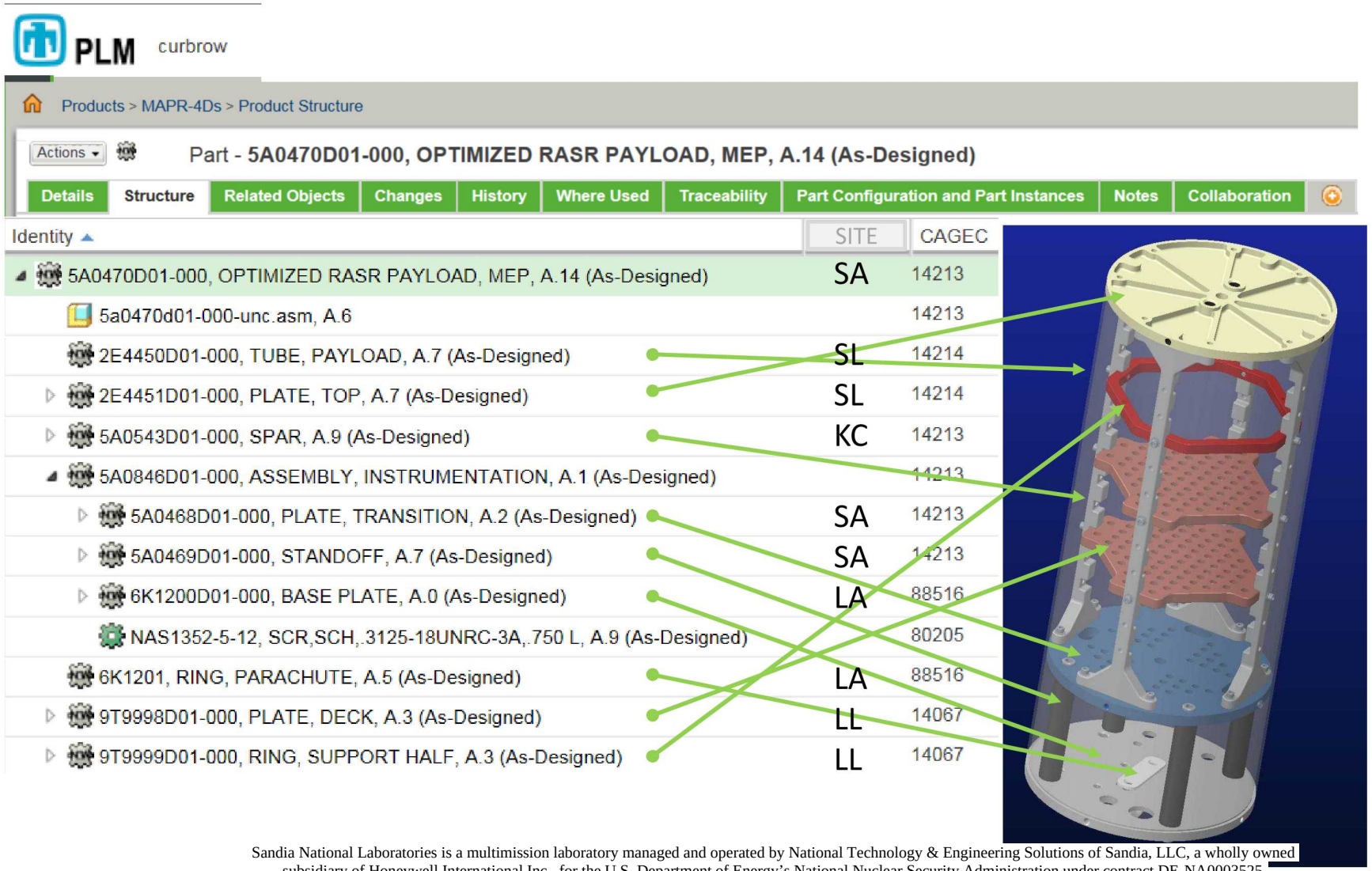
This paper describes objective technical results and analysis. Any subjective views or opinions that might be expressed in the paper do not necessarily represent the views of the U.S. Department of Energy or the United States Government.

