TC184/SC4/WG10

Application Modules:

Product structure in the Ship Common Model

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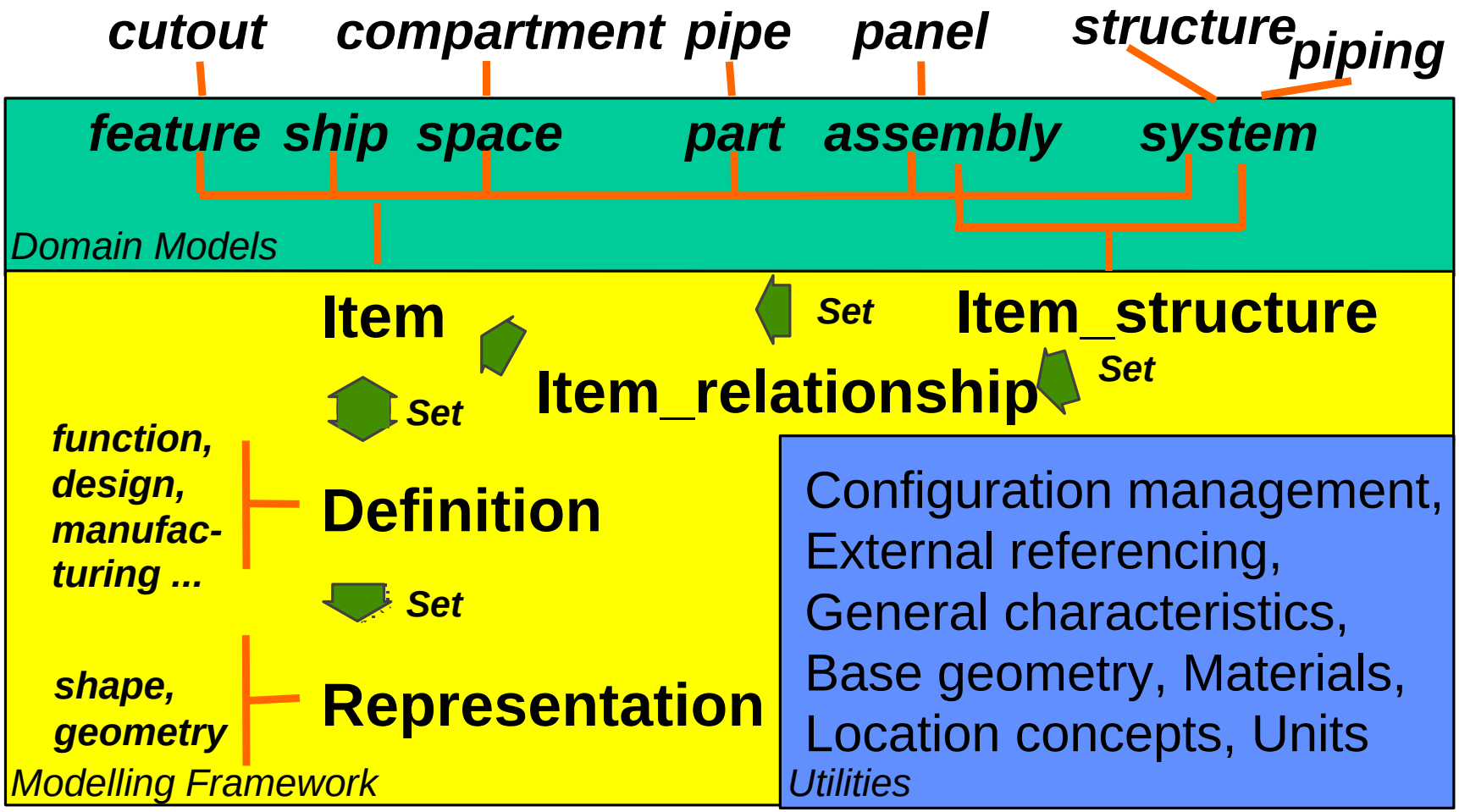
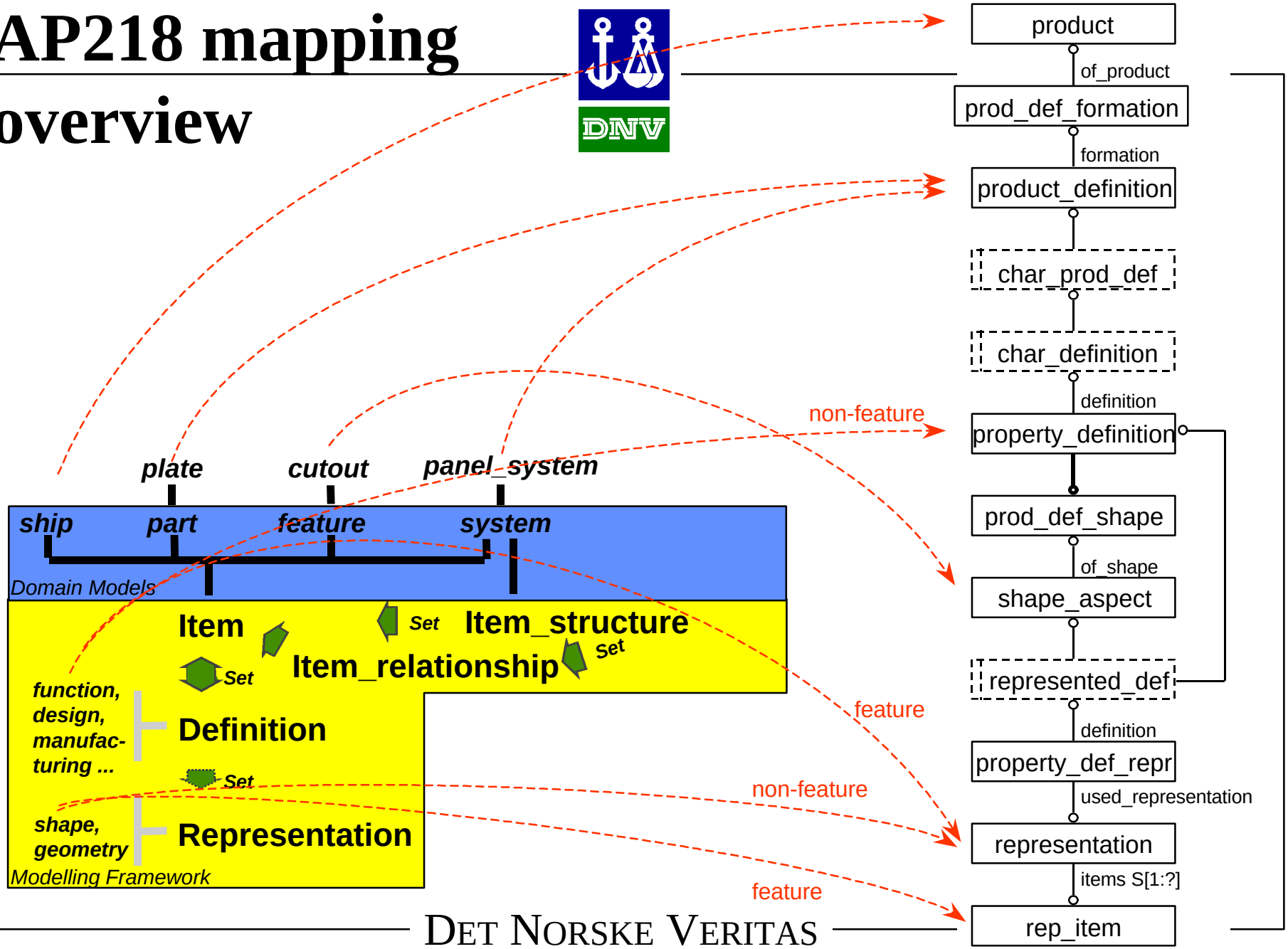
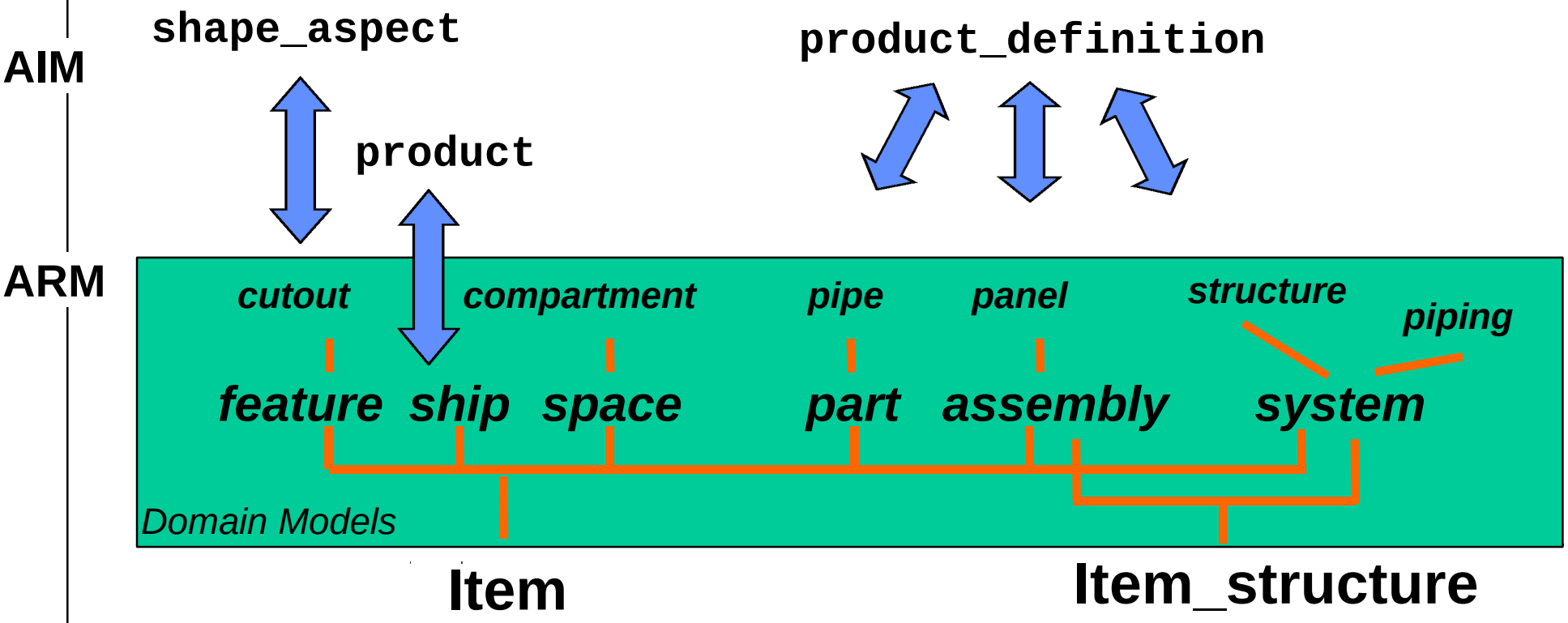
ARM overview



