



Application of UAF in Support of Mission Engineering of Early Stage Concept Development

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Architecture in the 21st Century”

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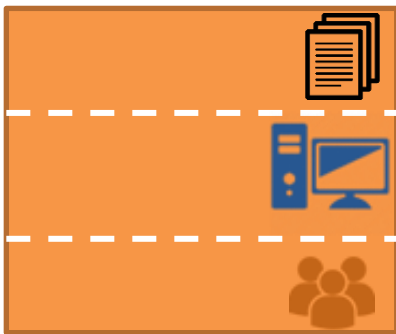
Three Main Takeaways

1. Just because a model element exists, it does not have to be used at this stage in the lifecycle

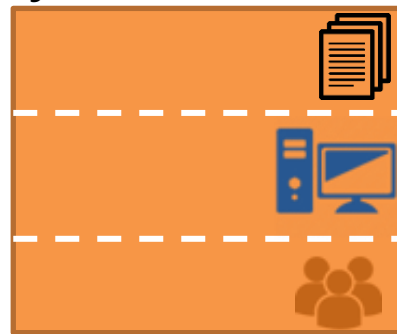
2. The model development process is as (more?) important than the model itself

3. Understanding operational effects of changes in the resource domain often requires changing resource methods as well as resource parameters

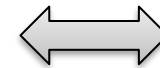
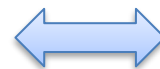
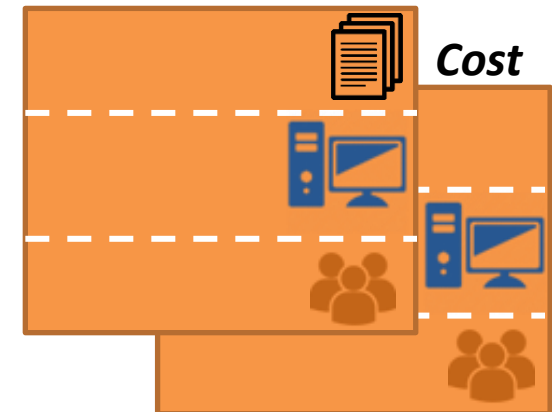
Platform Design



Performance Assessment



Effectiveness



Mission Engineering is “as the deliberate planning, analyzing, organizing, and integrating of current and emerging operational and system capabilities to achieve desired warfighting mission effects.”