MAPR-4Ds Assembly Product Structure

SAND2020-2795C

- One Common Part-Centric Product Structure while maintaining site autonomy



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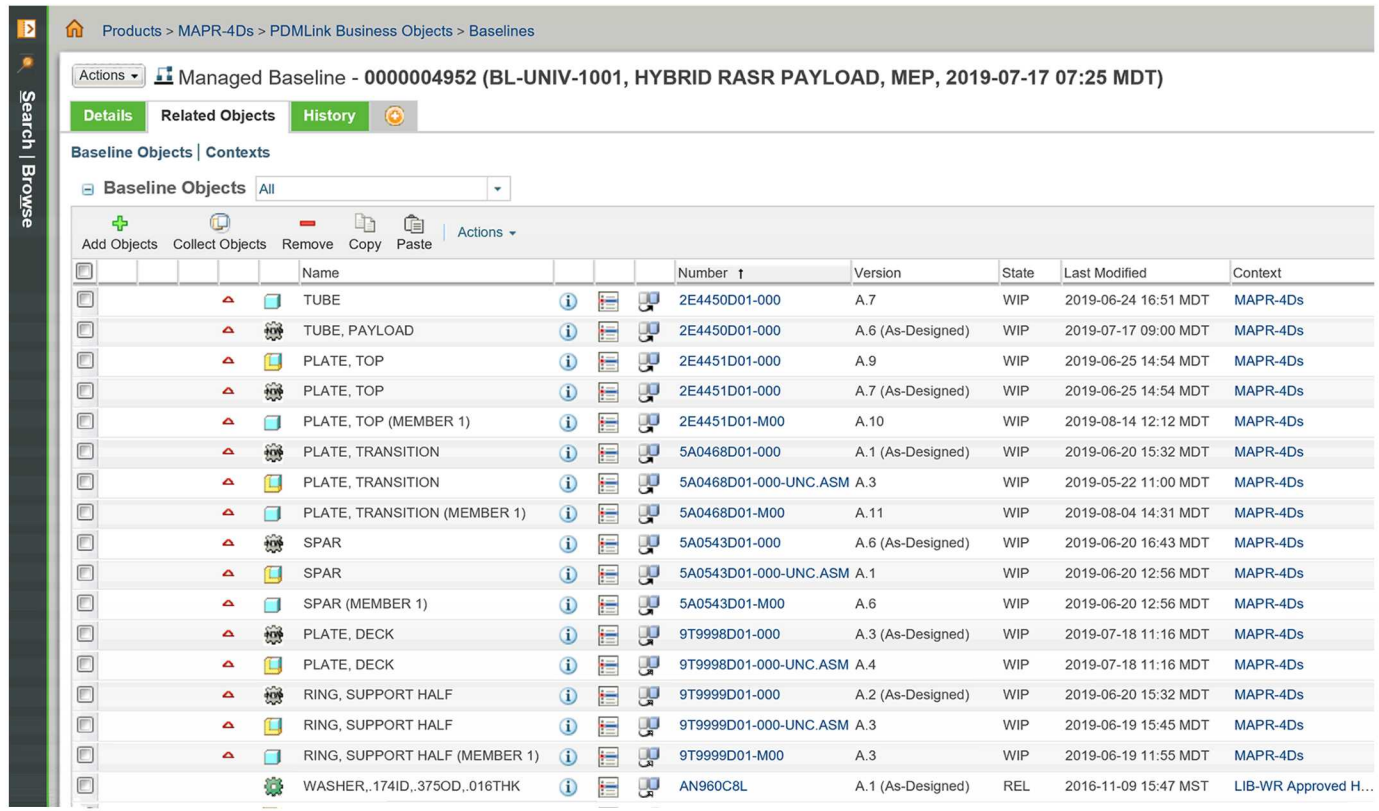
MAPR-4Ds: PDM Baseline

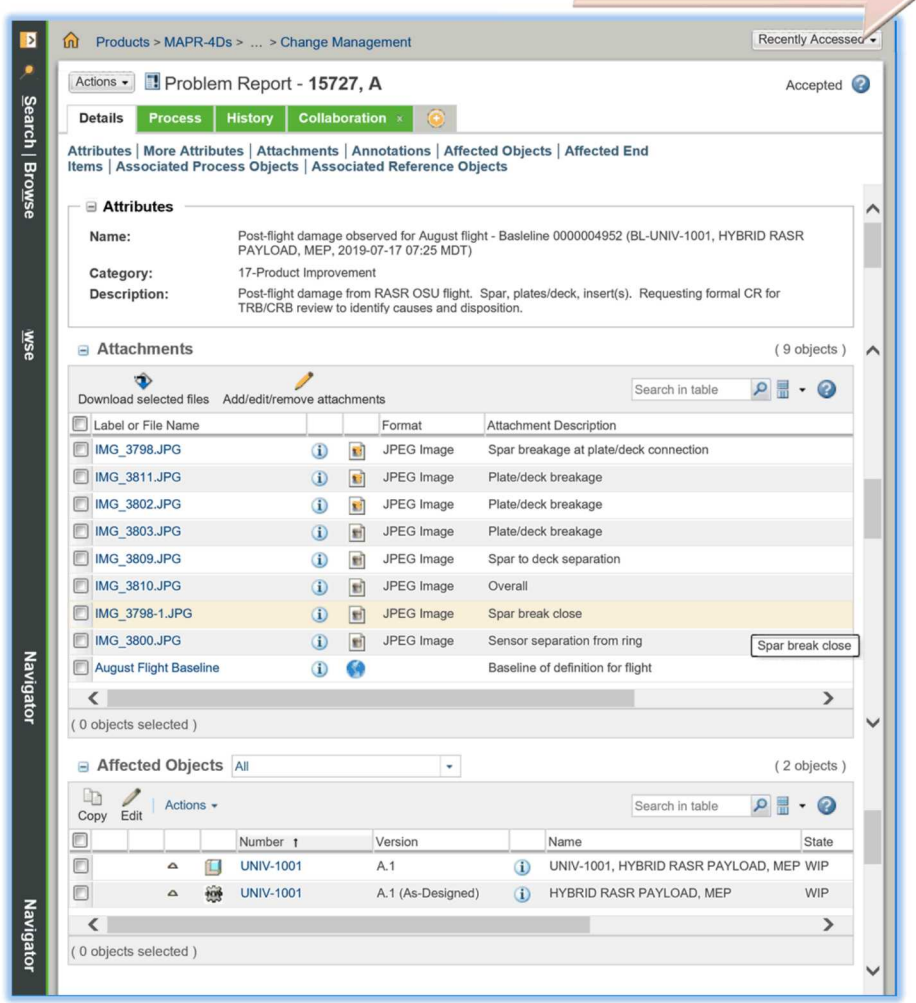
- Top-Level Assembly Baseline
- Managed Baselines, used to create a record of a set of parts and document versions within a specific configuration. Baselines describe a product at a specific stage of design or design milestone.



