



International Council on Systems Engineering
A better world through a systems approach

Model-Based Certification Methodology

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INCOSE International Symposium 2025 | Ottawa, Canada



Jay Silverman

Principal Systems and Project Manager



Professional experience

Jay Silverman has been working as a systems engineer for over 15 years. He is currently working as the Principal Systems and Project Engineering Manager for Firehawk Aerospace, having most recently worked for 6 years as a Sr. Manager of Systems Engineering at Raytheon. He is currently pursuing his PhD in Systems Engineering at Old Dominion University.

Expertise

- Member of the INCOSE RWG
- Co-Author of Guide to Model-Based Needs and Requirements

Agenda

- Model-Based Certification (MBC)
- MBC Meta-Model
- Regulatory Modeling Framework
- Certification Planning Framework
- Certification Example

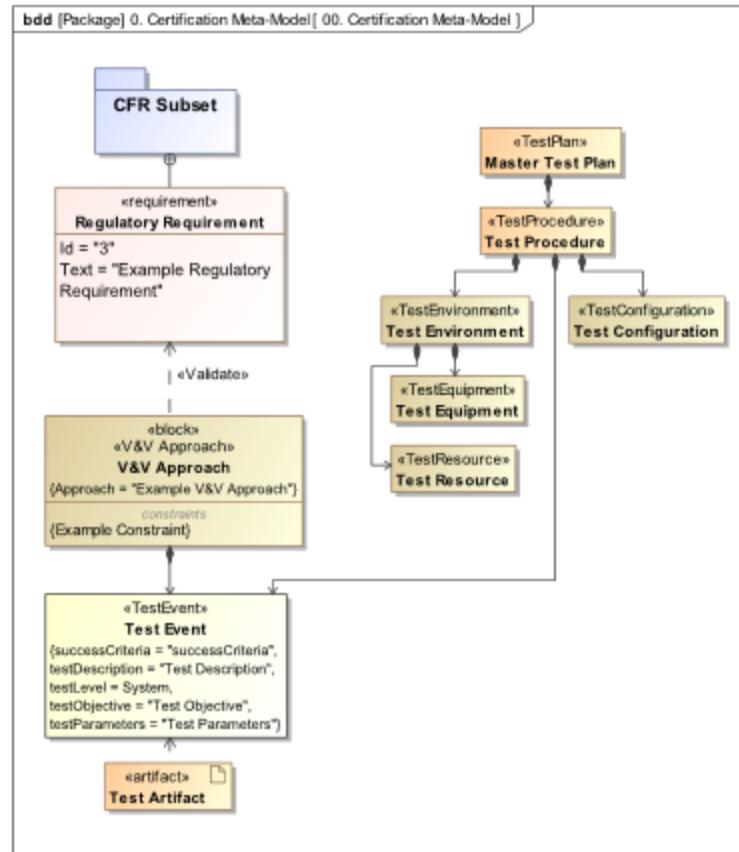
Model-Based Certification

- Capture System Certification Plan and Results in MBSE Model
- Provide System Model to Certify System to Certification Body
- Single Source of Truth for System
- Complete Digital Twin