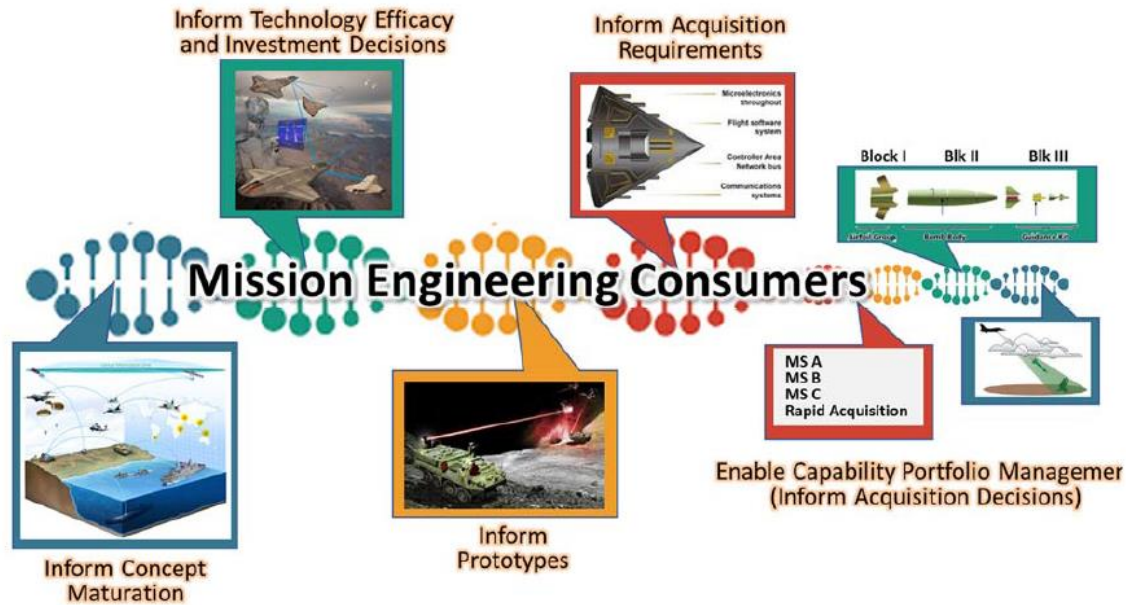


Figure 1-1. Consumers of Mission Engineering Outputs

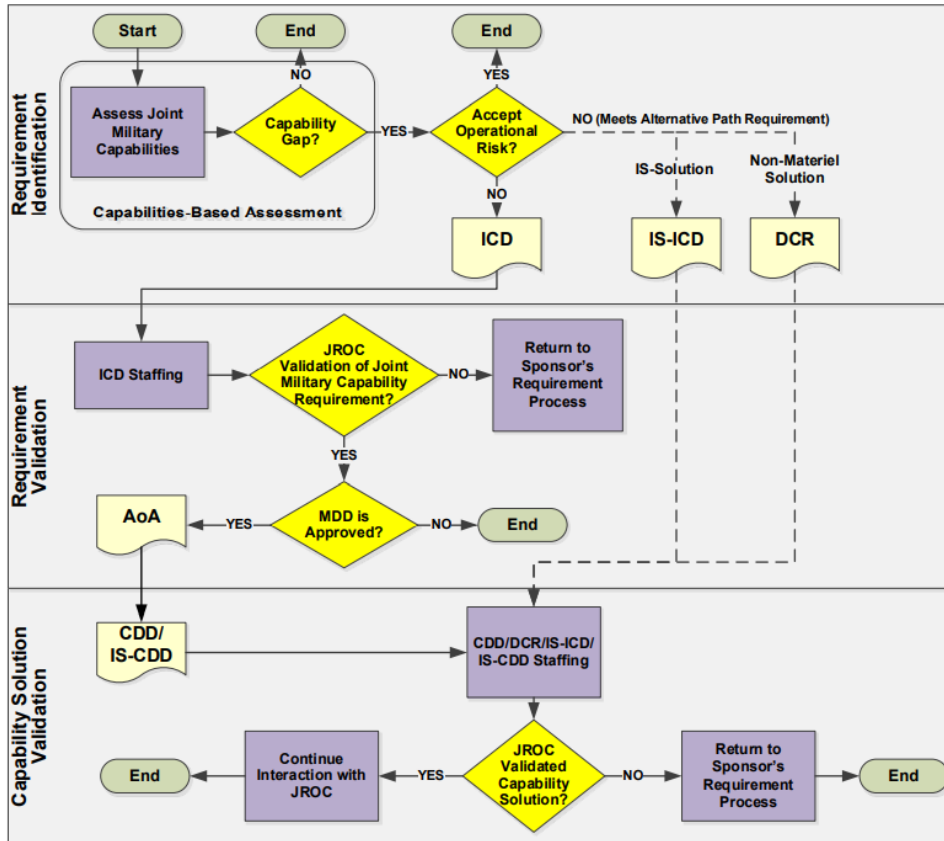


Figure A- 2: JCIDS Process Overview

Capability

- (1) The ability to achieve a desired effect under specified (performance) standards and conditions through combinations of ways and means (activities and resources) to perform a set of activities [DoD 2009];
- (2) An outcome or effect which can be achieved through use of features of a system of interest and which contributes to a desired benefit or goal [Created for INCOSE SEBoK]



