AGENDA

- **Administrative Business**
  - 2021 DEDMWG Chair Positions
  - Desire for annual DEDMWG meeting at the 2021 MBE Summit
- **Identify DEDMWG top 3 Priorities**
- **Identify a collection of contracts that invoked Mil Std 31000**
- **Discuss preparing a gap analysis: Identify standards that Mil Std 31000 should reference**
  - What technical specs exist?
  - What technical specs don't exist?
  - Which of the missing technical specs are in the ASME MBE purview versus Y14 purview?
- **Discuss topics and for revision C of Mil Std 31000**
  - Technical Direction for the Acquisition of 3D Model-Based Technical Data
  - Technical Data Package Option Selection Worksheet Catalog

DEDMWG Tri-chairs

DOD – Jeff Windham - US Army Armament Center

Jeff Windham has over 35 years' experience as a systems engineer and configuration manager for the US Army Armament Center at Rock Island Arsenal, Illinois. He is currently the chief of the Small Caliber Systems Configuration Management Branch. He has a Master's Certification in Enterprise Configuration Management from CMPIC, is NDIA certified in Configuration and Data Management and teaches configuration management throughout the Army. He holds a BS in Aerospace Engineering from Mississippi State University and an MS in Business Administration from East Texas State University.

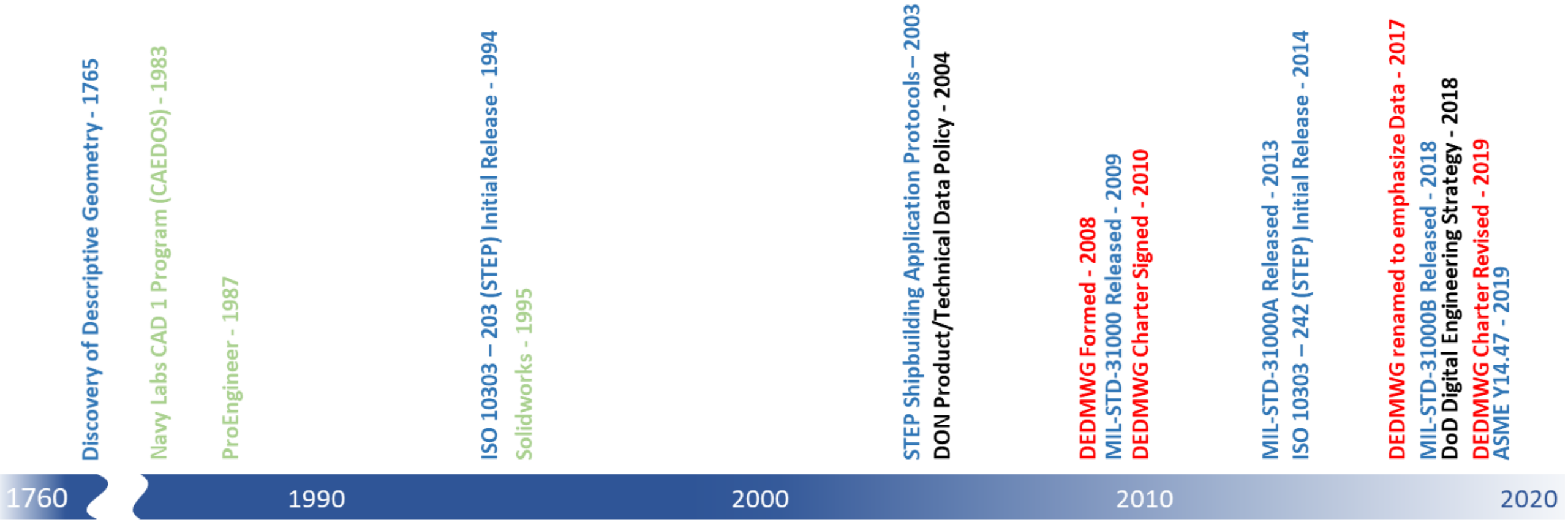
INDUSTRY – Ben Kassel - LMI

Ben Kassel is a Digital Engineering Senior Consultant at LMI and guest researcher at the NIST Engineering Laboratory in the areas of Digital Engineering and the Digital Thread enabled Model-Based Definition. Ben is proud to say he served NAVSEA for almost 37 years using, developing, and implementing Computer-aided Design technology at the David Taylor Model Basin and the NAVSEA 05 Computer-Aided Engineering Division.

