

ABSTRACT

The main motivation for using the modeFRONTIER MyNode feature was to meet customer's demand for an easy-to-use, custom 3rd party software integration. Before the MyNode feature was available, users either needed to write their own integration scripts or wait for a direct node to become available in a future release of modeFRONTIER. In the former case, the integration was accomplished using multiple workflow nodes, resulting in non-extensible and cluttered workflows; the MyNode integration uses a single node, resulting in extensible and streamlined workflows. In the latter case, the integration could not be customized for a particular customer. The MyNode feature, through the use of the MyNode Tool, allows distributors to develop custom scripts to integrate 3rd party software with modeFRONTIER. The MyNode Tool is used to package the integration scripts into a MyNode file that can be installed in modeFRONTIER using an external plug-in. Once installed, the MyNode provides a direct integration node in the workflow nodes library that can be used in the workflow. MyNode can be customized to perform any or all of the following functions: input variable introspection, run one or more external 3rd party software processes, output variable introspection. ESTECO North America was the first to develop a full service MyNode integration for direct commercial use. The first MyNode integration was developed for modeFRONTIER users at an industrial client and was used to integrate modeFRONTIER with Concepts NREC's TurboOPT, which can run a suite of tubomachinery analysis (CFD and FEA) tools from Concepts. The Concepts NREC TurboOPT node is able to provide a customized yet very generic direct integration from modeFRONTIER to Concepts NREC tools. It allows the users to build workflows for small to large scale problems in a much faster and convenient fashion. Also, workflows are extensible and no longer highly problem or machine specific. This means that little effort is required by the user to build a new workflow for different projects.