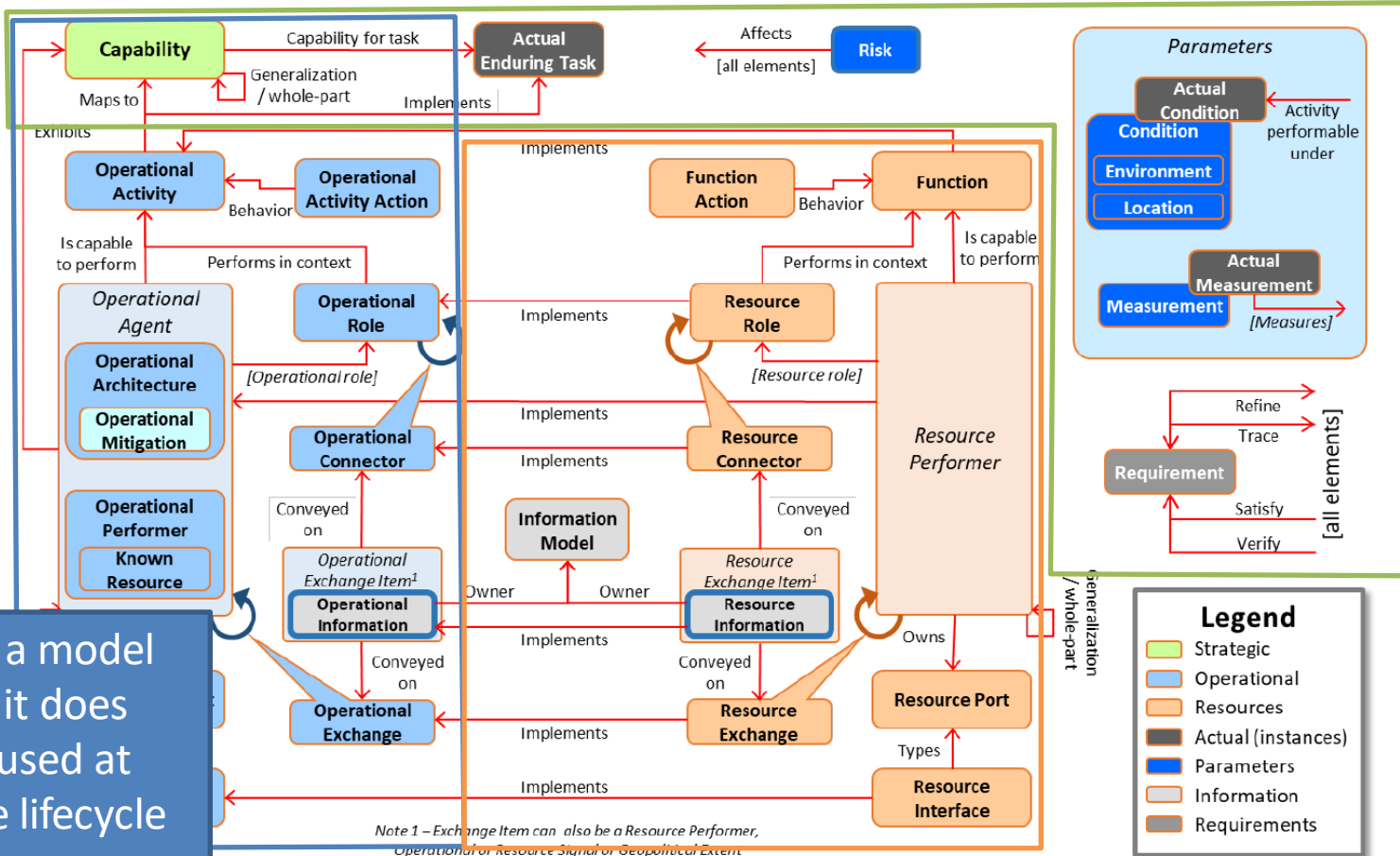
Mapping the JCIDS Process to UAF



CBA

ICD

CDD



1. Just because a model element exists, it does not have to be used at this stage in the lifecycle

Mission Characterization

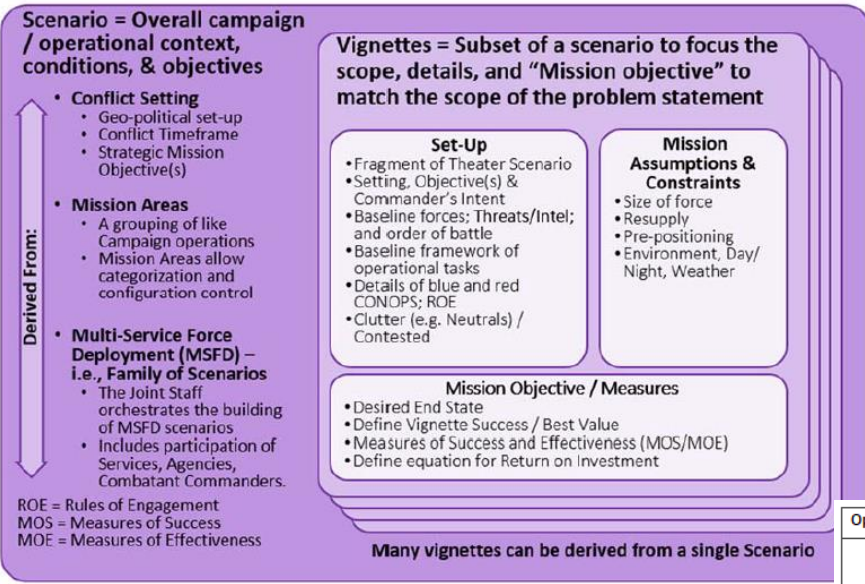


Figure 2-2. Mission Characterization and Mission Metrics

Developed as part of the CBA;
refined to include Initial Objective Values (IOVs) for MOEs

