Test Bench Suite (SoT)

User Tutorial for Test Bench Suite (SoT)

May 2, 2014

Tel (615) 343-7472 Fax (615) 343-7440
1025 16th Avenue South Nashville, TN 37212
www.isis.vanderbilt.edu

VANDERBILT
UNIVERSITY

1.0 Purpose

The main functionality of an SoT, is to allow users pass data outputs across test bench analyses, including those not from the same domain (i.e. CAD and Dynamics). Allows users to simultaneously execute multiple test benches to save time and provide data analysis across multiple test benches. For example, combining a mass test bench with a dynamics test bench, provides a more accurate analysis because the weight of vehicle is calculated, and then used for the dynamic test bench. SoT functionality will be expanded to run across different domain tools, and improve the user's ability to customize.

2.0 Assumptions/Conditions

- All test benches have to reference the same design container
- Only scalar metrics can be used
- A test bench that uses the output of another test bench as an input, is dependent on this other test bench. Therefore, if the first test bench fails in this SoT scenario, the dependent test bench will also fail.
- Independent test benches in a suite will continue to execute even if any of the other independent test benches fail.

3.0 Procedure: Setting up an SoT Test Bench

Right click on a "testing" folder and insert "Test Bench Suites", as seen in Figure 1. Give your folder a name. For this case, "SoT" will be used.