ACADEMIA – Greg Harris Ph.D, PE - Auburn University

Following a most distinguished career with the US Army highlighted by leading the establishment of the Digital Manufacturing and Design Innovation Institute Greg returned to academia where he is the Director of the Interdisciplinary Center for Advanced Manufacturing Systems (ICAMS) at the Auburn University Samuel Ginn College of Engineering

TIMELINE



DEDMWG members were principally involved in the development of the "Model Organizational Schema" and the "3D TDP Validation Guidebook" which were added as appendences to MIL-STD-31000A. Subsequently removed from MIL-STD-31000B, the Model Organizational Schema is now ASME Y14.47

INITIAL CHARTER

DoD Engineering Drawing Modeling Working Group Charter
29 June 2010

I. Scope:
DoD Engineering Drawing and Modeling Working Group (DEDMWG) is chartered to lead efforts for technical coordination and policy guidance on weapon systems technical data for acquisition, product design, analysis, simulation, manufacturing, provisioning and other product lifecycle management functions within a Model Based Enterprise (MBE). This includes offering guidance on technical data requirements for computer-aided design, engineering, manufacturing, data repository, data archival/retrieval tools, and related applications for total product lifecycle management.

II. Goals & Objectives:
1. Establish a group of respected subject matter experts (SMEs) across the DoD technical communities.
2. Work with DoD organizations to establish requirements for acquisition of technical data to support product lifecycle activities.
3. Investigate state of the art tools and technologies that support technical data management for product lifecycle activities.
4. Develop revisions to current DoD specifications, standards, handbooks and other documents to incorporate requirements and guidance for (acquisition and management of) state-of-the-art model-based technical data, and define the terminology and definitions for this activity.
5. Partner with government and non-government organizations that develop specifications and open standards that are suitable for DoD acquisition programs to ensure DoD requirements are being met.
6. Work with domestic and international partners to access new technologies and applications to assist the DoD community to continuously improve product life cycle support activities and technical data management.

III. Organization & Operations:
The organization will consist of General Memberships with an Advisory Board and 2 co-chairs. The Advisory Board will be composed of up to 2 members from the Army, Air Force, Navy, DLA, and one member from other government agencies such as NIST, Coast Guard, and other government agencies who have subject matter experts actively involved in the current activities define in the scope. Though there may be more than one member per Service/Agency, each DoD Service/Agency will have only one vote. Other Government agencies will have a non-voting membership on the board.

One co-chair will represent the Director of OSD Manufacturing Technology; the other co-chair position will be a representative from the Advisory Board rotated among the DoD Services/Agency on the board. The co-chair or appointed board secretary will provide a synopsis of meeting outcomes and decisions for approval, disapproval, or referral as necessary.

The co-chair tenure will be two years. The Co-chair will be appointed from the current board. The board member term will be no longer than 5 years. Initially the Board members will be approved by OSD Director, Manufacturing Technology Office. In subsequent years the membership will elect members to the board. The position of Co-Chair will rotate between the Army, DLA, Navy, and Air Force. The Board will have the ability to remove a disruptive and unproductive member by majority vote if deemed necessary. General membership will be open to anyone with interest in the activities defined in the scope. Board will expand or contract as deemed necessary by the board with majority vote (for example future board members from NASA and DOE might be desirable).

IV. Duration:
This charter will remain in effect until the OSD Director, Manufacturing Technology determines the scope, goals, and objectives have been accomplished. Changes to this charter may be made on an as needed basis with approval of the board by majority vote.

V. Approval:
The authority for this charter is authorized by the Office of Secretary of Defense, Director, Manufacturing Technology.

Ms. Adele Ratcliff
Director, Manufacturing Technology
Advanced Components and Prototyping

Established in 2008 as the DoD Engineering Drawing and Modeling Working Group

Established a group of subject matter experts across the DoD to address the acquisition of technical data within a Model-Based Enterprise

Primary focus was to adjust MIL-DTL-31000C from a drawing based to a model based paradigm

Renamed after the release of MIL-STD-31000 to emphasize being dedicated to the 3D Model-Based Definition

2020 DoD Engineering Drawing and Modeling Working Group

DRAFT CHARTER UPDATE (STILL)

27 April 2019

I. Scope:

The availability and flow of product model and other technical data in all phases of a product lifecycle focusing on the acquisition, creation, and use of shape and product manufacturing information necessary to enable manufacturing, digital information visualization, and the digital twin within the sustainment phase.