Name	Number	Version	State	Last Modified	Context
TUBE	2E4450D01-000	A.7	WIP	2019-06-24 16:51 MDT	MAPR-4Ds
TUBE, PAYLOAD	2E4450D01-000	A.6 (As-Designed)	WIP	2019-07-17 09:00 MDT	MAPR-4Ds
PLATE, TOP	2E4451D01-000	A.9	WIP	2019-06-25 14:54 MDT	MAPR-4Ds
PLATE, TOP	2E4451D01-000	A.7 (As-Designed)	WIP	2019-06-25 14:54 MDT	MAPR-4Ds
PLATE, TOP (MEMBER 1)	2E4451D01-M00	A.10	WIP	2019-08-14 12:12 MDT	MAPR-4Ds
PLATE, TRANSITION	5A0468D01-000	A.1 (As-Designed)	WIP	2019-06-20 15:32 MDT	MAPR-4Ds
PLATE, TRANSITION	5A0468D01-000-UNC.ASM	A.3	WIP	2019-05-22 11:00 MDT	MAPR-4Ds
PLATE, TRANSITION (MEMBER 1)	5A0468D01-M00	A.11	WIP	2019-08-04 14:31 MDT	MAPR-4Ds
SPAR	5A0543D01-000	A.6 (As-Designed)	WIP	2019-06-20 16:43 MDT	MAPR-4Ds
SPAR	5A0543D01-000-UNC.ASM	A.1	WIP	2019-06-20 12:56 MDT	MAPR-4Ds
SPAR (MEMBER 1)	5A0543D01-M00	A.6	WIP	2019-06-20 12:56 MDT	MAPR-4Ds
PLATE, DECK	9T9998D01-000	A.3 (As-Designed)	WIP	2019-07-18 11:16 MDT	MAPR-4Ds
PLATE, DECK	9T9998D01-000-UNC.ASM	A.4	WIP	2019-07-18 11:16 MDT	MAPR-4Ds
RING, SUPPORT HALF	9T9999D01-000	A.2 (As-Designed)	WIP	2019-06-20 15:32 MDT	MAPR-4Ds
RING, SUPPORT HALF	9T9999D01-000-UNC.ASM	A.3	WIP	2019-06-19 15:45 MDT	MAPR-4Ds
RING, SUPPORT HALF (MEMBER 1)	9T9999D01-M00	A.3	WIP	2019-06-19 11:55 MDT	MAPR-4Ds
WASHER,.174ID,.375OD,.016THK	AN960C8L	A.1 (As-Designed)	REL	2016-11-09 15:47 MST	LIB-WR Approved H…

