

# ***Data Model and Exchange Working Group (DMEWG)***

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Saab Support and Services

S-Series Day  
Denver  
2012-06-21

# Agenda

1. Members
2. DMEWG Charter
3. Terms of Reference
4. Deliverables
  - Public Deliverables
  - Supporting Public Deliverables
  - Internal Deliverables
5. Project Plan
6. Future meetings



# DMEWG Charter

## Purpose

- The purpose of the Data Model and Exchange Working Group (DMEWG) is to coordinate data modeling activities that are performed within the respective ASD ILS Specification, and to harmonize and consolidate data requirements into one common ASD data model, using UML.
- The common data model must include all data elements that are common to more than one ASD/AIA S-series specification. Data that are just delivered from one spec to the customer, but are neither used by another spec nor matches any feedback data, can be excluded.



# DMEWG Charter

## Purpose

- Data elements and business terms defined within any ASD/AIA S-Series specification shall be published by the DMEWG as a separate specification, S9000D (Dictionary).



# DMEWG Charter

## Purpose

- The DMEWG shall also be responsible for the governance, review and publication of Aerospace and Defense Data Exchange Specifications (AD DEXs), using ISO 10303:239 Product Life Cycle Support (PLCS). Initiation to develop or enhance the capability of a specific DEX is under the responsibility of the respective ILS specification. Development of DEXs, or the enhanced capability, is managed by DMEWG but is tasked to a dedicated multi-discipline Task Teams.



# DMEWG ToR (DRAFT)

## Members

- Core modelers for the respective ILS specifications
- Experts coming from ASD and AIA Companies and their Customers
- Other experts invited on a case-by-case basis

## Positions

- Chair
- Co-chair / Secretary

## Decision making

- The DMEWG works on a consensus basis
- Unresolvable issues will be elevated to the ILS Council

## Members

- Leif Gyllström, Saab (S3000L) Chair
- Ryan Augsburger, Boeing (S1000D) Co-chair/Secr
- Andreas Fleck, Cassidian (S2000M)
- Ramon Somoza, Airbus Military (SX000i)
- Kevin Hendricks, Boeing (S1000D)
- Ryan Mayes, LOGSA (GEIA-0007)
- John Peer, Jacobs (LOGSA) (GEIA-0007)
- Mike Day, Rolls-Royce (S5000F)
- Paul Haslam, O'Neil (S4000M)
- Bill Foreman, Boeing (AIA)
- Charlie Stirk, CostVision
- Mats Nilsson, FMV (Observer)