AP218 mapping overview



Item


AIM
ARM
shape_aspect
product
product_definition
cutout
compartment
pipe
panel
structure
piping
feature
ship
space
part
assembly
system
Domain Models
Item
Item_structure

Item attributes

- id: **Global_Id**; → ***product_definition.id***
  - (* the global unique identifier for SELF *)
- name: **Label**; → ***product_definition.name***
  - (* the (human readable) name of the concept that is represented by SELF *)
- documentation: ***SET OF*** **External_Reference**; → ***document_referenc***
  - (* documentation available (if it exists) for SELF *)
- description: ***OPTIONAL*** **Text**; → ***product_definition.description***
  - (* the description for SELF *)
- ship_context: ***OPTIONAL*** **Ship**; → ***product***
  - (* the context of SELF in terms of its applicability to a ship *)

Definition

- version_id: **Identifier**;
  - (* specifies the version of the instance of SELF *)
- id: **Global_Id**;
  - (* the global unique identifier for SELF *)
- defined_for: ***SET*** [1:?] ***OF*** **Definable_Object**;
  - (* the <Definable_object>s which are defined by <Definition> *)
- local_units: ***SET OF*** **Unit**; → ***global_unit_assigned_contex***
  - (* If the units that definition makes use of differ from the ones globally defined for the ship, they should be specified here. *)

