

# A Semantic Framework for Systems Engineering Standards

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**Abstract.** Systems engineers and asset managers create and maintain models of components and systems associated with long-lived, engineering assets. Component models come from many domains, disciplines and applications. System models typically require integration of these component models. This paper presents the results of an investigation into the convergence of three distinct themes: the growing numbers of standards for engineering data, the maturing of Semantic Web technology, and a framework for architecting and relating engineering vocabularies and data. This investigation sought to determine whether these themes, used together, could enable industry to make significant progress toward model-based systems engineering in the areas of collaboration, knowledge management, data integration and timely decision making. This paper argues that semantic technologies have matured to the point where they should be the preferred choice for developing future standards and frameworks.