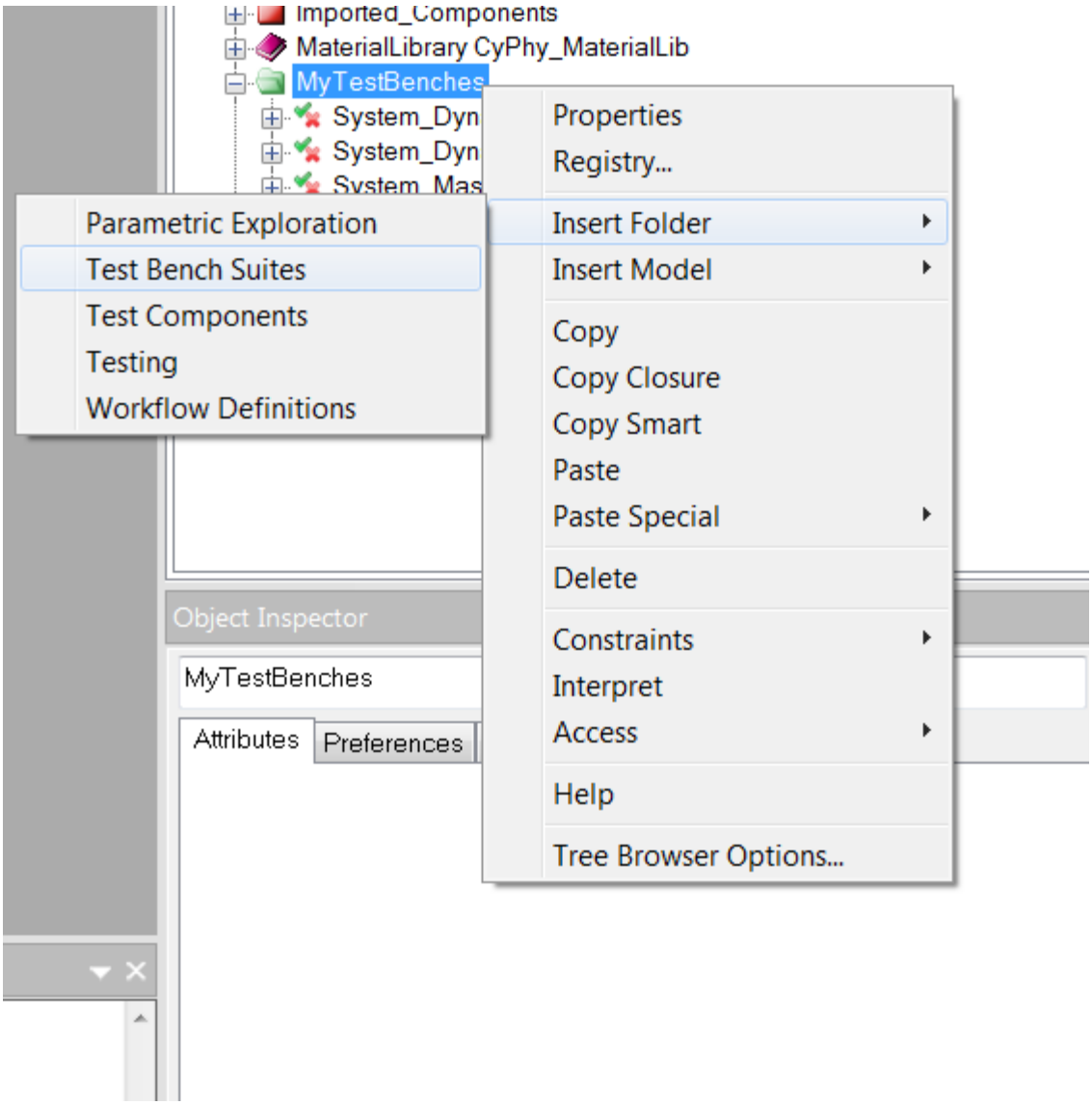

Figure 1: Inserting a Test Bench Suite Folder

Right click on the SoT folder > Insert Model > TestBenchSuite, as seen in Figure 2.

