



Digital Engineering Information Exchange Working Group (DEIXWG): Digital Viewpoint Model (DVM) Sub- Group Path forward

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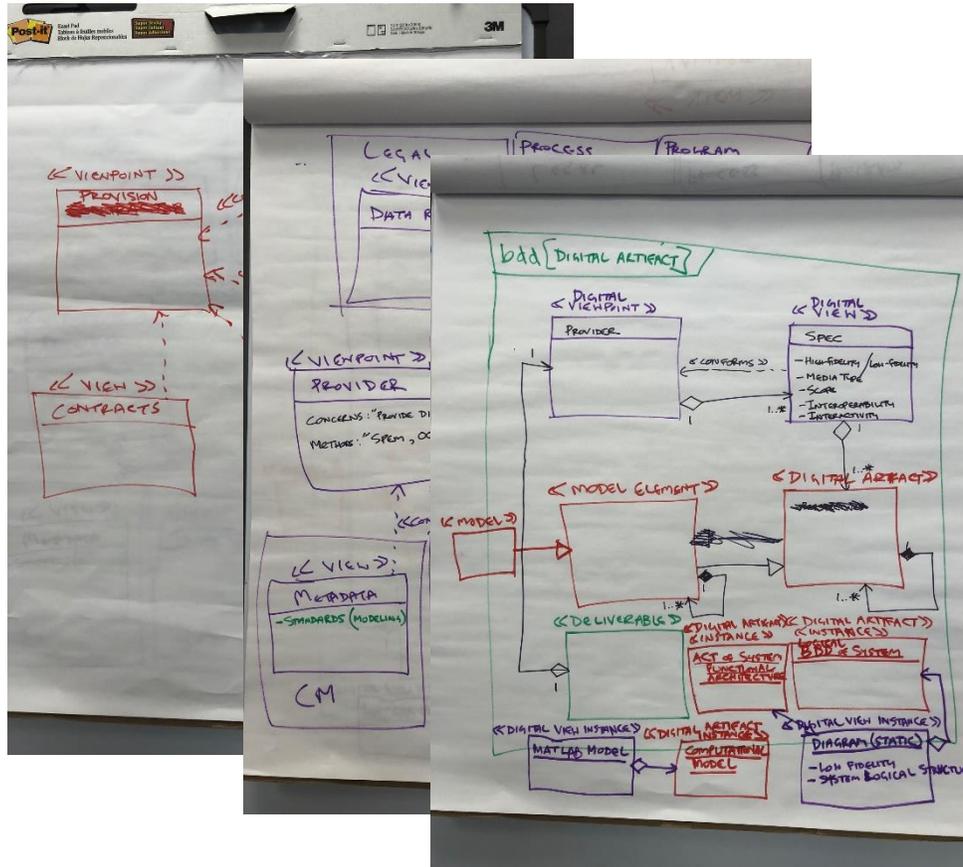
INCOSE IW
Marriott Torrance, California
January 26 -29, 2019



Finite Set of Digital Viewpoint Models (DVM)

The project, the need, and the product

How we started all of this?



We know it isn't in a "model"



The Product Development Project:
Define a Finite Set of Digital Viewpoint Models (DVM)
Project Lead: Frank Salvatore & Tamara Hambrick



- **The Effort:** Decide on formalisms and conventions for a generic digital viewpoint model that stakeholders can use to offer or requests for any ISO 15288.2 Review
 - **DEFINE:** The finite set of 15288.2 reviews and the critical stakeholders for those reviews
 - **DESCRIBE:** A generic digital viewpoint model with agreed formalisms and conventions
 - **MODEL:** 1 or 2 examples of digital viewpoints required for ISO 15288.2 reviews
 - **EVALUATE:** Seek comments and inputs from the broader community
 - **ADOPT:** Solicit and catalog any Digital Viewpoint Models the community creates
- **Need Volunteers for Digital Viewpoint Models:**
 - **INFORMATION & DATA MODELERS** to develop information flow models for digital viewpoints
 - **SYSTEMS ENGINEERS** to define typical sources, models, and data for MBE digital artifacts
 - **REQUIREMENTS ANALYSTS** to elicit stakeholders' requirements for ISO 15288 digital views