# Public Deliverables

## Common UML Model

### **Common Data Model**

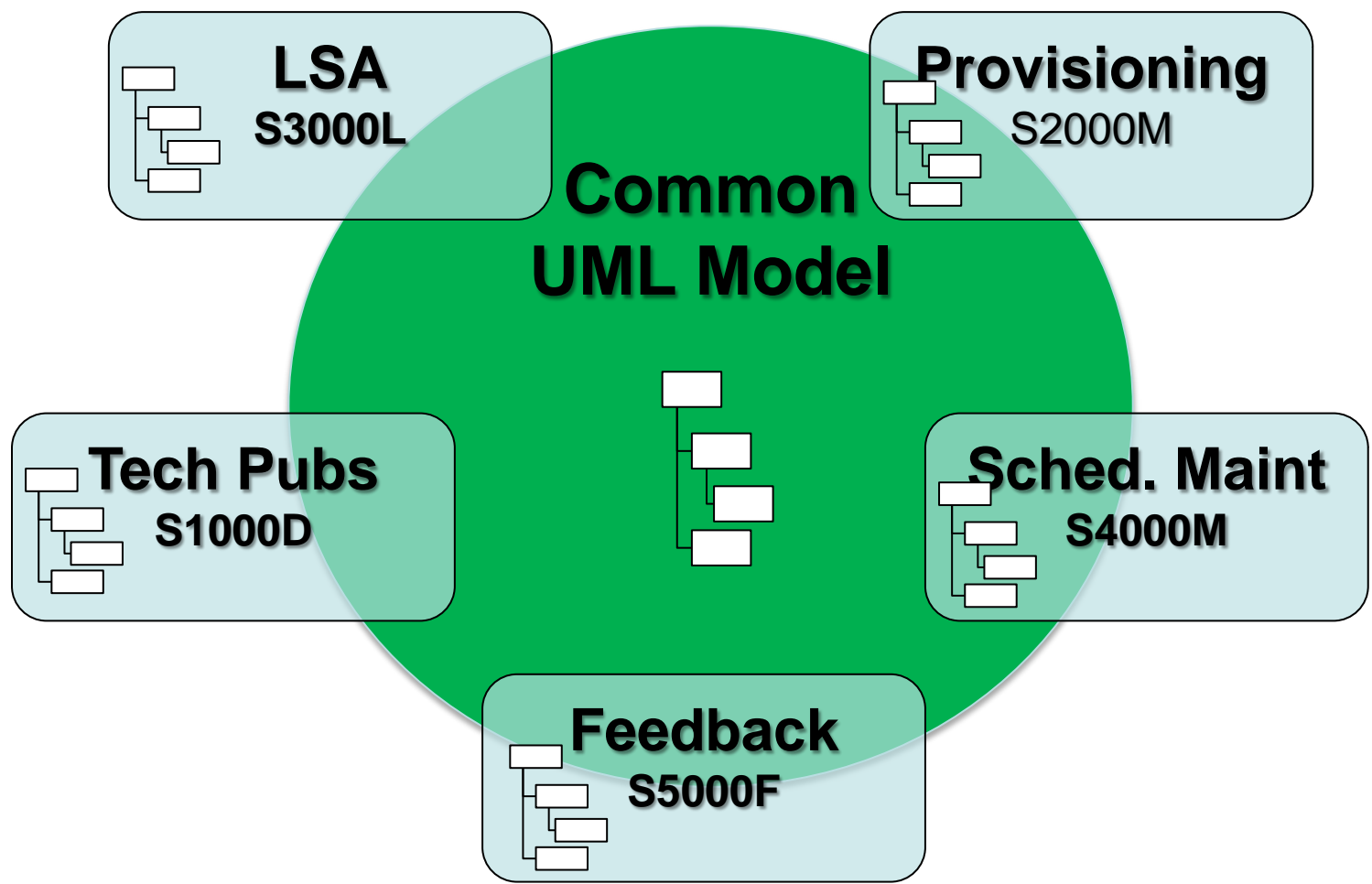
- Common Data Model in UML to be used by the respective S-Specification

### **Published representations of the Common Model**

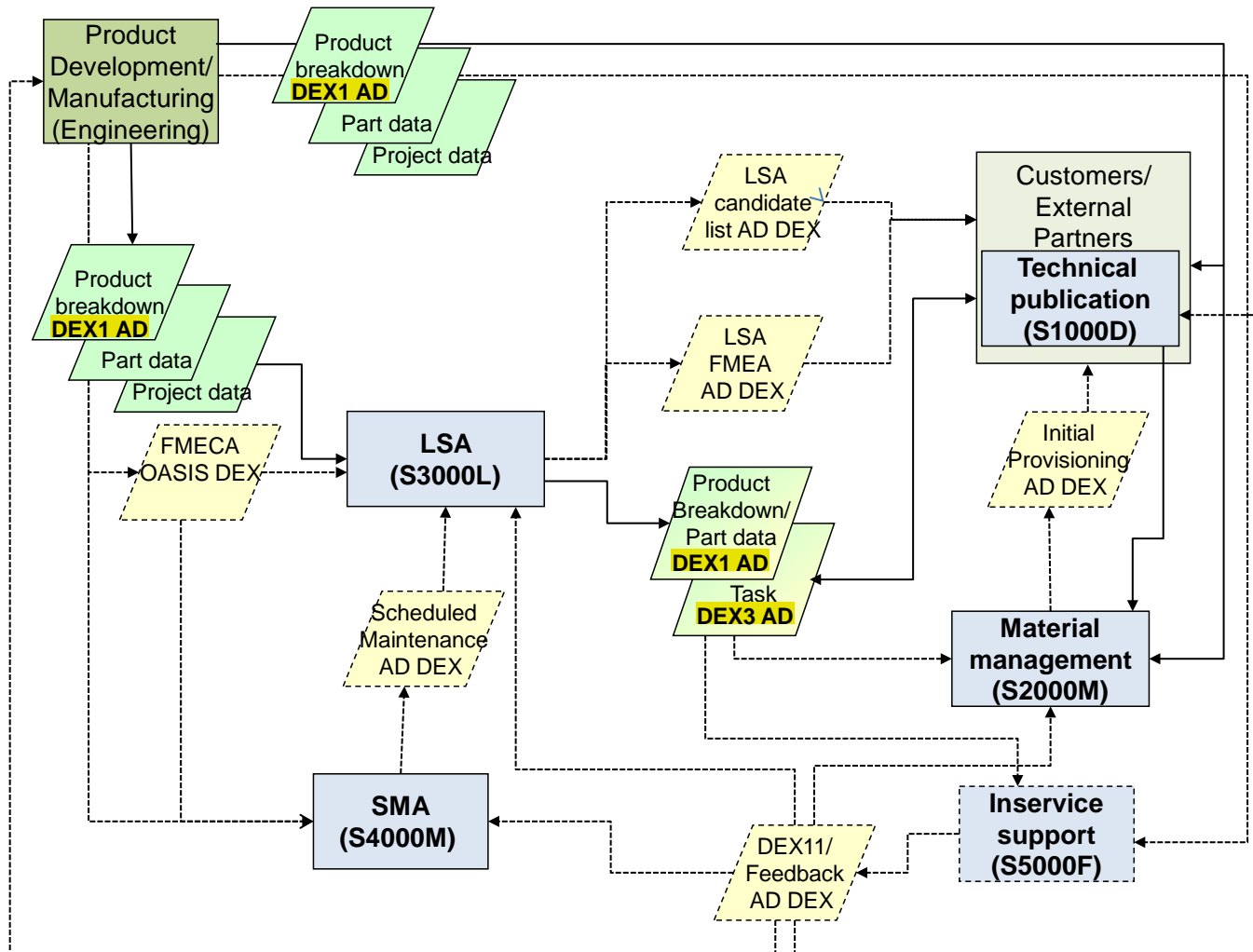
- How to read and use the model (reusable in each of the S-Specs)
- The Common Model in a format(s) for people without UML tools