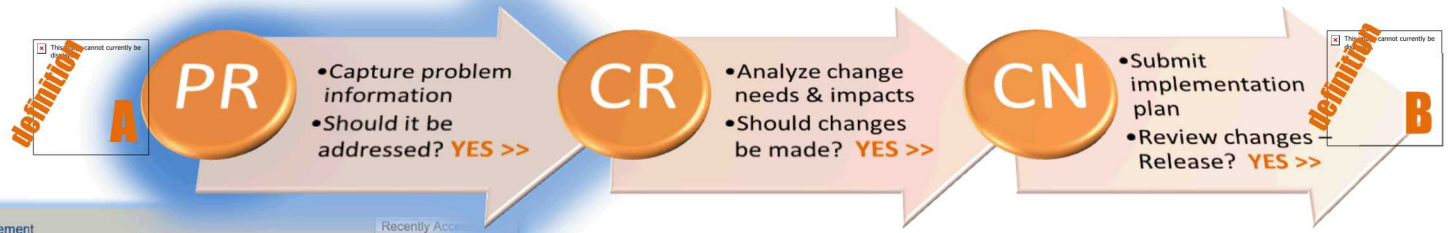
MAPR-4Ds: Product Data Management

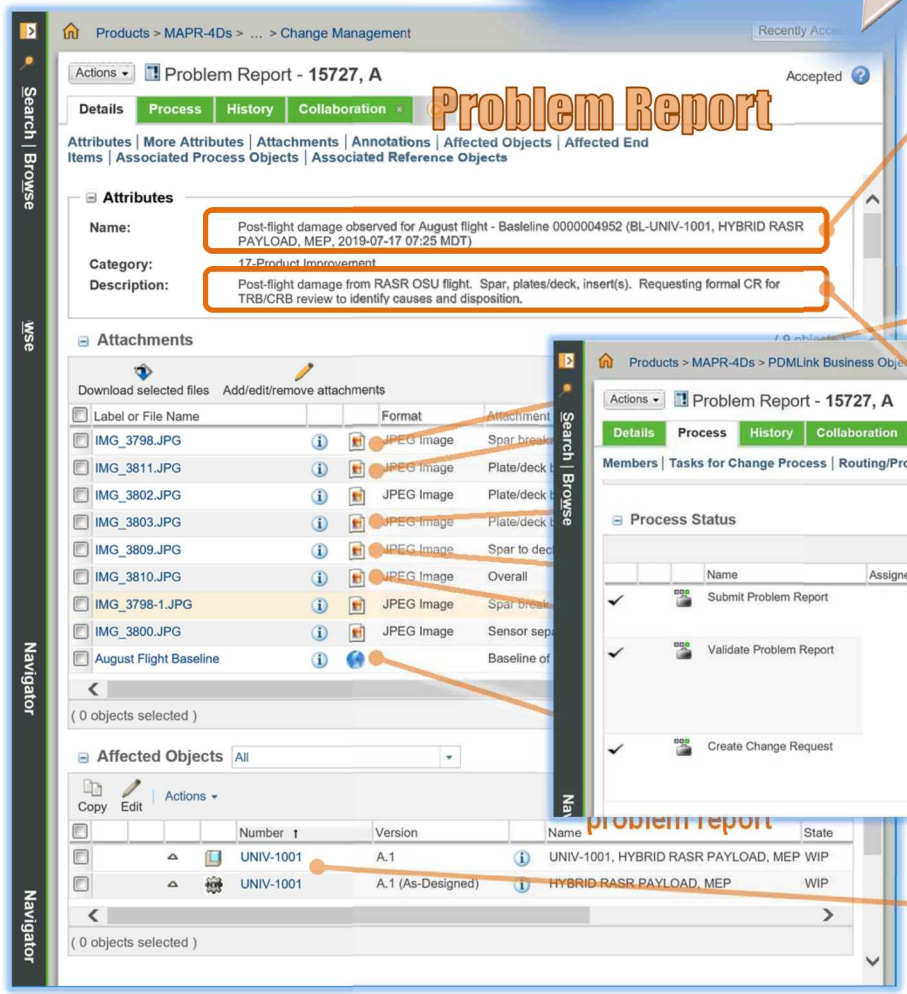
- Change Management



MAPR-4Ds: Product Data Management

- Change Management





MAPR-4Ds: Product Data Management

- Change Management

Request of TRB and CRB to:
- Analyze problem
- Propose solution(s)
- Provide scope impacts
- Provide schedule impacts
- Provide cost impacts

Products > MAPR-4Ds > PDMLink Business Objects > Change Management

Actions | Change Request - 19698, A | Implementation

Change Request

Details | Process | History | Collaboration

Attributes | More Attributes | Attachments | Annotations | Affected Objects | Affected End Items | Associated Process Objects | Associated Reference Objects

Number: 19698

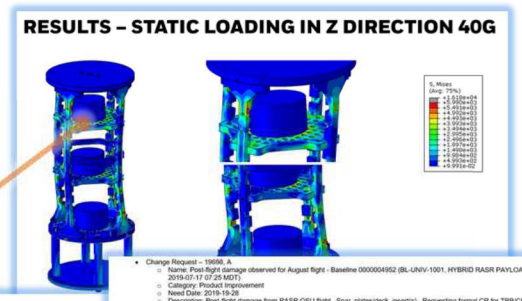
Recommendation to move forward with changes is made by PRT (TRB/CRB)

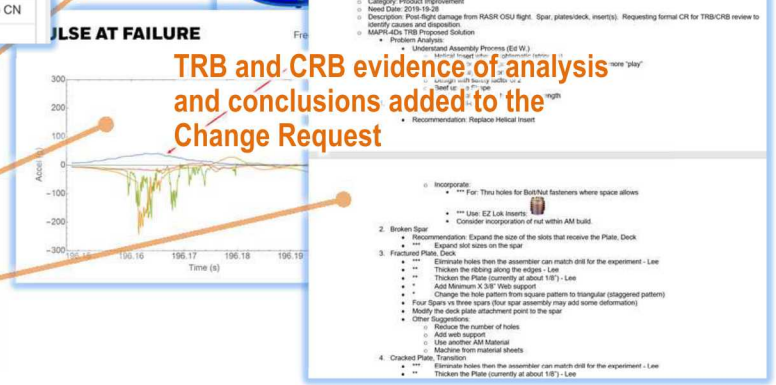
Process Status (3 objects)

Name	Assignee	Role	Vote	Comments
Create New Change Notice		Change Administrator II		
Submit Change Request		Submitter		
Analyze Change Request		Change Administrator I	Fast_Track	TRB and CRB have approved to move into CN

Attachments (13 objects)

