

Asset Administration Shells as Data Layer for Enabling Automated Simulation-based Engineering

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Abstract — The Asset Administration Shell offers the capabilities for unified and interoperable data exchange across the entire life-cycle of an asset. Therefore, using Asset Administration Shells as a data layer is a practical option for facilitating the exchange of information in Simulation-based Engineering. The feasibility of this approach is demonstrated through an implementation, showing that incorporating the Asset Administration Shell as a data layer for standardized data exchange can yield significant benefit for the Simulation-based Engineering process.

Index Terms — Industrie 4.0, Digital Twin, Asset Administration Shell, Software Development, Simulation-based Engineering, Functional Mock-up Interface

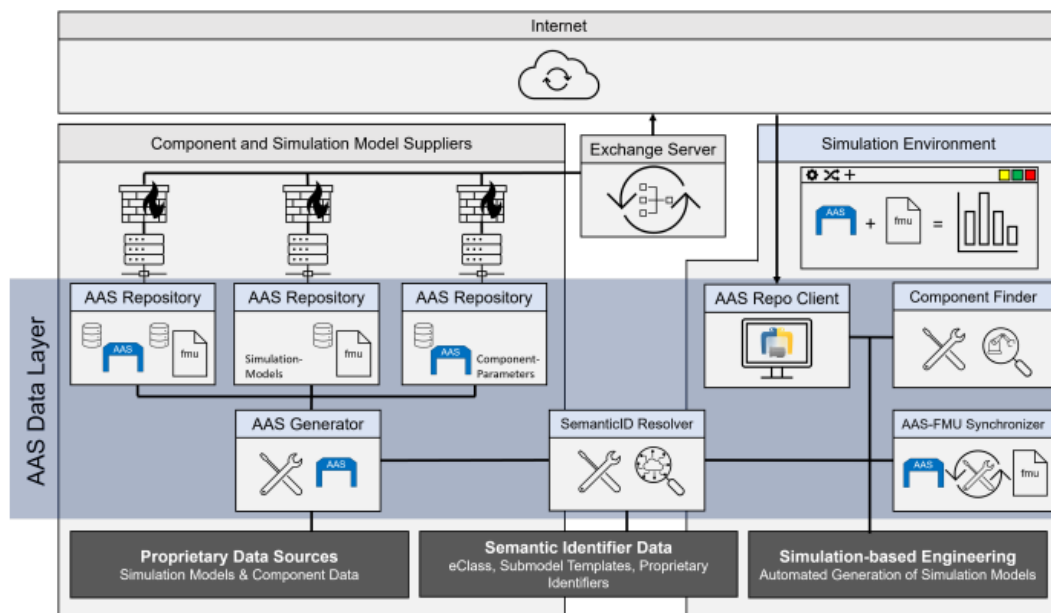


Fig. 3. Framework for an AAS as Data Layer (dark blue) for Simulation-based Engineering. The light blue components are implemented as proof of the concept and described in section V.

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