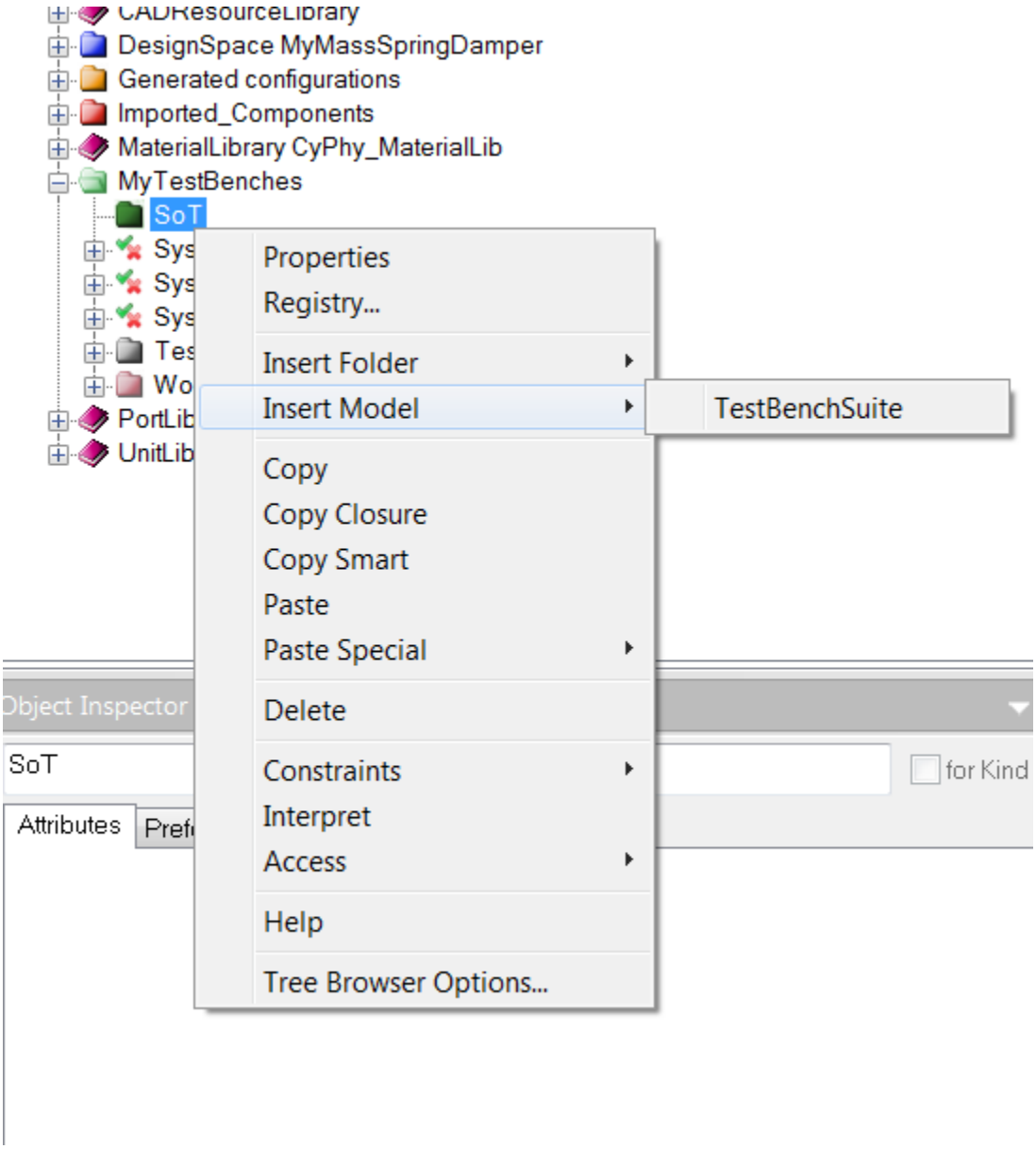

Figure 2: Inserting a TestBenchSuite Model

Double click the SoT model to open a new workspace. Copy and paste as reference the first test bench into the workspace. For this example, a dynamics test bench is used, as seen in Figure 3.

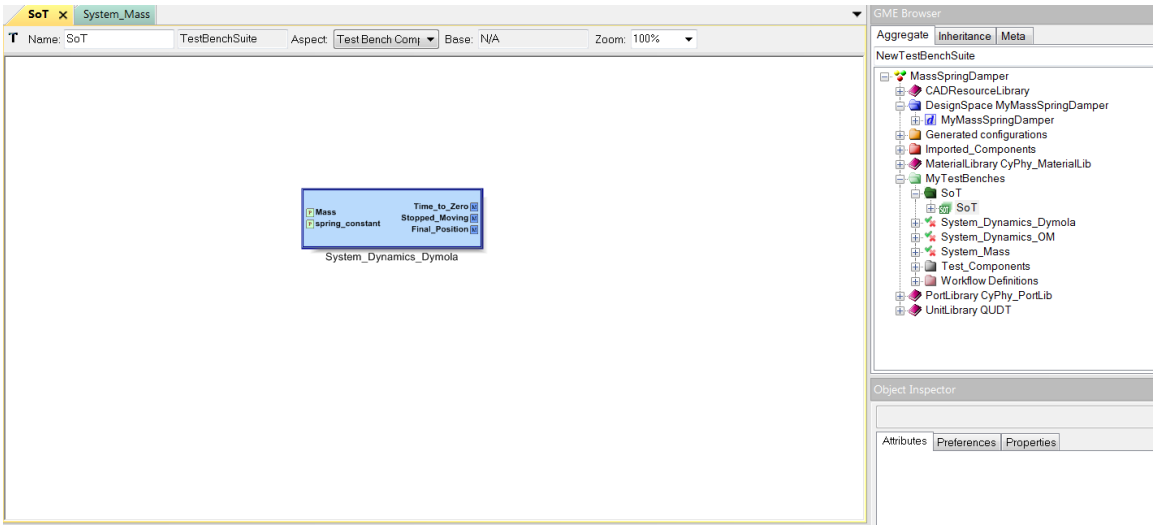

Figure 3: Pasting as reference a Dynamics Test Bench

Copy and paste as reference the second test bench. In this case, it is a System_Mass test bench, as seen in Figure 4.