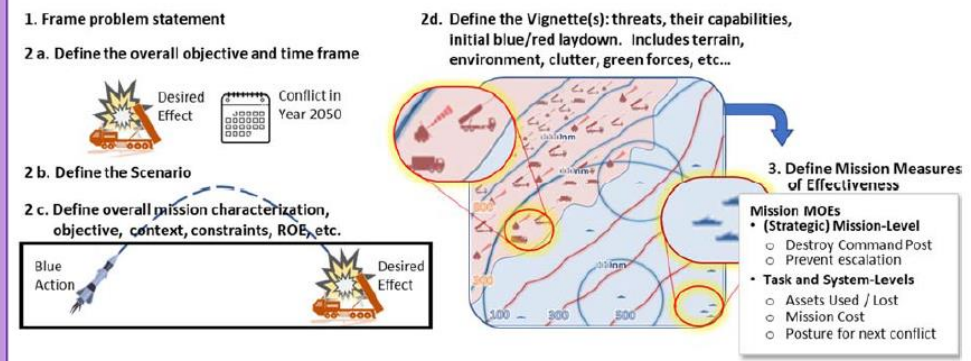
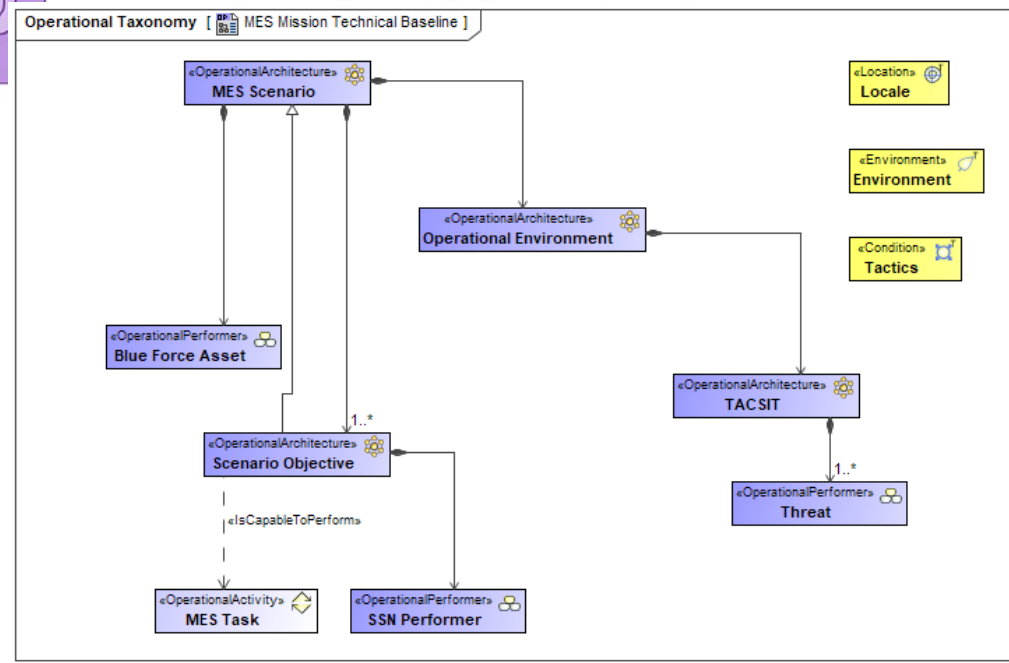