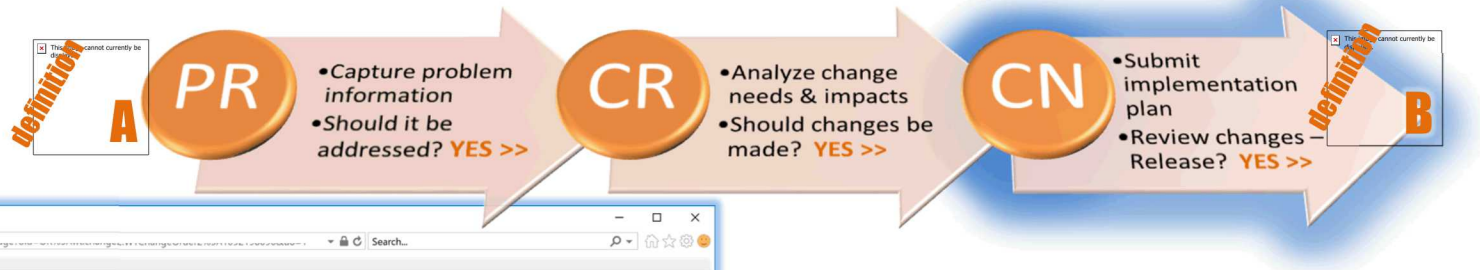
Label or File Name	Format	Attachment Description	Last Modified
IMG_3810.JPG	JPEG Image	All failures	2019-09-03 17:25...
IMG_3798.JPG	JPEG Image	Spar breakage at plate/deck connection	2019-08-21 09:59...
August Flight Baseline		Version/configuration of product definition set used for flight	2019-09-03 17:25...
Post-Flight Failure Simulation Analysis		Simulation analysis of failures encountered	2019-09-03 18:23...
Post-Flight TRB Analysis		TRB minutes found in Agenda – 20190827	2019-09-04 09:14...
Post-Flight TRB Analysis 2		Further simulation analysis by TRB	2019-09-04 09:22...
Post-Flight TRB Conclusions		TRB minutes found in Agenda – 20190903	2019-09-04 09:22...

