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MODELING SYSTEMS ENGINEERING - APPLYING THE LIFECYCLE MODELING LANGUAGE IN FORM AND CONCEPT

Abstract

Systems engineering is an age-old framework for solving problems. Over the last decades, these problems have become far more complex, especially in aerospace. While the basic framework of systems engineering hasn't changed, our ability to capture, connect and communicate the intricacies of ever more complex systems has continued to evolved. The Lifecycle Modeling Language (LML) is one of the newest of these capabilities. LML 1.1 is the latest release of this standard. This paper describes application of the Lifecycle Modeling Language (LML) in both form and concept. The goal of LML is to provide a structured, behavioral language to understand and communicate cost, schedule and performance system artifacts to all stakeholders in a standard manner. The paper describes the combination of a simple structure with appropriate graphical visualizations for every entity class to aid in understanding design. This approach provides perspectives for all stakeholders throughout the product lifecycle (concept through disposal). The paper provided specific real-world applications of this language (as instantiated in specific model-based systems engineering tools) to reduce the cost of design and enable more rapid product development to better match information technology and other technical product development timelines.