II. Goals & Objectives:

a. Maintain a network of technical data subject matter experts (SMEs) across the DoD.
b. Develop guidance for DoD organizations to establish requirements for acquisition of technical data to support product lifecycle activities.
c. Advocate for the tools, technologies, and standards that support technical data management across the product lifecycle.
d. Advocate for the availability of product model and other technical data within the OSD Digital Engineering Working Group (DEWG).
e. Advocate the DoD position for product model and other technical data within the INCOSE Digital Engineering Information Exchange Working Group (DEIXWG).
f. Assess tools and technologies for potential implementation into DoD systems.
g. Identify technical data standards, their status, and the conditions for their use.
h. Participate in the development of product model and other technical standards as directed by the Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE)).
i. Coordinate with the Defense Standardization Program Office and non-government standards bodies to ensure DoD requirements are being met.

III. Organization & Operation

a. Definitions
   i. General Working Group Members – Active participants from government, industry or academia with interests in the activities defined in the scope of the working group.
   ii. Advisory Board – The Advisory Board consists of each of the Tri-Chairs and between two (2) and four (4) general members. DoD civilian employees or active military shall always make up the majority of the Advisory Board.
   iii. Tri-Chairs – Three members selected by the Advisory Board to lead the working group. One of the Tri-Chairs shall be from DoD, one of the Tri-Chairs shall be from industry, and one of the Tri-Chairs shall be from academia.

b. Functions and Responsibilities
   i. Advisory Board
      1. Appointment and removal of the chairs.
      2. Appointment and removal of the Advisory Board members.
      3. Request working group meetings.
      4. Approval of minutes of the working group meetings.
      5. Setting the priorities of the working group.
      6. Responses to questions from any of the Advisory Board member organizations.
      7. Responses to questions from any external organization.
      8. The DoD Tri-Chair shall lead the Advisory Board.
      9. Removal of a General Member.
      10. Report to ODASD(SE) as required.
   ii. Tri-Chairs
      1. Record and maintain meeting outcomes, decisions, actions, and referrals.
      2. Maintain an official list of the working group members.
      3. Maintain an official list of the Advisory Board.
      4. Schedule meetings.
      5. Lead meetings.
   iii. Working Group
      1. Submit ideas for consideration of the advisory board
      2. Attend working group meetings
      3. Participate in DEDMWG activities

IV. Duration:

This charter will remain in effect until the Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE)) determines the scope, goals, and objectives have been accomplished. Changes to this charter may be made on an as-needed basis by consensus of the advisory board.

V. Approval:

The authority for this charter is authorized by the Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE)).

DRAFT CHARTER UPDATE (STILL)

Scope

- The availability and flow of product model and other technical data in all phases of a product lifecycle focusing on the acquisition, creation, and use of shape and product manufacturing information necessary to enable manufacturing, digital information visualization, and the digital twin within the sustainment phase.

Objectives

- Develop guidance for DoD organizations to establish requirements for acquisition of technical data to support product lifecycle activities.
- Advocate for the tools, technologies, and standards that support technical data management across the product lifecycle.
- Identify technical data standards, their status, and the conditions for their use.
- Participate in the development of product model and other technical standards.
- Collaborate with other DoD Digital Engineering Working Groups.
- Maintain a network of technical data subject matter experts.

Responsibilities

- Advisory Board selected from the working group with DoD having the majority
- Tri-Chairs from DoD, industry, and academia
- Working Group is open to all.

MIL-STD-31000C AS AN ACQUISITION SPECIFICATION?

- MIL-STD-31000 is misunderstood at the Acquisition Program Level
- Technical Appendices were removed from MIL-STD-31000B
- Non Government Standards for Model-Based Technical Data are proliferating
- The DEDMWG relationship with the ASME MBE Committee is expanding
- The development of the TDP OSW requires SME involvement.

Model-Based Definition Specifications

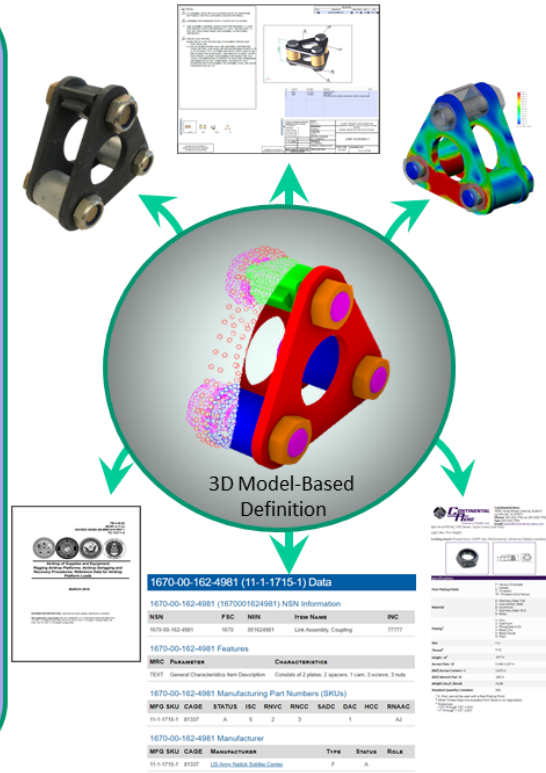
ISO 10303
- 3-D Geometry
- Product Manufacturing Information
- Plant Spatial Configuration
- Product Lifecycle Support
- Ship Design and Construction

