

openCAESAR Workshop – Monday, March 21, 2022

Speaker: Maged Elaasar, Ph.D., Senior Software Architect (Jet Propulsion Laboratory)

Note: All times are listed in Eastern Time (EDT)

1:00 – 1:20 pm | Introduction

Abstract: Introduction to the ontological approach to systems engineering using the openCAESAR project and some background on the project's architecture, development team, goals, main features and overall value proposition.

1:20 – 2:00 pm | Modernizing Systems Engineering

Abstract: An overview of how openCAESAR was used to modernize the practice of Electrical Flight Systems Engineering in JPL space projects. From informal methods using siloed tools to a rigorous ontology-based information representation, simplified authoring, improved collaboration and increased reliability, visibility and traceability of results.

2:00 – 2:05 pm | Break

2:05 – 3:00 pm | Demonstration with Rosetta Workbench

Abstract: Demonstration of how openCAESAR can be used to develop a systems engineering methodology ontologically and use it to describe and analyze systems based on that methodology. The demo will feature developing a vocabulary ontology, creating a custom viewpoint for it, using the viewpoint to create views of a system, developing an analysis pipeline involving consistency checking and query-reduce-render of a gate product and releasing versions of the model.

3:00 – 3:05 pm | Break

3:05 – 4:00 pm | Adapting UML Tools for Ontologies

Abstract: Presentation on how an openCAESAR adapter was developed for Papyrus UML that turned it into an ontological modeling tool. The presentation will feature how a domain-specific ontology (representing a methodology) was converted into a UML profile, which was then used to create a system model in UML and later convert it into a conforming ontology that can be analyzed with an ontological analysis pipeline.

4:00 – 5:00 pm | Open Discussion

5:00 – 5:30 pm | Conclusion