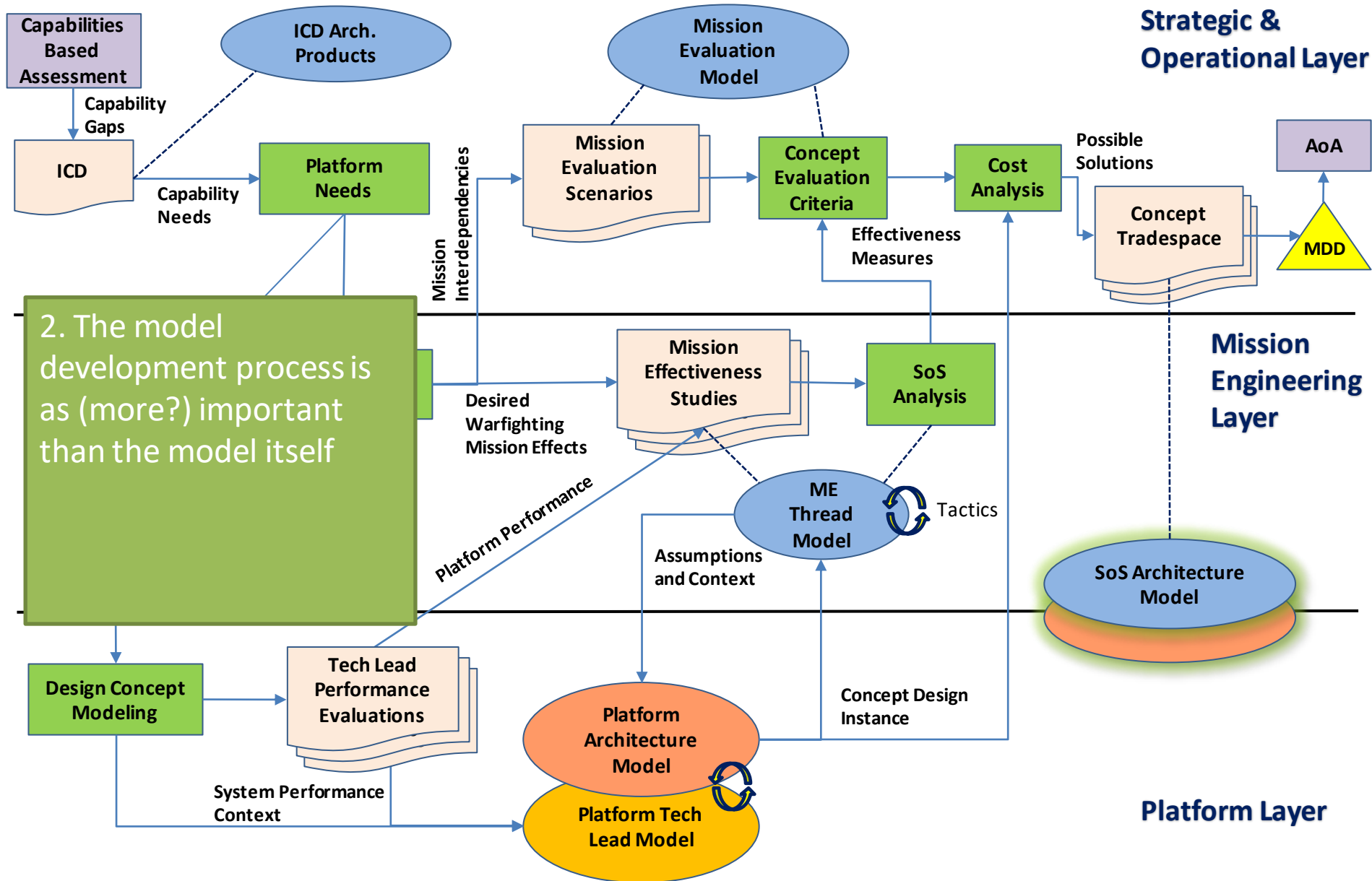


