached by the software so it can reuse them for future computation and be efficient. However, i don't seem find any code doing that. Any suggestions?

--jackie

#2 - 04/02/2008 09:08 AM - Chad Berkley

We should run each of the demo workflows with a memory usage analyzer to make sure that no major leaks are found with the demo usage.

#3 - 04/16/2008 03:30 PM - Christopher Brooks

My notes are at:

<http://ptolemy.eecs.berkeley.edu/ptolemyII/ptIIlatest/ptII/doc/coding/performance.htm>

#4 - 04/22/2008 05:30 PM - Sean Riddle

I did not detect significant memory leaks. From a cost-benefit perspective, there is little advantage to push to find them now versus at a later point in time. This should not impair release.

On several contiguous runs of a workflow, there was no detected leakage, and on a single long-running workflow, there was no detectable leakage.

#5 - 03/27/2013 02:22 PM - Redmine Admin

Original Bugzilla ID was 3115