Adapting Functional Mockup Units for HLA-compliant Distributed Simulation

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ABSTRACT

Conceptual design of systems requires aggregate level simulations of the designed system in its operational setting. By this way, performance of the system and its interactions with the other entities in its environment can be evaluated. The complex nature of these simulations often requires distributed execution. IEEE 1516 High Level Architecture (HLA) is a widely accepted standard architecture for distributed aggregate level simulations. Functional Mock-up Interface (FMI) is a recent standardization effort that leads to a tool independent systems simulation interface that enables model reuse and co-simulation. This paper aims to present a method for developing HLA-compliant federates using FMI. The method enables a Functional Mock-up Unit to join an HLA-compliant federation as a member.