**System of Systems Engineering
Collaborators Information Exchange (SoSECIE)**

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# UAF for System of Systems Modeling

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**Abstract**
Organizations are changing their emphasis from "We need a new system" to "We need to achieve a specific outcome." As these outcomes become more difficult to define and the associated systems more complex, the management, modeling and simulation of these SoS becomes equally challenging. Often, the SoS is modeled in all its complexity, at a single level of abstraction or level of detail. Instead of a "mega-model" approach, a standards-based, layered "model of models" (MOM) approach is what is necessary. This presentation discusses use of the Object Management Group (OMG) Unified Profile for DoDAF and MODAF (UPDM) for architecture modeling. UPDM supports a MOM approach by enabling the development of integrated model layers such as an outcomes model layer and a component layer. An integrated, layered MOM is in keeping with the Model-Based Systems Engineering (MBSE) approach. The model layers can be referenced when detailed analysis is required, or hidden when a SoS viewpoint is required.

**Author Biography**
Matthew Hause is a PTC Engineering Fellow and GTM Technical Specialist, the co-chair of the UPDM group a member of the OMG Architecture Board, and a member of the OMG SysML specification team. He has been developing multi-national complex systems for over 35 years. He started out working in the power systems industry and has been involved in military command and control systems, process control, manufacturing, factory automation, communications, SCADA, distributed control, office automation and many other areas of technical and real-time systems. His roles have varied from project manager to developer. His role at PTC includes mentoring, sales presentations, standards development, presentations at conferences, specification of the UPDM profile and developing and presenting training courses. He has written more than 100 technical papers on architectural modeling, project management, systems engineering, model-based engineering, human factors, safety critical systems development, virtual team management, product line engineering, systems of systems, systems and software development with UML, SysML, and Architectural Frameworks such as DoDAF and MODAF. He has been a regular presenter at INCOSE, the IEEE, BCS, the IET, the OMG, AIAA, DoD Enterprise Architecture, Embedded Systems Conference, and other conferences. He was recently a keynote speaker at the Model-Based Systems Engineering Symposium at the DSTO in Australia. Mr. Hause studied Electrical Engineering at the University of New Mexico and Computer Science at the University of Houston, Texas.