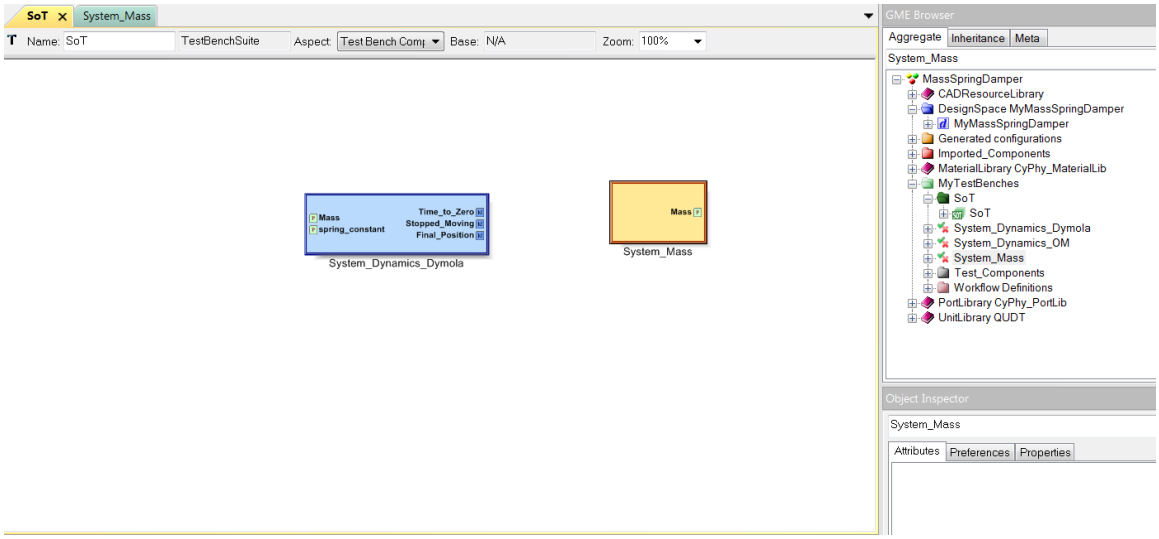

Figure 4: Pasting as reference a Mass Test Bench

Connect the System_Mass test bench parameter to the Dynamics Mass parameter, as seen in Figure 5. **Make sure to click System_Mass first, then Dynamics Mass.** If this connection does not point the right way, the test bench will not work correctly.

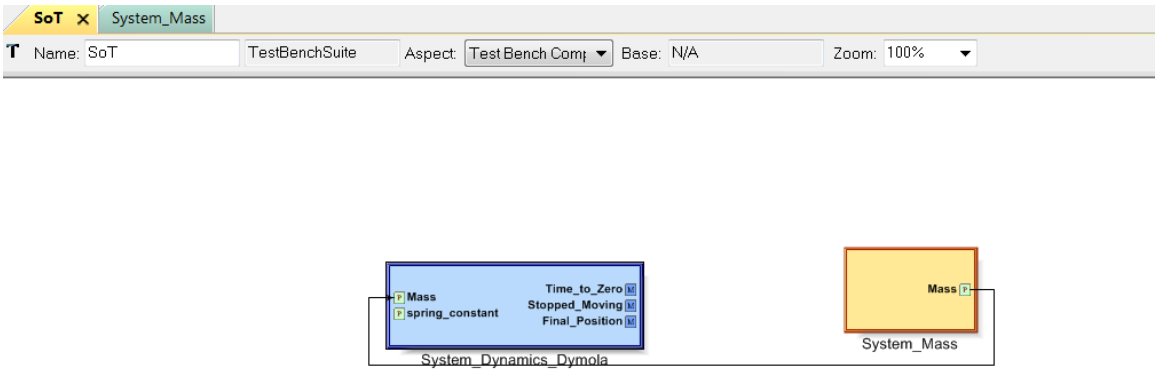

Figure 5: Connecting Two Test Benches

Run the Master Interpreter to execute the Mass test bench and then the Dynamics test bench.