

21st ICCRTS

Implementing UPDM to Develop Command and Control Systems

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Abstract

Systems engineering is an established approach to develop systems, including complex sociotechnical systems such as Command and Control (C2) Systems. These systems often occur through introduction of a new technology into an existing system. In systems engineering modelling is applied to capture and represent the mental models of the systems' stakeholders during the concept development stage. These models, consisting of various views on the system structure and behaviour, can be used to derive requirements for system development. The views of the models must represent the mental model of the originator as well as ensure that the interpreters develop the same mental picture. An architectural framework is required to achieve effective Model Based Systems Engineering (MBSE), which is provided by MoDAF. The Unified Profile for DODAF and MoDAF (UPDM) supports development of the model to ensure transportability to other participants in the development process. This paper proposes a model development process within UPDM for a C2 system during concept development.