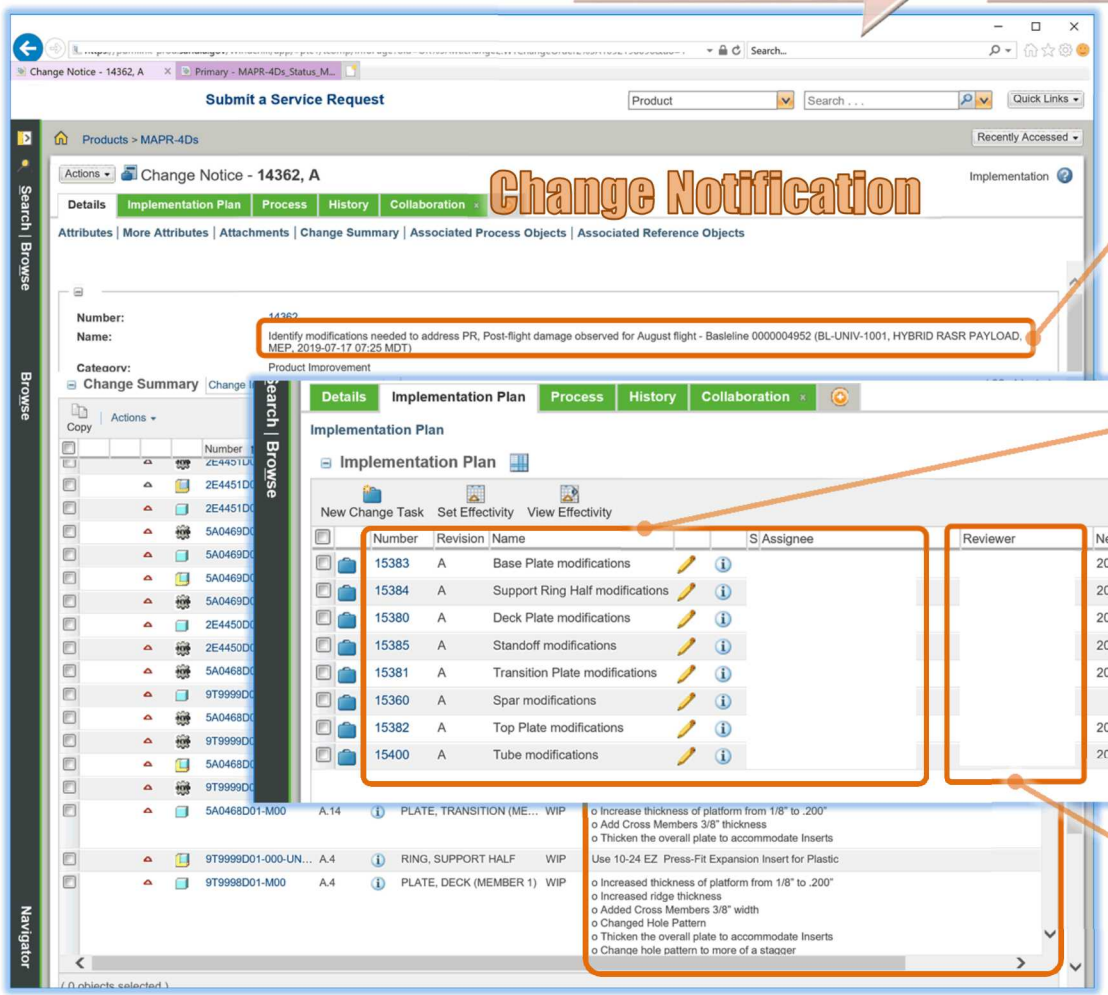




MAPR-4Ds: Product Data Management

- Change Management





All PR and CR information carried forward

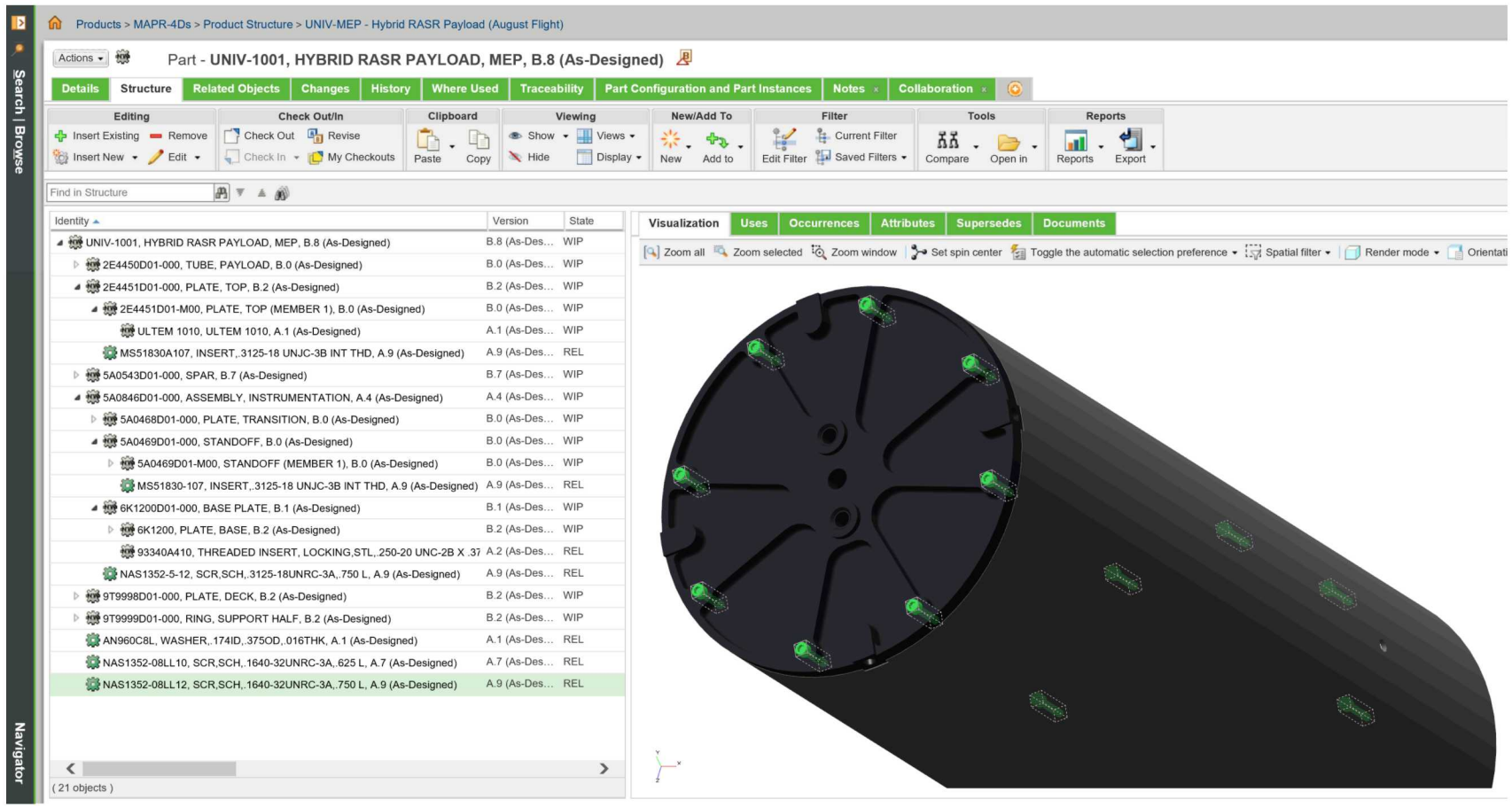
TRB and Change Administration identifies specific product definition changes

Change Administration develops Implementation Plan, with Designer assignment for each definition change task

Once all changes are made, reviewed/approved by Technical Reviewer and Change Administration, all definition released at Revision B