ISO 14306
- 3D Technical Data Packages
- Product Visualization
- CAD Data Exchange

ISO 19975
- 3-D Scenes
- Scientific Visualization

ISO 19650
- Building Information Model
- Physical characteristics
- Functional characteristics
- Construction logistics
- Building operations
- Building Maintenance

ISO 14739
- 3D Technical Data Packages
- Document Exchange
- Optimized to PDF



Integrated Logistics Support Specifications

S1000D
- Illustrated Parts Data
- Maintenance and Operation Descriptions
- Procedures
- Troubleshooting
- Training Modules

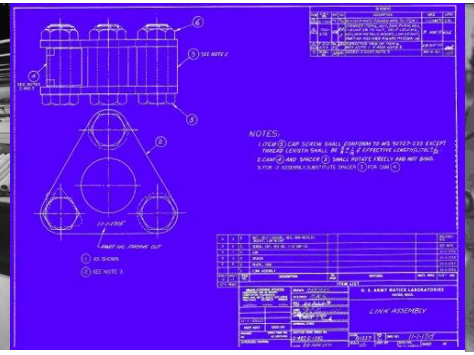
S2000M
- Initial Provisioning Lists
- Illustrated Parts Data

S3000L and S4000P
- Logistic Support Analysis (LSA)
- Maintenance Concept
- Corrective Maintenance Tasks
- Preventive Maintenance Tasks
- Maintenance Task Analysis and Planning
- Operational Tasks
- Human Factor Analysis
- Spares
- Tooling

S6000T
- Training Needs Analysis
- Training Objectives

2020 DoD Engineering Drawing and Modeling Working Group

DIGITAL TRANSFORMATION from 3 Months to 3 Days

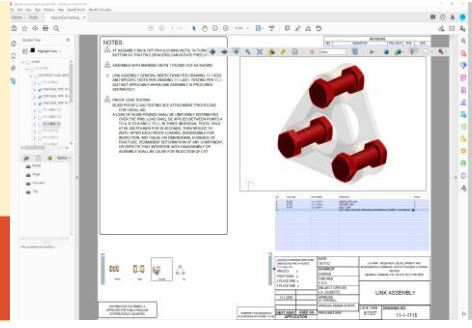
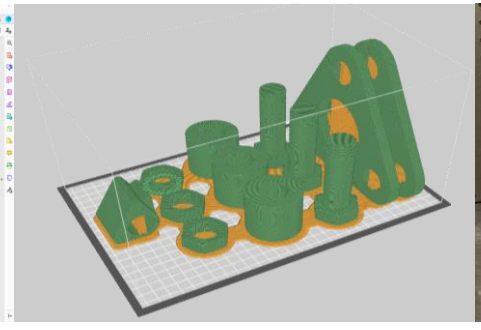
Technical data is created on paper. DLA manually checks for updates to 2D technical data across MILSVC systems. DLA waits for vendors to submit a Source Approval Request (SAR). Vendors re-create part / tooling 3D models from 2D drawings for each order. Parts are delivered from a remote manufacturing point of origin.

What if

DLA did not have to waste valuable resources time copying and pasting files. DLA could pull bids on-demand from the industrial base using 3D models. DLA proactively sought out alternative vendors to increase speed or reduce cost. Vendors didn't have to repeat this engineering work, saving time and reducing costs.

Imagine if

DLA could automatically pull the latest 3D Model-Based technical data from MILSVC systems. DLA could send and receive real-time cost and lead time data and push 3D models out to thousands of vendors. DLA could store / re-use 3D models to avoid re-work and reduce procurement cost. DLA had a digital thread tying a fielded part back to the authoritative source.


2020 DoD Engineering Drawing and Modeling Working Group

DEDMWG NEEDS YOU!