Handling I/O as a code coupling problem with PDI

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Abstract

In this talk, we will provide an update on the parallel data interface (PDI) declarative API for code weak coupling. PDI can be used to handle interactions with input/output (I/O) libraries as a coupling problem. We will show how weak coupling can improve separation between the main code and I/O optimization concerns. This enables optimization specialists to adapt I/O patterns with no code modification or recompilation.

We will go through an example based on HDF5 and show how with PDI, one can switch from HDF5 to the FTI library seamlessly. The example will further focus on in-situ data transformation with super easy C/Fortran/Python coupling.

In a second part of the talk, we will give a hint about the code quality efforts deployed in the development of PDI with Cmake, GTest/GMock, Jenkins and Gitlab.