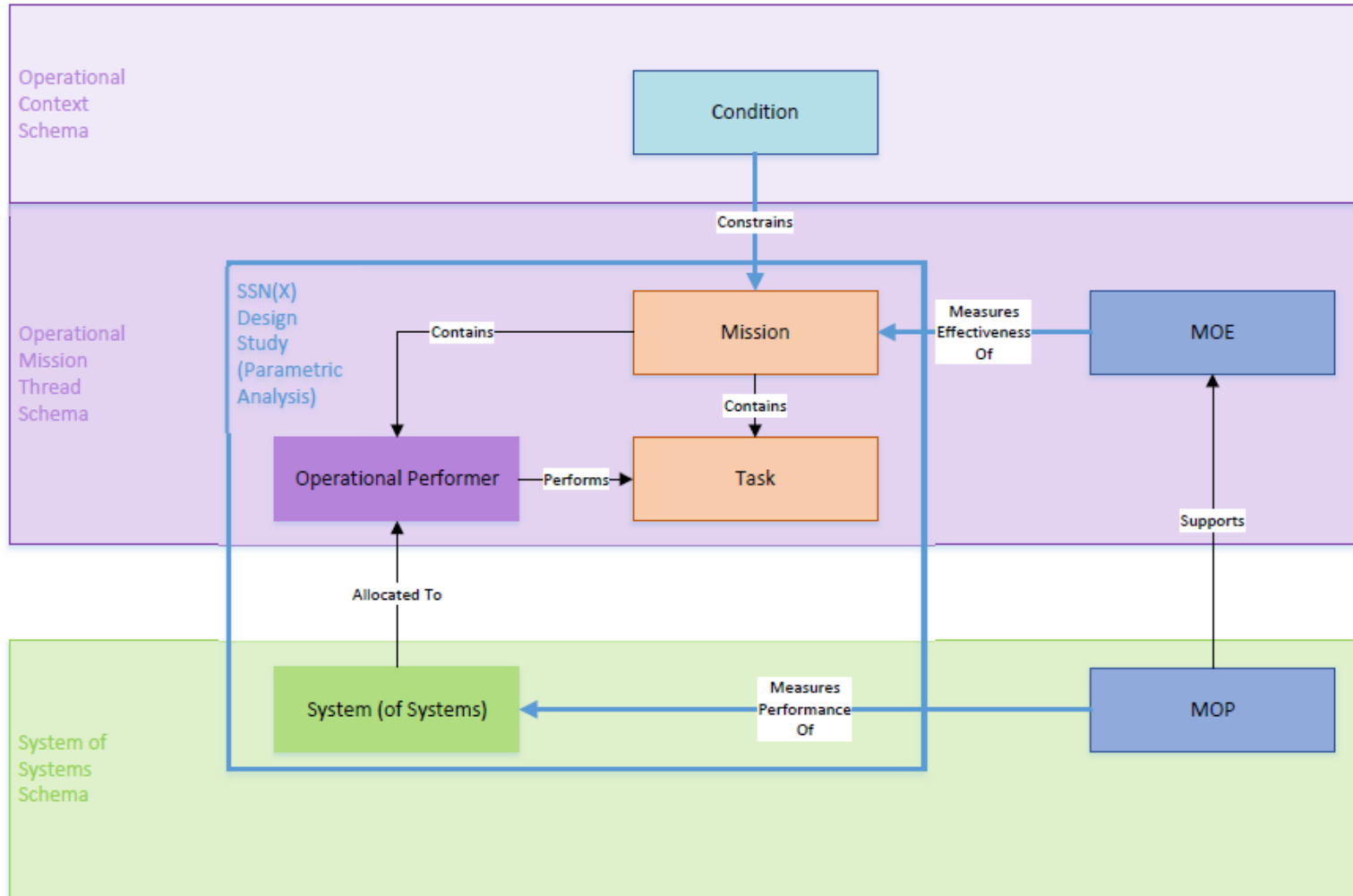
Figure 2-3. Mission Definition Elements and Identified Metrics

