

AN INTRODUCTION TO THE COUPLING LIBRARY PRECICE

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preCICE is an open-source coupling library for partitioned multi-physics simulations. It enables the efficient, robust, and parallel coupling of separate single-physics solvers. This includes, but is not restricted to fluid-structure interaction. preCICE treats these solvers as black-boxes and, thus, only minimally-invasive changes are necessary to prepare a solver for coupling. Thereby, existing sophisticated solvers can be used for each of the physics in a multi-physics simulation. Ready-to-use adapters for well known commercial and open-source solvers, including OpenFOAM, SU2, Calculix, ANSYS Fluent, and COMSOL, are available. The software offers methods for equation coupling, fully parallel communication, and data mapping schemes.

In this talk, we give a general introduction to preCICE and an overview of recent developments, opening the minisymposium.

REFERENCES

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