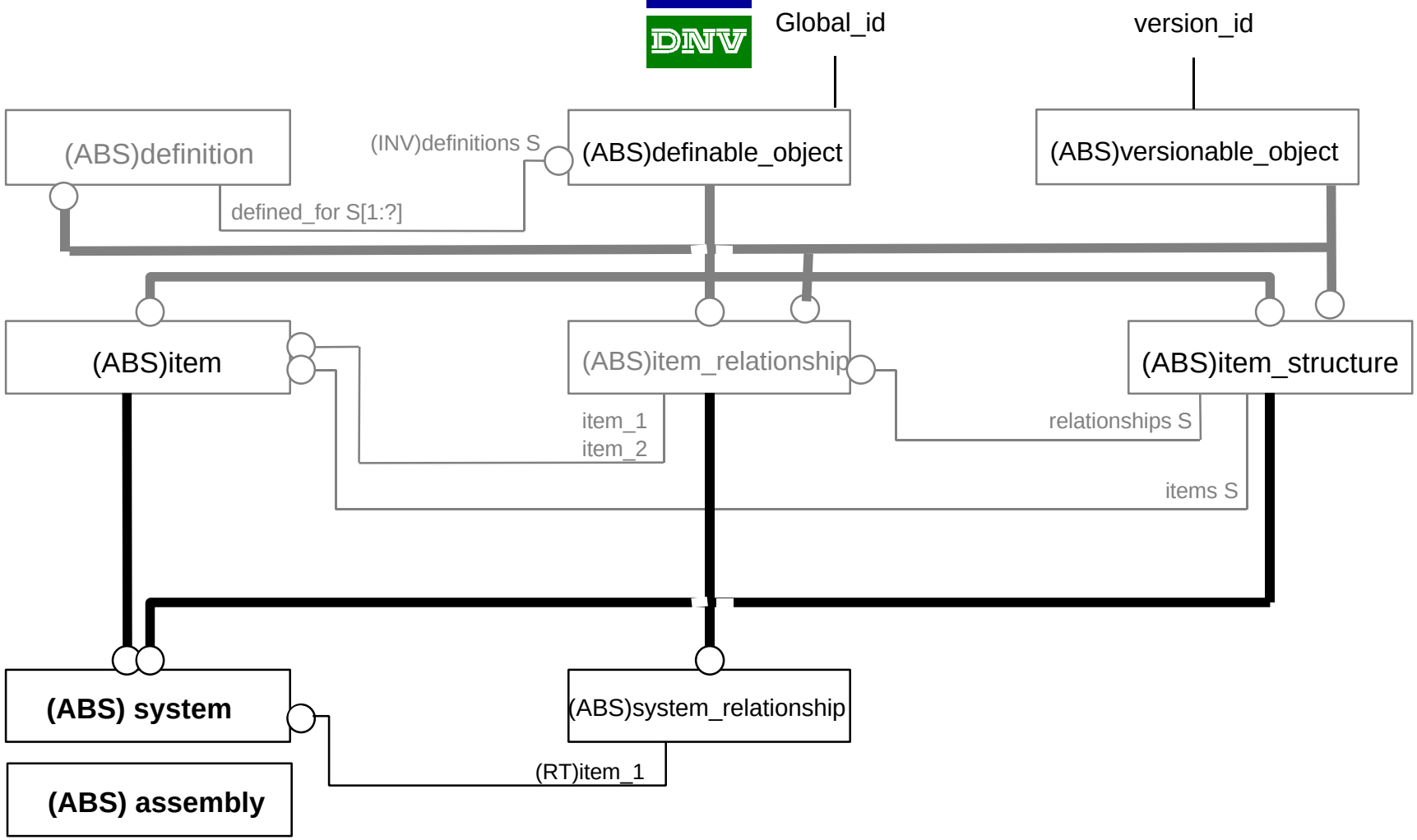
Product structure

- **product_structure_by_assembly**
- **product_structure_by_space**
- **product_structure_by_system**

Includes:

- aggregation
- identification
- version name

ARM

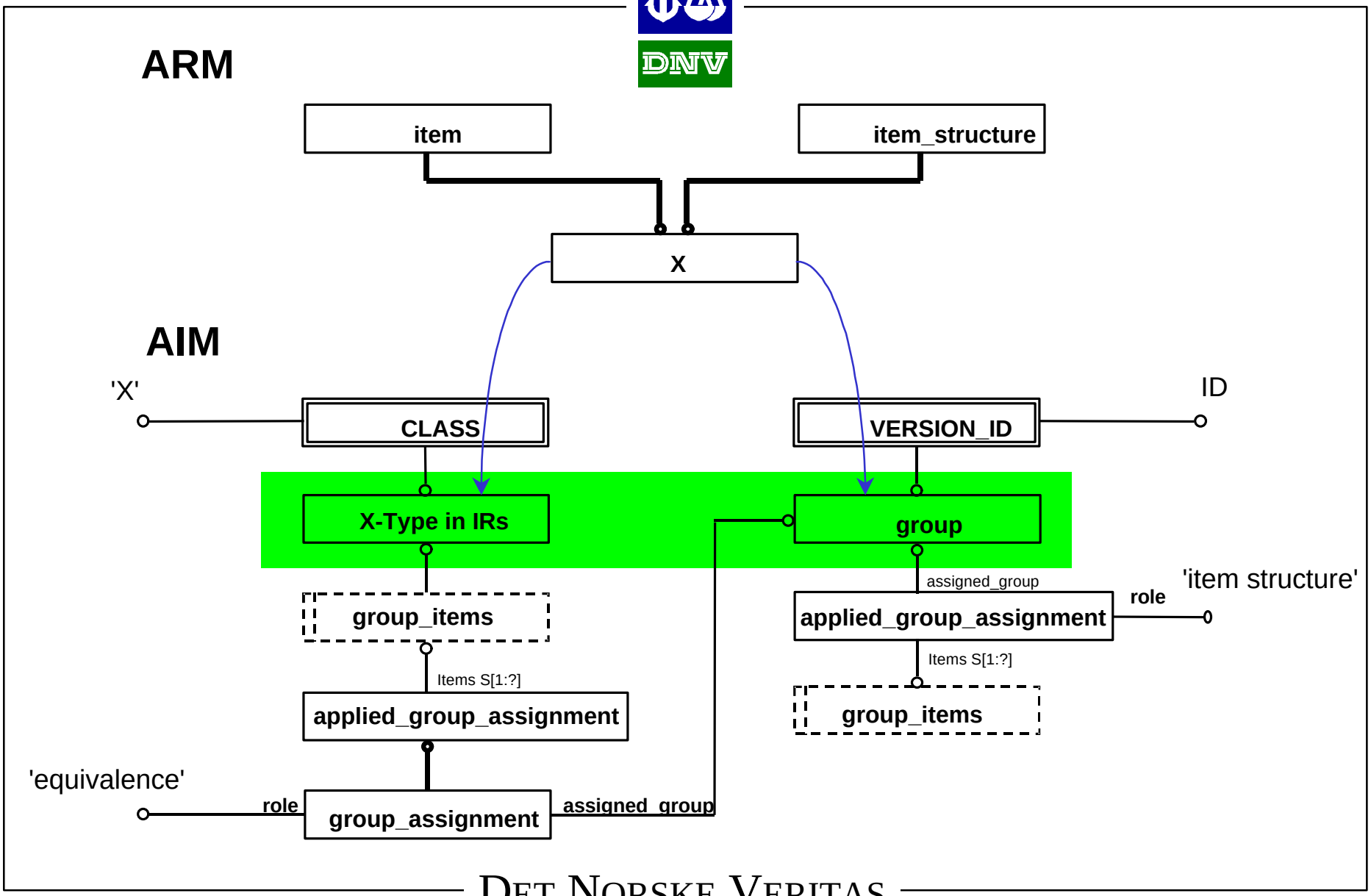


- **recursion in aggregation**

Mapping

- aggregation -> group
- aggregation recursion -> group in group
- version name -> identification_assignment
- identification -> .id