For More Information Go To OMG MBSE Wiki:
<http://www.omgwiki.org/mbse/doku.php>



The Need for DVM



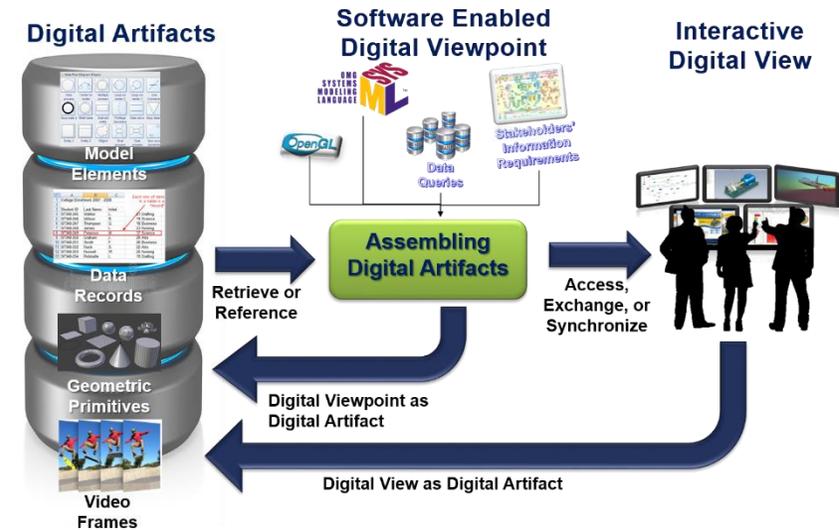
- No finite set of digital viewpoints for reviews in ISO 15288 systems engineering lifecycle standards
- Challenges:
 - **NONCOMPLIANCE:** Entities can not definitively define digital artifacts that satisfy the letter and intent of contractual obligations
 - **MISSUNDERSTANDINGS:** Non-standard descriptions of digital artifacts inhibit mutual understandings of acquirer and suppliers' needs
 - **INSUFFICIENT:** Descriptions of digital artifacts are insufficient to leverage the interactivity and collaborative capabilities of digital technology
 - **INEFFICIENT:** Cyclical conversion of digital artifacts to e-documents adds costs
 - **DISATISFACTION:** Static e-documents do not satisfy all stakeholders' diverse needs

Product Description: The Digital Viewpoint Model (DVM)



- Concept Digital Viewpoint Model (DVM)
 - Why: Understand information exchange mechanisms for an acquirer and provider in a Digital Ecosystem
 - What: Provides platform independent description of digital viewpoint model for use during review that defines formalisms and conventions to be cataloged
- For the Digital View, the DVM expresses
 - Relationships between stakeholders
 - Work Products
 - Views and Viewpoints within Architecture Framework
 - Standards in compliance
 - Kinds of Digital Artifacts

Digital Artifact Conversion Process



Digital Viewpoint Model (DVM) Sub-WG 2018 to 2019 Roadmap



Concept

Idea Generation

- Standards
- Industry Trends
- Lead Formation

Key deliverables

DVM Initial Concept Model
DVM Workshop Feature Use Cases
DVM Roadmap

Definition

Model Specification

- Contained in Concept Model
- Developed from cross discipline team
- Reviewed weekly

Key deliverables

DVM Initial Instance Model per Feature
Operational Connectivity View
DVM Draft Concept Model

Usage Analysis

Model Information Exchange Acquirer/

- **Action:** Create Sub-Group for DEIX Model

Key deliverables

DVM Information Exchange for at least one scenario
DVM Final Instance Model

Develop

DVM Catalog

- **Action:** Determine vendor for configured control of Interface Control Viewpoint

Key deliverables

Interface Control Viewpoint with Views defined for 5
15288.2 Reviews
Example instances of DVM Concept Model
DVM Information Exchange Model for 5

