ABSTRACT

Much attention has been paid recently by research and development engineers on performing multi-physics calculations. One way to do this is to couple commercial tools for examining complex systems. Since the proposal of an software architecture for coupling programs as published in a previous paper significant changes have led to an improved performance for large-scale industrial applications. This architecture is being described and as a proof of concept a simulation is being conducted by coupling two commercial solvers. The speed-up of the new system is being presented. The simulation results are then compared with measurements of surface temperatures of an exhaust system of an actual sports utilities vehicle (SUV) and conclusions are being drawn. The proposed architecture is easily adaptable to various programs as it is implemented in C++ and changes for a specific code can be restricted to a view classes.