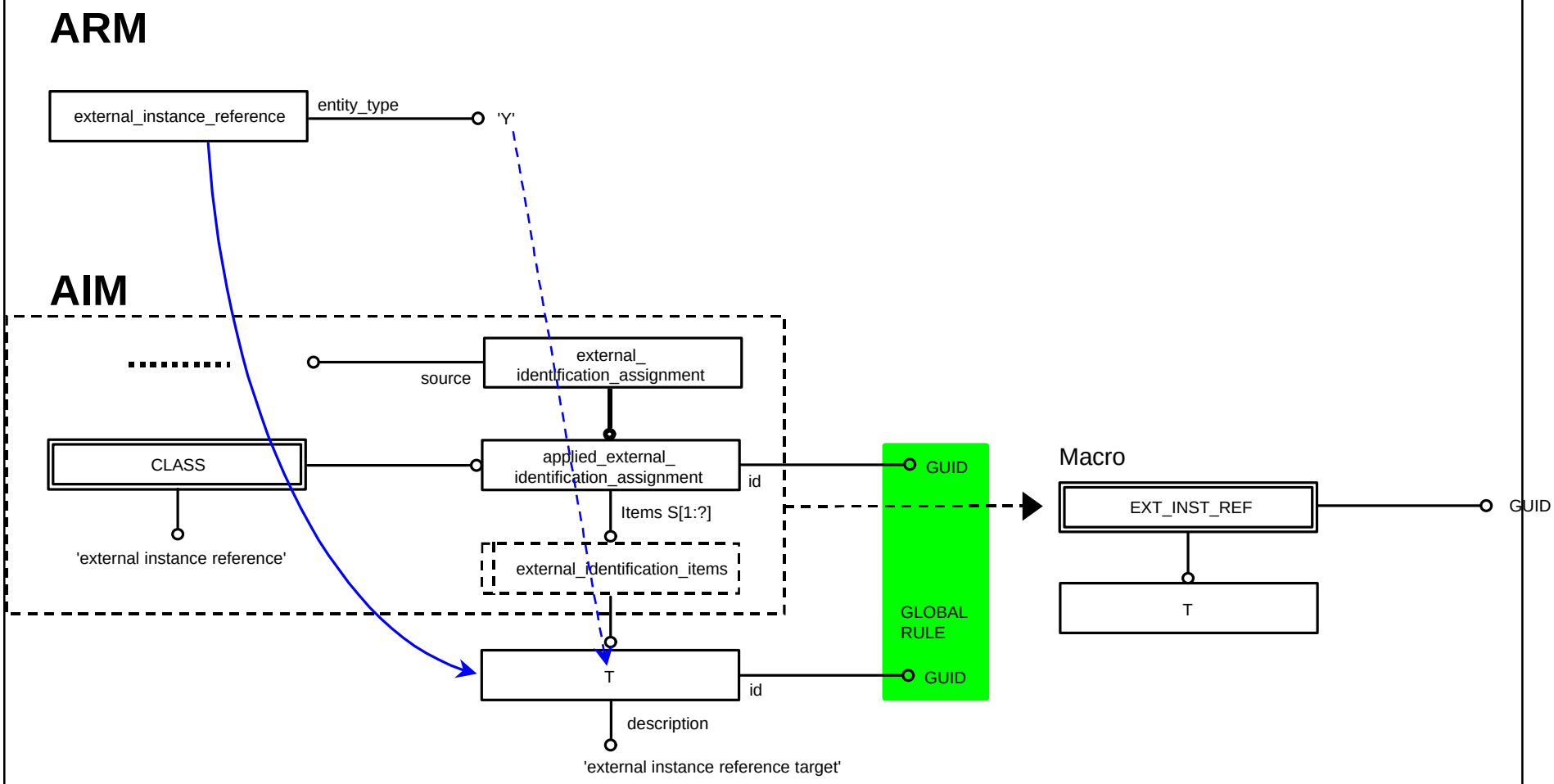
AIM


ARM
item
item_structure
X
AIM
'X'
CLASS
VERSION_ID
ID
X-Type in IRs
group
assigned_group
'item structure'
role
applied_group_assignment
group_items
Items S[1:?]
Items S[1:?]
applied_group_assignment
group_items
'equivalence'
role
group_assignment
assigned_group