# Public Deliverables Common UML Model

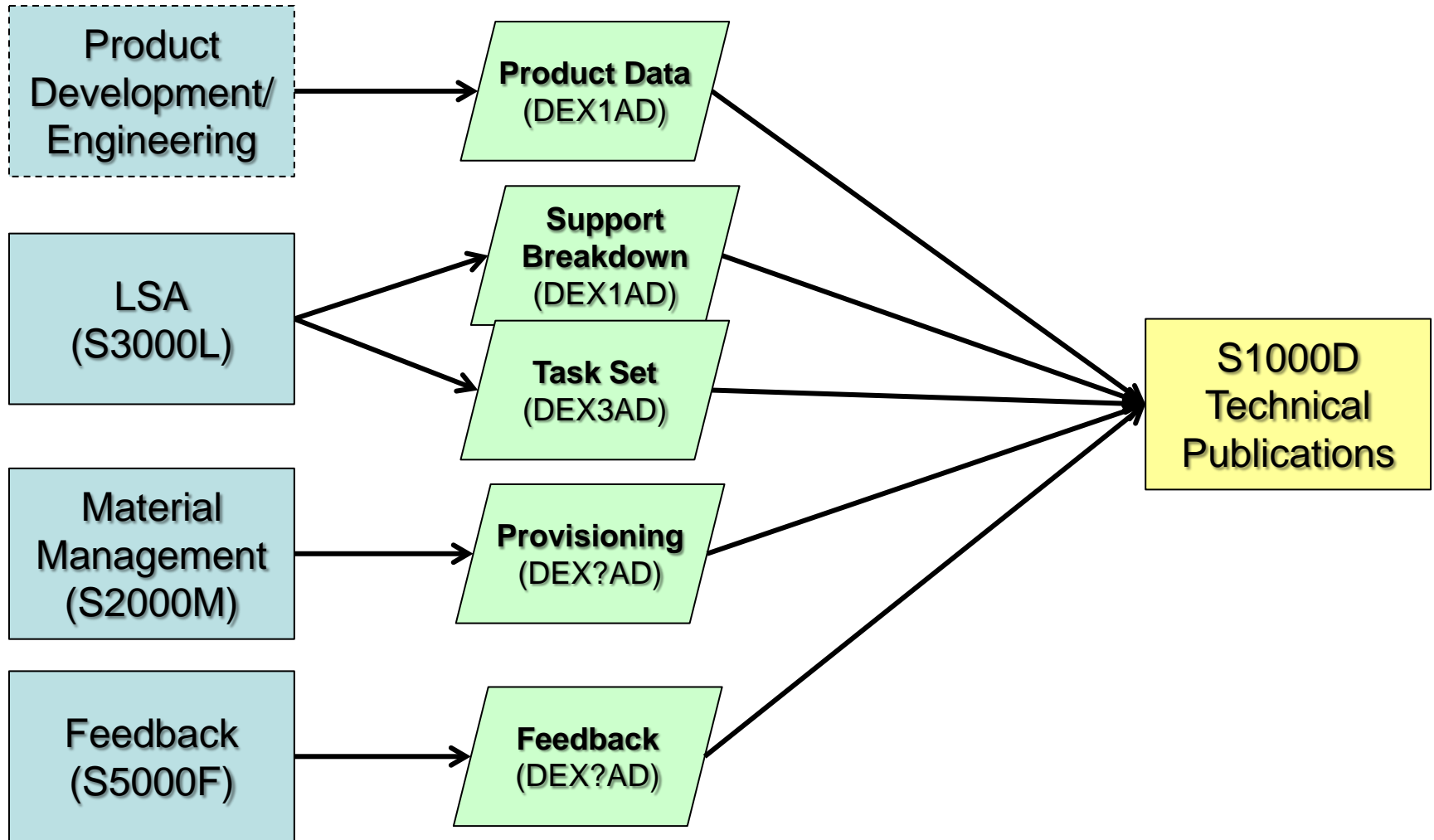


# Public Deliverables Interchange Specifications



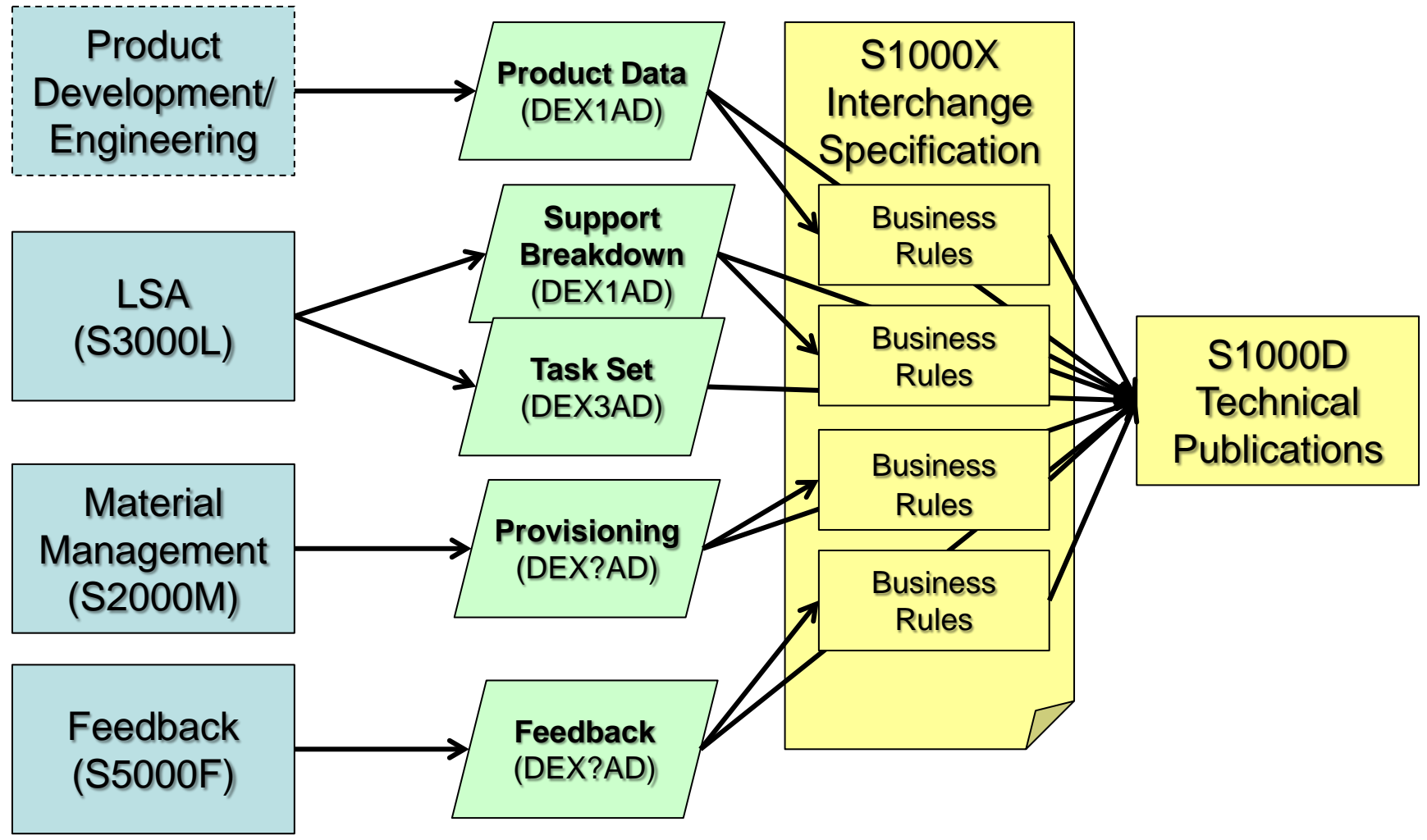
# Public Deliverables

## Interchange Specification - Example



# Public Deliverables

## Interchange Specification - Example





# Public Deliverables

## Interchange Specification - Example

(Target) Specification Element	Element Definition	Source DEX Element(s)	Element Definition(s)	Business Rule