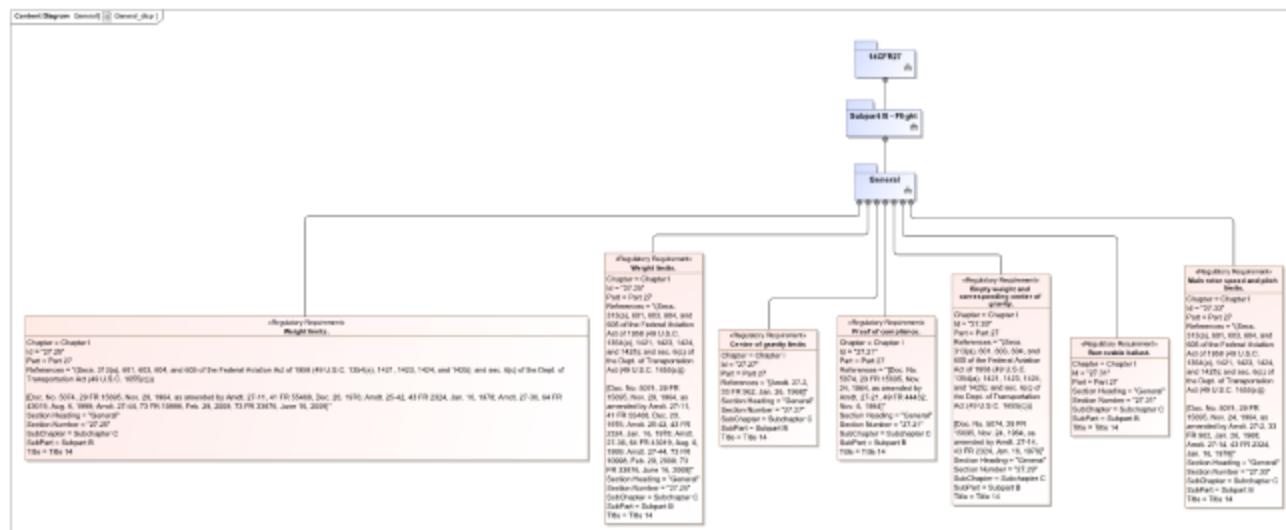
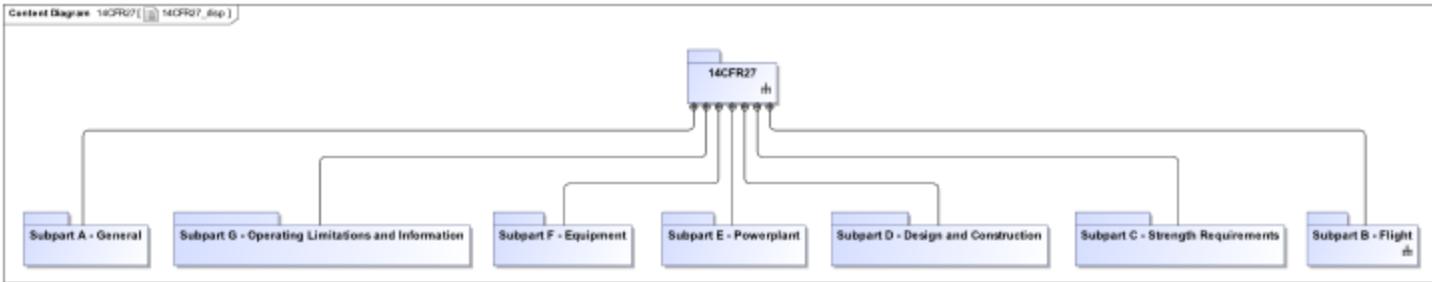


MBC Meta-Model

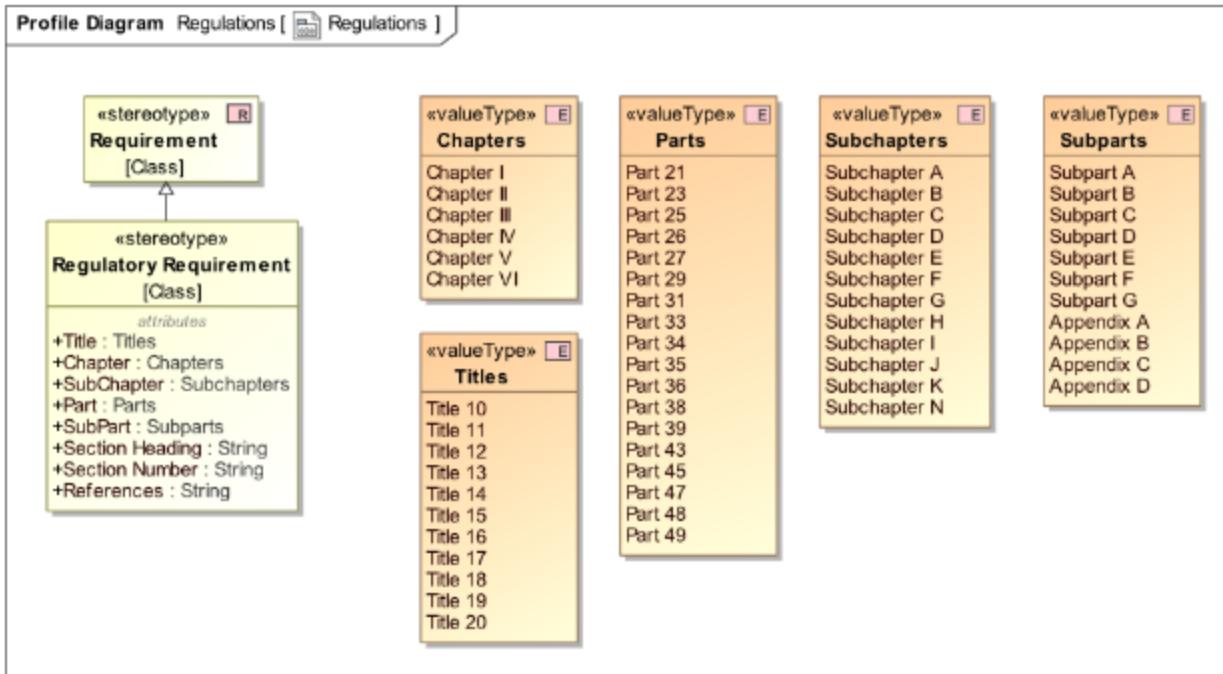
- Model Regulatory Requirements
- Capture V&V Approaches
- Model Certification/Test Plan
- Capture Test Results
- Bi-directional traceability from requirements to test results
- Single Source of Truth for all System Certification Activities
- Results in Certification Package