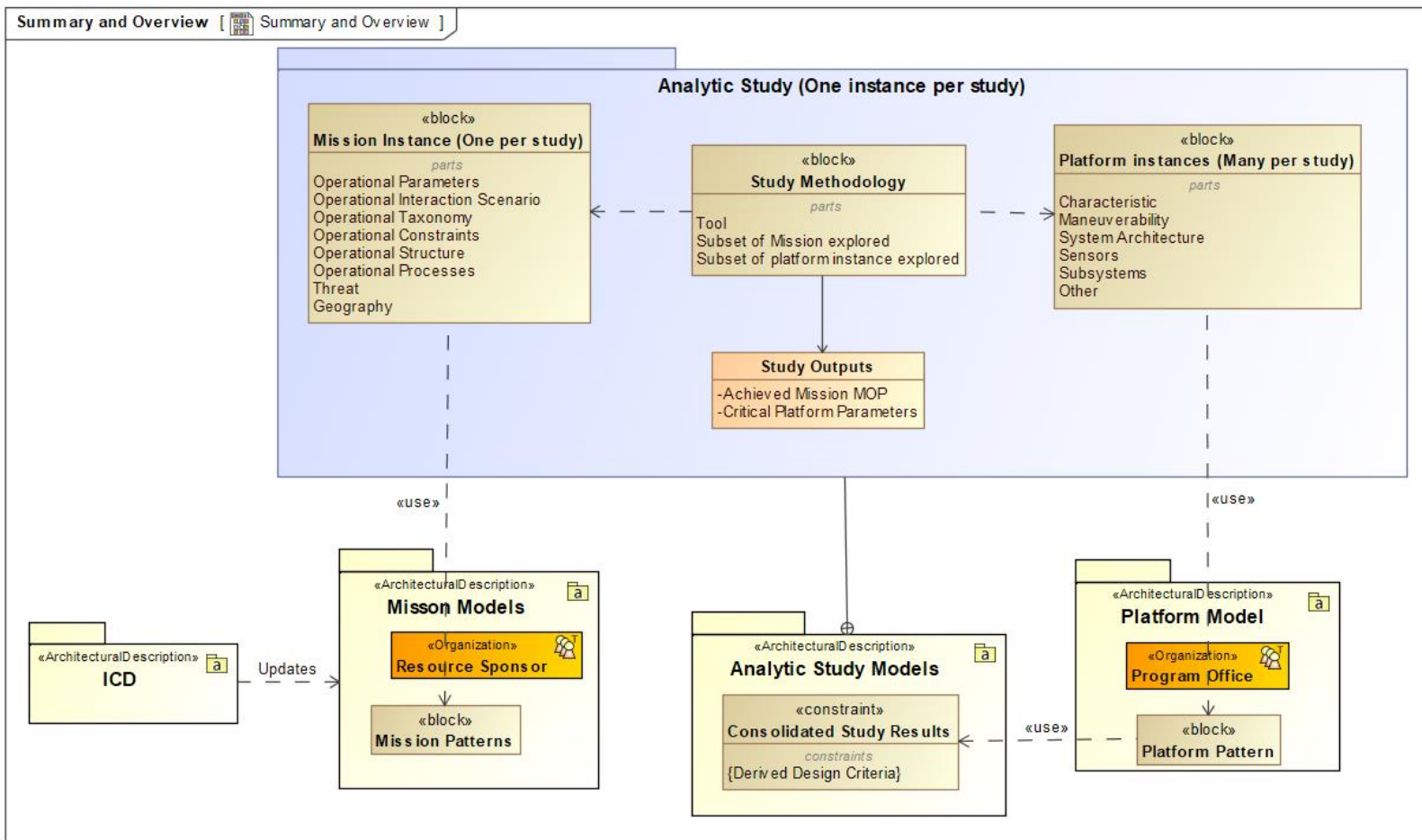


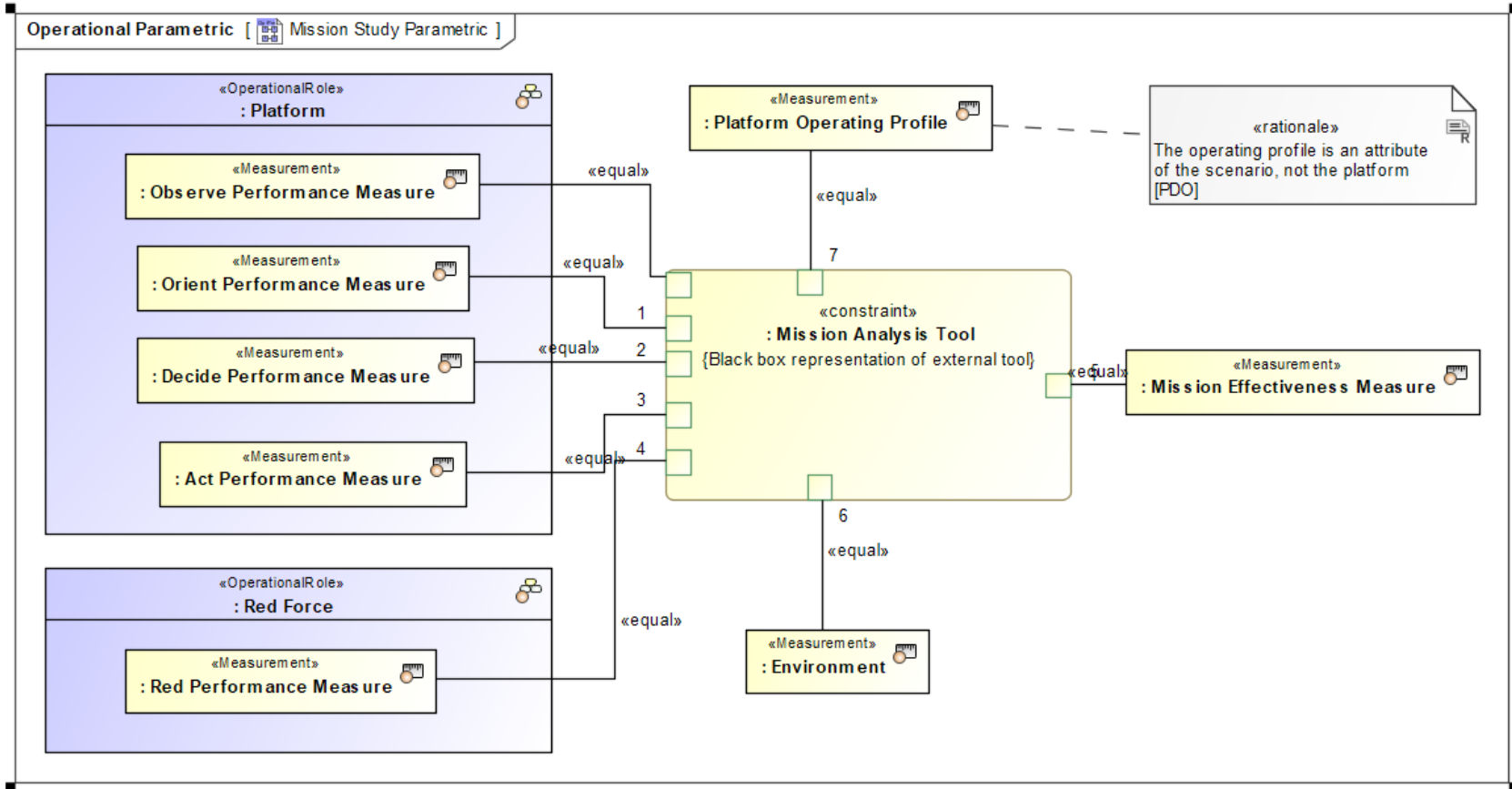


Conceptual Design Process

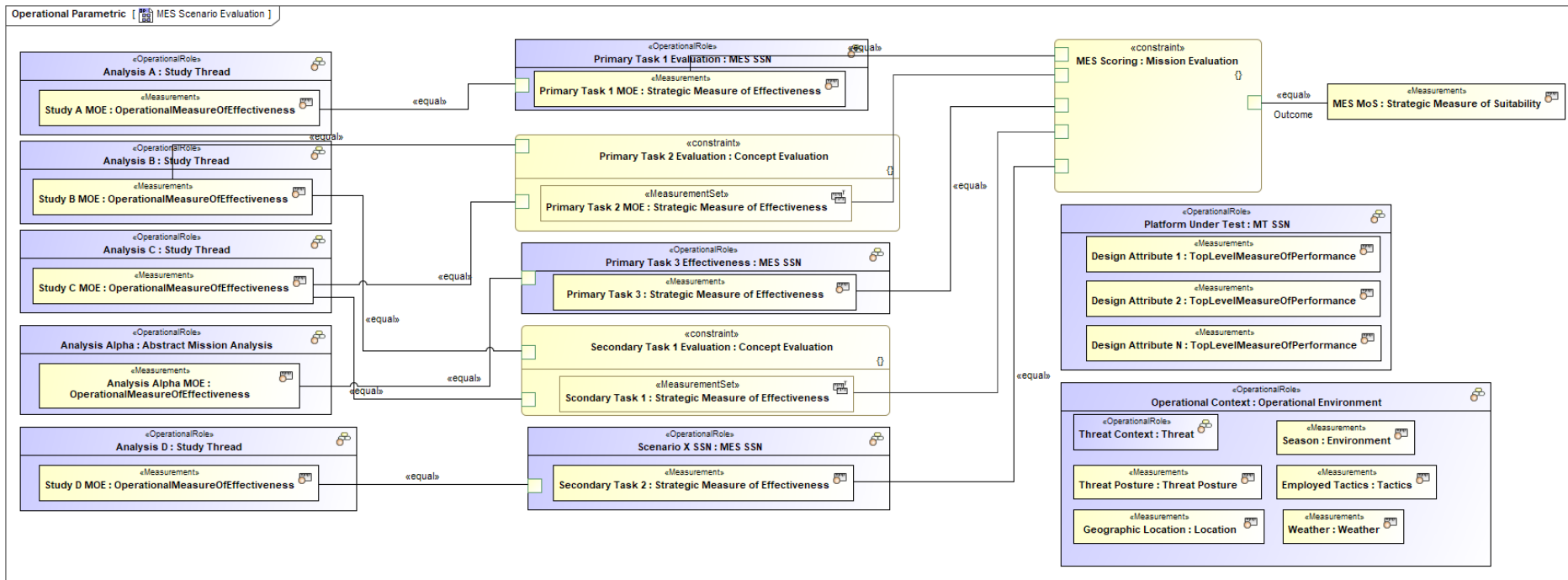








Tracing Resource Characteristics to MOEs through Mission Evaluation



Conceptual Design Attributes will influence resource employment, and must be included in analysis



Thank You