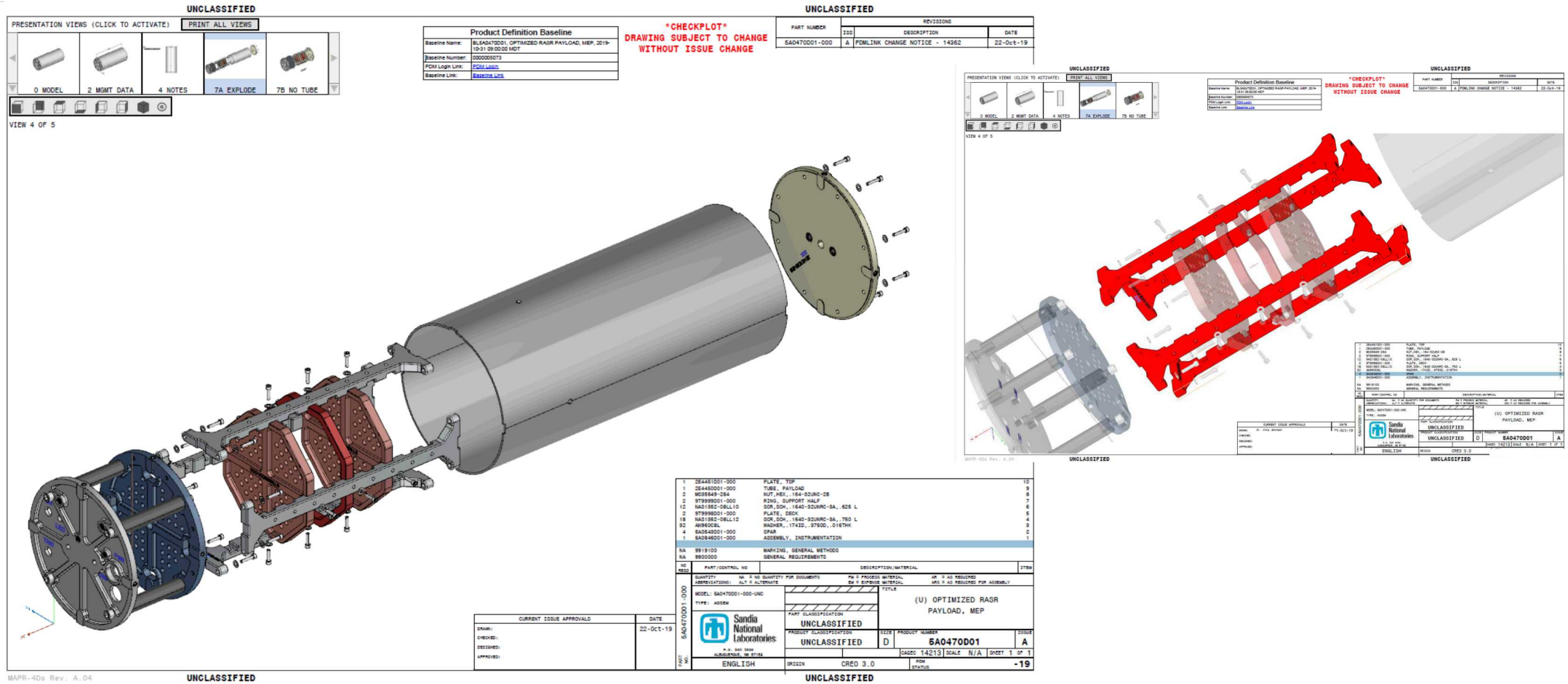
MAPR-4Ds: Product Data Management

- New Design/Product Structure Developed at Version B.0



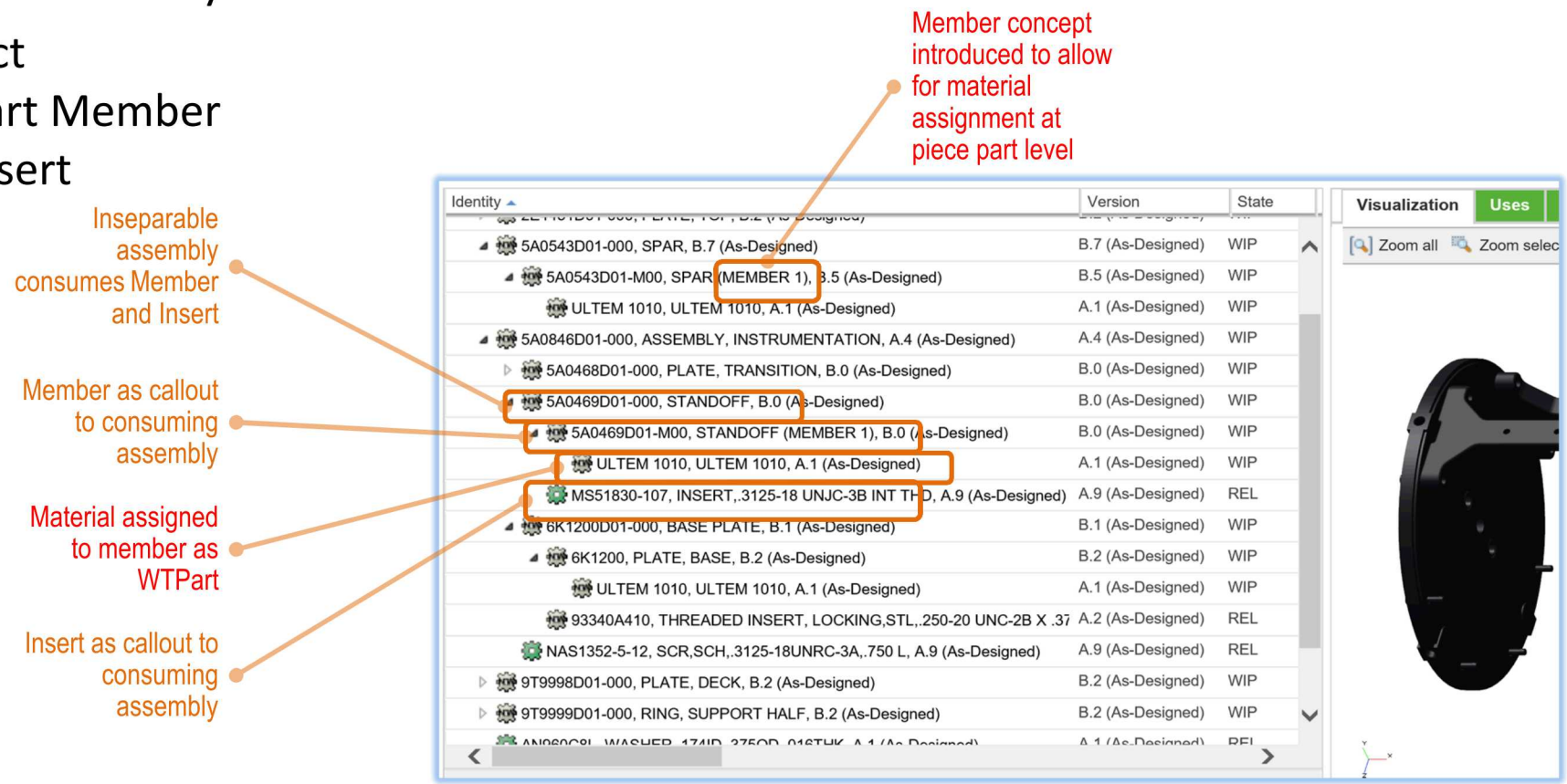
MAPR-4Ds Optimized Payload w/ Modular Experiment Platform – Rev B

