



Digital Artifacts Challenge Team

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Topics

- The Digital Artifacts Challenge Team
- Charter
- IW Workshop



Digital Artifacts Challenge Team History

- INCOSE 2017 International Workshop highlighted SE community needs to establish an accepted set of Digital Artifacts to help SE transform to a more model based discipline
- Request made to the INCOSE SE Transformation Team and the MBSE Initiative to stand up a more enduring “Digital Artifacts” effort
- INCOSE SE recommended standing up a Digital Artifacts Challenge Team

Digital Artifacts Challenge Team is a result of IW 2017 activities



Digital Artifacts Charter Highlights

- The Digital Artifacts Challenge Team will ***advance the understanding and acceptance*** of a finite set of Digital Artifacts that industry can institutionalize.
- As the team identifies Digital Artifacts they will be ***defined and described*** in a precise format that can be used to capture and communicate them.
- The intent is to understand not only what project support engineering activities must provide, but also to ***agree upon the digital artifact content*** that is needed to properly form a Digital Artifact.
- Given a defined Digital Artifact this challenge team may also work towards ***establishing methods for, protection of them, and assurance*** that they are trusted for their intended use.

Digital Artifacts need to be Identified and Defined



Digital Artifact Challenge Objectives



- Advance understanding & acceptance of a finite set of Digital Artifacts that industry can institutionalize
- Identify and describe Digital Artifacts required to support the entire life cycle of a system or product to include:
 - Engineering activities
 - Life cycle phase transition
 - Manufacturing process
 - Collaboration between domains
 - Business processes
 - Etc.

US Department of Defense offers a potential starting point in the DSM Data Taxonomy



Digital Artifacts Defined

- Digital Artifacts (DAs) are produced within, or generated from, the activities with a digital engineering ecosystem.
- These artifacts provide data, algorithms and/or processes for alternative views to visualize, communicate, and deliver information, and knowledge to stakeholders.
- Digital artifacts can be thought of as those elements that describe any aspect of a system (physical, functional, analytical) and which can be executed in, or used in execution in a computing environment.

Shift the emphasis in Systems Engineering away from documents and towards digital artifacts.



Challenge Approach

- Challenge team will provide a proposed approach:
 - How Digital Artifacts will be identified
 - How Digital Artifacts will be captured using modeling methods
 - How Digital Artifacts will be communicated & accepted
 - How Digital Artifacts are managed and controlled
 - How Digital Artifacts can be expanded and sampled
- Outputs
 - Digital Artifact identification and description
 - Digital Artifact capture description
 - Identify methods for managing and controlling Digital Artifacts

The Digital Engineering Challenge Team proposes an Approach



Plan Overview / Description

- Phase 1: (IW 2017)
 1. Supplement start-up team membership with other interested team members, sharing and refining charter and gaining team buy-in to this plan
 2. Bring team membership to a common level of Digital Artifacts understanding
 3. Hold Digital Artifact working sessions and collaborate with other working groups to elicit Digital Artifacts
- Phase 2: (IW 2018)
 4. Create and validate targeted Challenge Team products, prioritized from above
- Phase 3: (IW 2019)
 5. Make Challenge Team products available to INCOSE membership, extending benefits

At the IW we will spend time to work on this. We need your help!



For Additional Information

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