

A Semantic Approach for CAD/CAE Integration

ABSTRACT: The primary objective of this paper is to conceptualize and develop a semantic approach for integrating CAD/CAE applications. In our semantic approach, engineering knowledge which is used by CAD/CAE applications to describe product data is built into engineering ontologies. Based on the knowledge, product data is interpreted as product data semantics by instantiating concepts in engineering ontologies. A method of ontology mapping is introduced to translate between different product data semantics, and so to help heterogeneous data representations to be converted. The implementations of the ontologies and the mapping algorithms using OWL and Jena are still being developed. An example is given to illustrate how the approach can help integration between an assembly design application and an assembly simulation application.