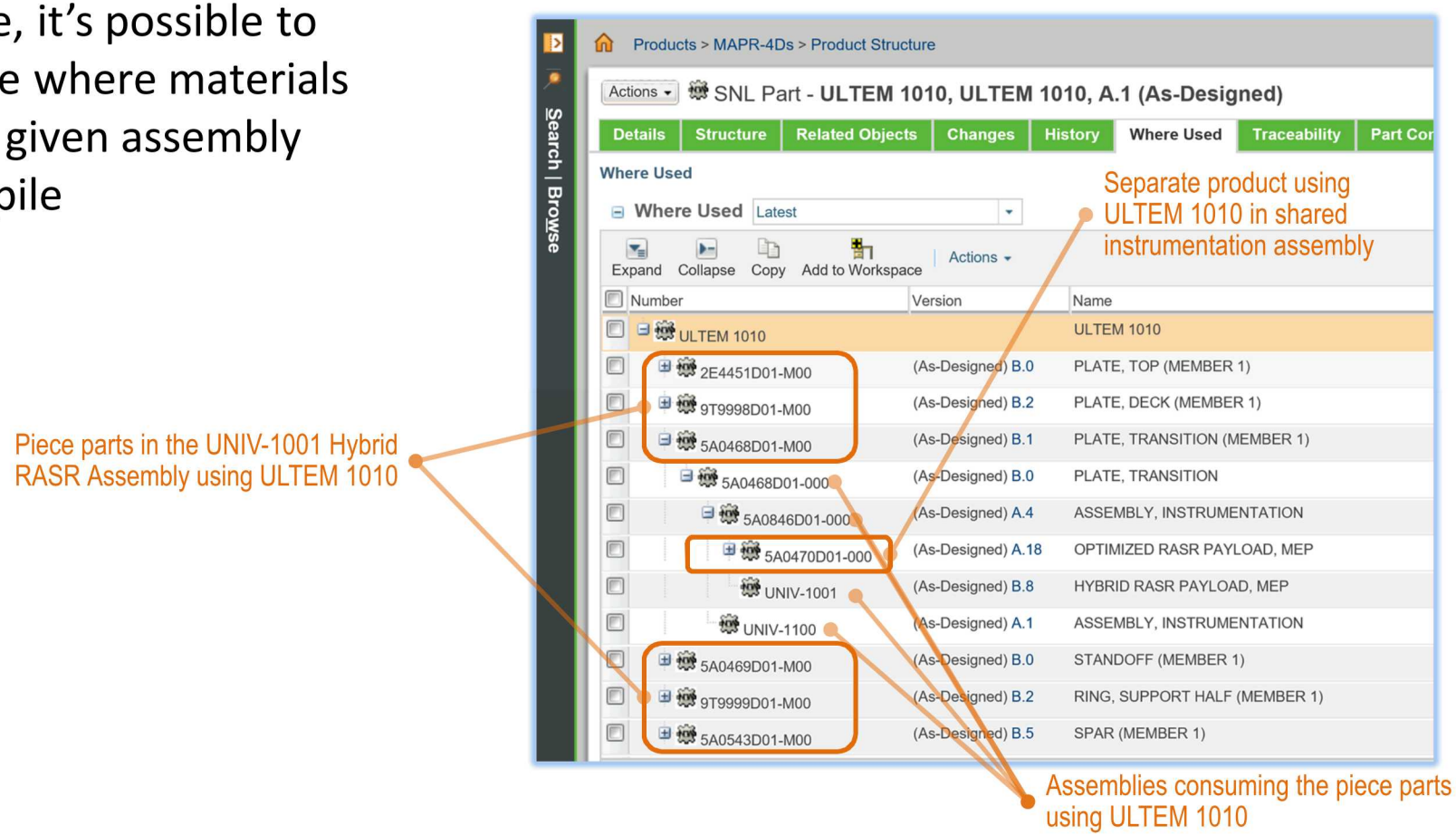
- Assembly 3DIV .pdf with Component Cross Highlighting



MAPR-4Ds: Product Data Management

- Product Structure Development Approach Further Refined
  - Material As “WTPart”
  - Inseparable Assembly as:
    - Product
      - Part Member
      - Insert



MAPR-4Ds: Product Data Management

- Material - Where Used
  - Once materials are added to the product structure, it's possible to quickly determine where materials are assigned in a given assembly and/or the stockpile