Simulation Process and Data Management Solution for Engine Design

Biswanath Nandi, Dassault Systemes SIMULIA Corp.

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Abstract

Engine design and development is a challenging task as it involves many simulation workflows such as 1-D simulations, combustion simulations, thermal analysis, structural analysis, fatigue analysis etc. These simulation workflows are carried out by many, different technology domain experts in different departments in a global company. It is sometimes difficult to manage such a huge project involving many people across the globe without using proper tools.

This paper focuses on how the recently developed Simulation Process and Data Management (SPDM) tools available in the **3D**EXPERIENCE platform can be applied to a large engine development project. The paper will also focus on how these different applications are used to integrate many, different third party tools required for product validations and on how the data are managed and searched within the platform. Finally, the benefits of the SPDM solution is demonstrated by showing the traceability of the data, showing how to track progress and providing status update of the project on a real-time basis.