Launch

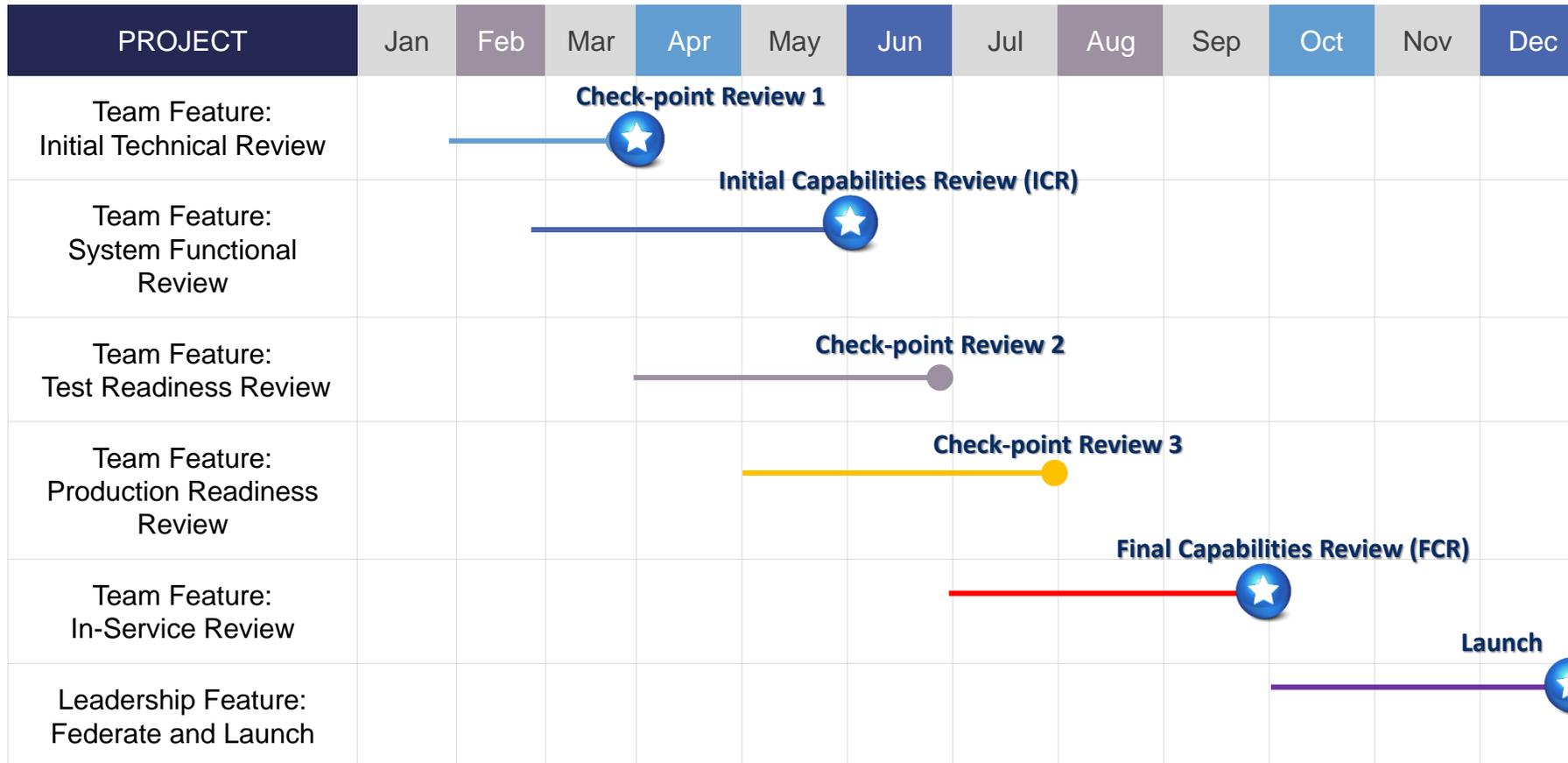
Go to Market

- **Action:** Determine final placement of launch application

Key deliverables

DVM Launch Plan
DVM Launch Budget
DVM

Capability: To provide a digital viewpoint specification that encompasses a set of digital views across the lifecycle focusing on interface control information to address stakeholders concerns



Acceptance Criteria:

Comply with DVM Concept Model

Define information exchanges for one scenario

Define relevant digital artifacts and views for each feature

Develop User Stories for each Feature for define, develop, and validate

Identify standards for each element in DVM for each Feature

Peer-Reviewed by other Feature Teams

INCOSE Discipline Review and Approval

Service Stakeholder Review and Approval



Scope of Tuesday Jan 29th Workshop: 1pm to 3pm Leads: Sean McGervey and Missy Wallace



- Team Composition

- Each team will be broken up by Feature with roles defined
 - No more than 8 participants in a team
- **Scenario Lead** will rotate around to each team
- **Advisors** will support each team to keep in alignment with DVM concept model
- **Product Owner** will out brief from model
- **Acquirer** maintains position throughout
- **Multi-discipline team** determines set of views required for the review to meet the need

- Goal

- Develops instance model of the DVM for their feature
- Determine two leads for executing feature moving into 2019

- Focus

- Each feature is scoped to a technical review during a stage in lifecycle
- Engineering and technical views not programmatic
- Acquirer's needs and concern centered around interface information
- Digital Ecosystem exists for exchange of information to occur

- Path Forward

- Weekly meetings for each feature lead on Fridays at 11am est

Scrum Team Roles