### Examples on Business Rules:

- Select one specific value from a source that allows for multi-valued attribute
- Derive new attribute and value from existing attributes
- ....



# Public Deliverables

## S9000D Dictionary

### **S9000D Dictionary**

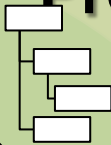
- Terms/Abbreviations/Acronyms and definitions
- All S-Spec data elements/attributes and definitions

# Public Deliverables

## S9000D Dictionary



**LSA**  
S3000L



**Provisioning**  
S2000M

Common  
UML Model

Interchange

# S9000D Dictionary

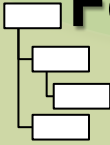


**Tech Pubs**  
S1000D

S1000D	S2000M	S3000L	S4000M	S5000F
	Use	Source		
Use	Use	Source	Use	
Use	Source			
		Use		Source
Use			Source	



**Sched. Maint**  
S4000M



**Feedback**  
S5000F



# Public Deliverables

## DEXs

### **AIA/ASD A&D DEX Architectural Overview**

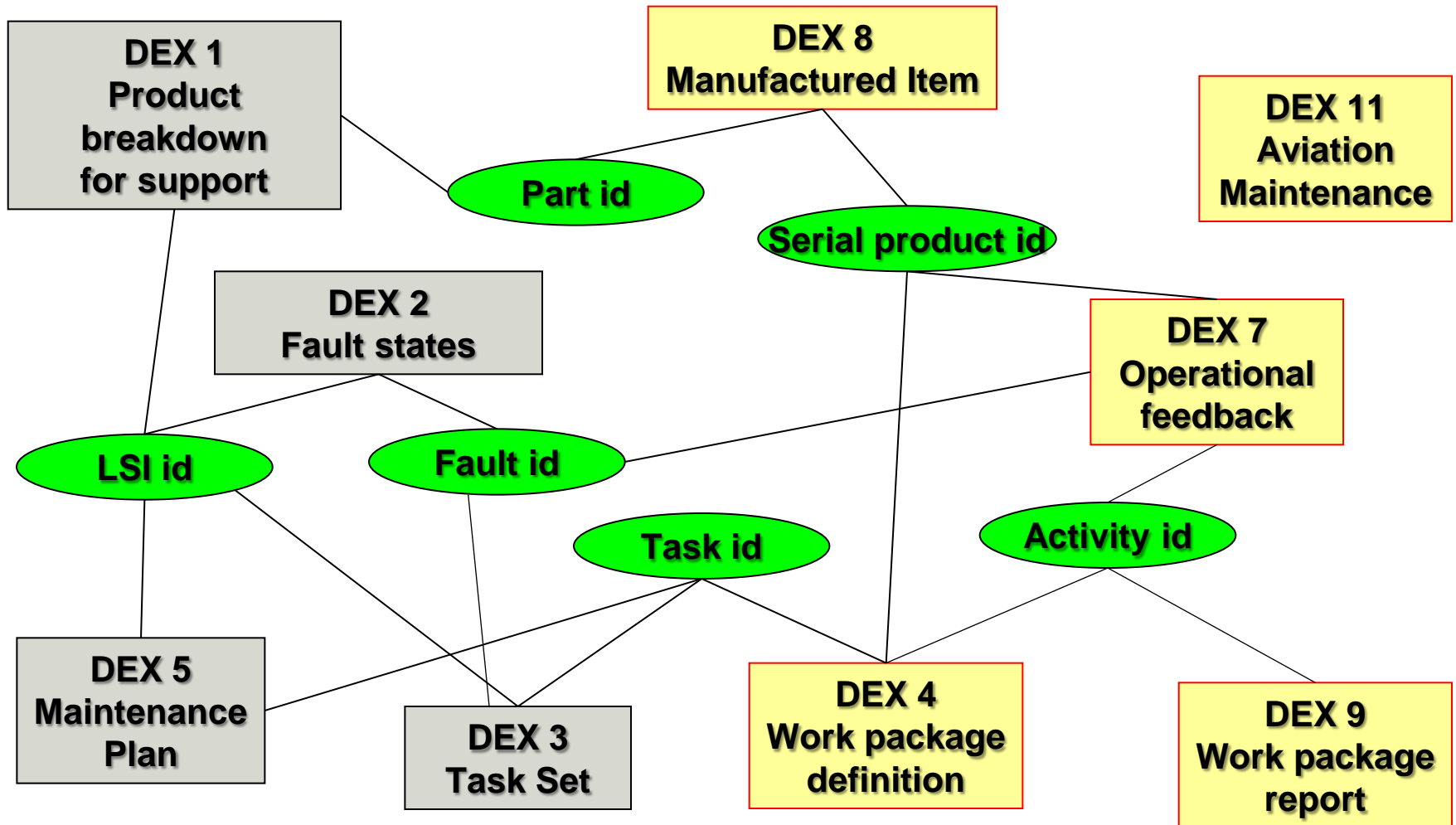
- Boundaries for each DEX
- Conceptual relationships between DEXs