Regulatory Requirement Modeling

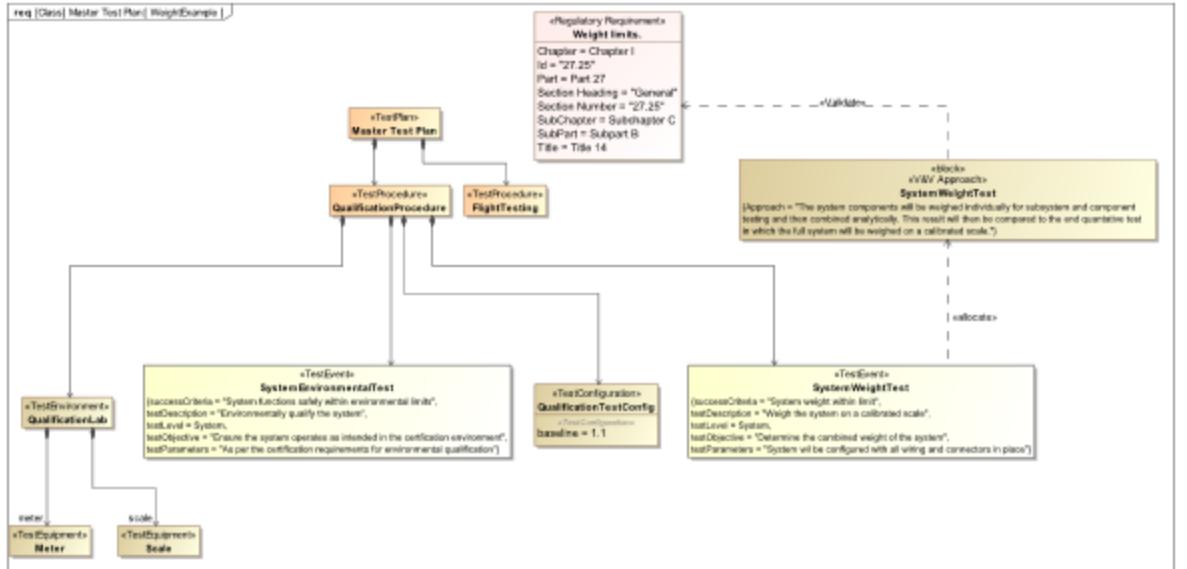


Regulatory Customizations

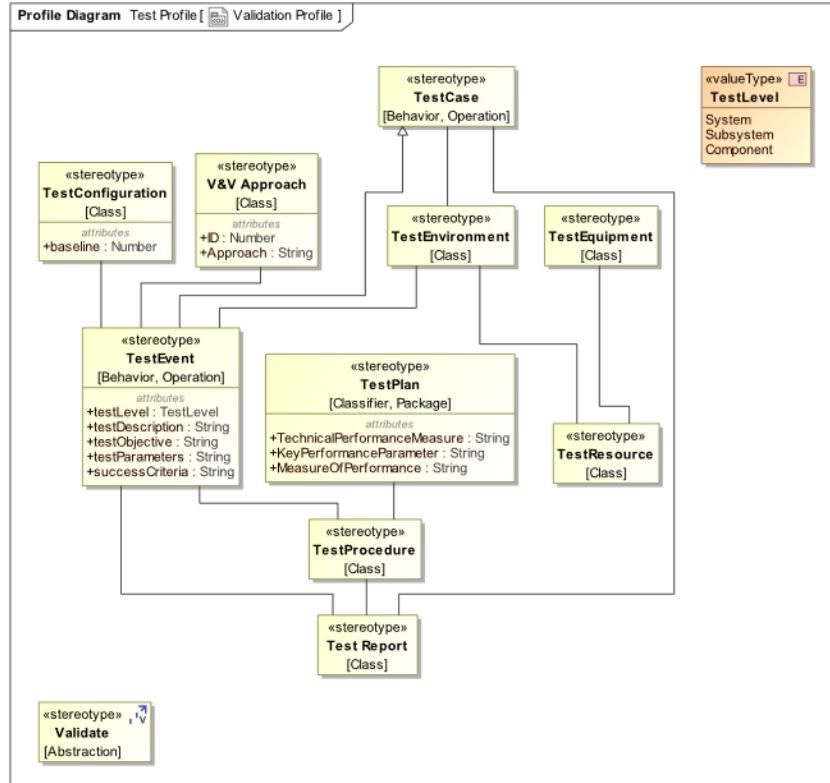




Certification Planning



Certification Customizations



Certification Package

