CyPhy2CAD

Overview

The CyPhy2CAD interpreter is used to generate a CAD assembly specification xml file from a GME CyPhy model that can then be used by CADCreoParametric application to create a CAD assembly in Creo. The file can also contain analysis information in which case it is used to conduct FEA analyses. The assembly xml file contains information about how components are constrained to each other to create child assemblies as well as how child assemblies are constrained to each other to create other assemblies. The interpreter can also generate manufacturing specification files for the SEER tool. The file contains information on what kind of manufacturable part components translates to (structural, electronic, etc) as well as what type of fastens (welded, mechanical, adhesive, etc) are used between parts.

Supported Context

ComponentAssembly models

It will start traversal from the currently opened ComponentAssembly model, flatten out any child assemblies unless they are marked not to. You can also select multiple ComponentAssembly models then invoke the interpreter to generate CAD assembly xml files or manufacturing specification files for multiple assemblies.

TestBench models

If a TestBench model contains a TopLevelSystemUnderTest object which references a ComponentAssembly then the interpreter will traverse the ComponentAssembly and generate CAD assembly xml files for it.

CAD Test Bench models

CADTestBench models define a test bench for performing a structural FEA analysis. They contain TestInjectionPoints which reference Components or ComponentAssembly to be analyzed by the FEA analysis. In addition, there are Surface objects which define surfaces on a TestInjectionPoint for which Constraint and Load can be applied. Constraint and Load are also defined in CADTestBenches. The interpreter traverses a CADTestBench and generates a CAD assembly xml file that includes an analysis section with information on Surfaces, Constraints, and Loads to be used in the FEA analysis.
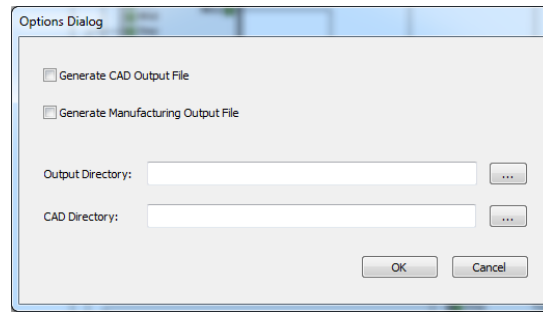
Options

Generate CAD Output File:
A checkbox to indicate if CAD assembly files are to be generated.

Generate Manufacturing Output File:
A checkbox to indicate if manufacturing specification files are to be generated.

Output Directory:
The directory to generate files to.

CAD Directory:
The directory where CAD files are located. The CAD files will be used by Creo during creating the final assembly.