### **DEX Publication Packages**

- DEXs
- Reference data OWL file



# Public Deliverables DEXs



## **UML Writing Rules and Style Guide**

- Version of UML
- Naming conventions of models and elements within models
- UML tools
- UML writing rules (how to write definitions, relationships, etc)
- Stereotypes and predefined classes documentation
- Modelling conventions

## **UML profile**

- Set of stereotypes
- Predefined classes

## **DEX Writing Rules and Style Guide**

- Version of PLCS and S-Specs
- DEX development tool set
- Rules for use of OWL
- Guidance in addition to OASIS
- (Set of basic building blocks/templates)

## **S9000D Dictionary Style Guide**

- Data structure requirements
  - Ex: OWL file with mandatory and optional fields
- Content requirements
  - Included / excluded content
  - References where used (internal/external)?
- Revision process



# Supporting Public Deliverables

## Program Plan

- Execution order
- Milestones
- Notional schedule

# Internal Deliverables

## **DMEWG Development and Maintenance Handbook**

- Change proposal process and form
- Internal and external approval process
- General writing rules for public documents
- Common model:
  - How to identify common entities
  - Criteria for defining common Units of Functionality
  - Coordination with S-Specs
  - Configuration Management of model
  - Maintenance of model
- DEXs
  - Configuration management
  - Publication process:
    - Extract DEXs out of DEXlib and package for release



# Internal Deliverables

## **DMEWG Development and Maintenance Handbook (cont)**

- Interchange specification
  - Interchange spec writing rules and style guide
- S9000D
  - Additional characteristics for data model and OWL file to support S9000D
  - Conceptual vs. specific definitions
  - Templates
  - Presentation
  - Versions of OWL and S-Specs
  - Sources of information
  - Process and tools to extract and populate data
  - Process to identify and harmonize areas of discord
  - Process to publish
- Communication Plan

# Project Plan

## First items being worked:

- DMEWG Charter – Approved
- DMEWG ToR – Final
- UML Writing Rules and Style Guide – Draft
- UML Tool Selection – Final
- DEX Writing Rules and Style Guide – In Work
- S9000D Dictionary Style Guide – Draft
- DMEWG Development and Maintenance Handbook – In Work
- Collaboration Site – Available
- Templates – Available
- Common Data Model – .....



# Project Plan

- Common UML Model
  - Started the development based upon the S1003X "S3000L to S1000D Interchange Specification"
  - First UoF "Task Definition"
  - Verifying the UML Writing Rules and Modeling Style Guide



# Meetings

## Face-to-Face meetings

- Alternate between Europe and North America
- 2-4 a year
- Current schedule:
  - Oct, 10-13; Växjö, Sweden
  - Dec. 6-8 2011; Washington DC, USA
  - Feb 28-Mar 1 2012; Madrid, Spain
  - May 8-10 2012; Seattle, USA
  - Sept 18-20 2012; Unterschleissheim, Germany

## Teleconference / WebEx

- Every second week

# Questions?