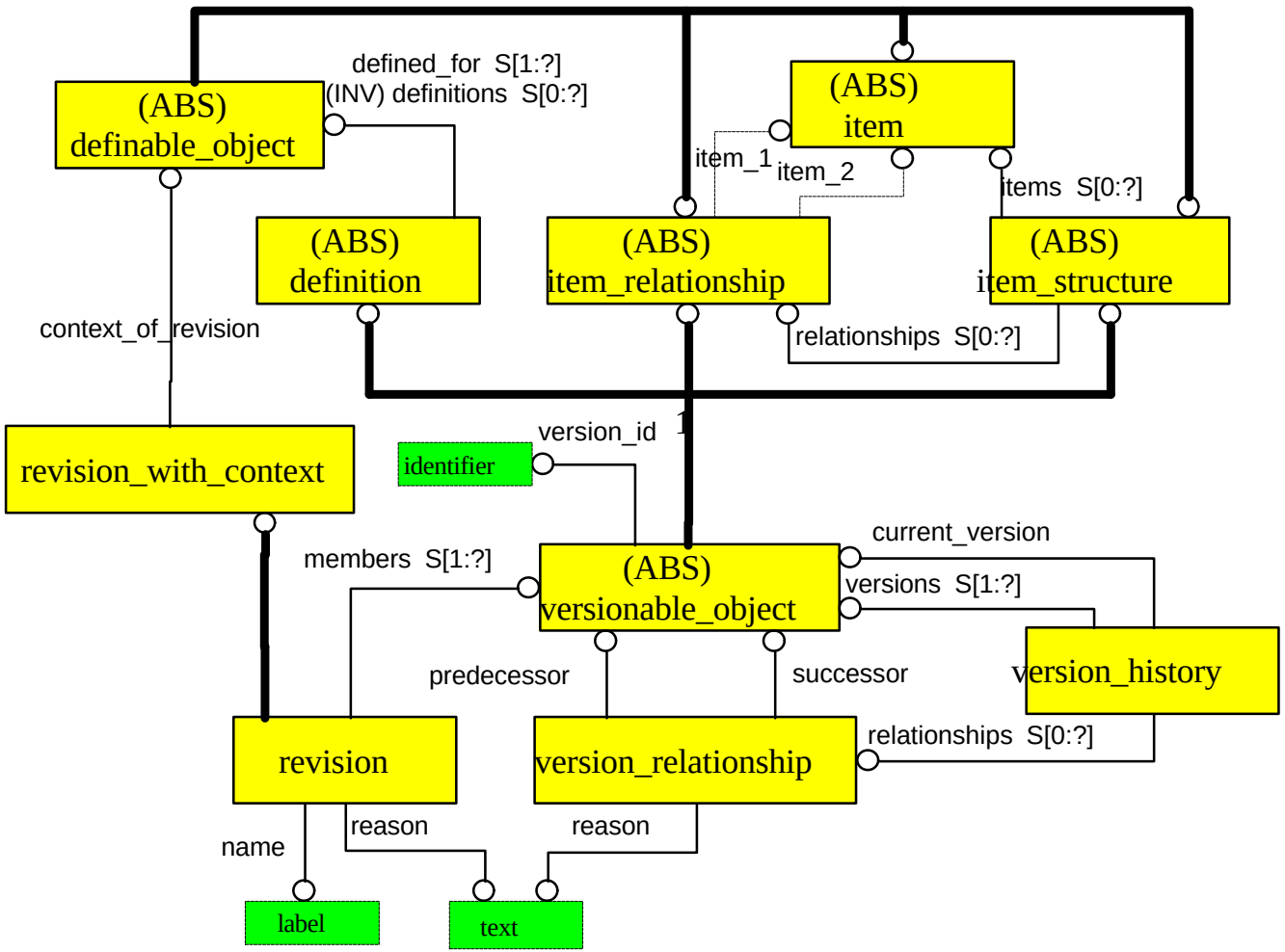
Global_id

- **global_id maps to id-attributes of the IR mapping targets**

External_instance_reference



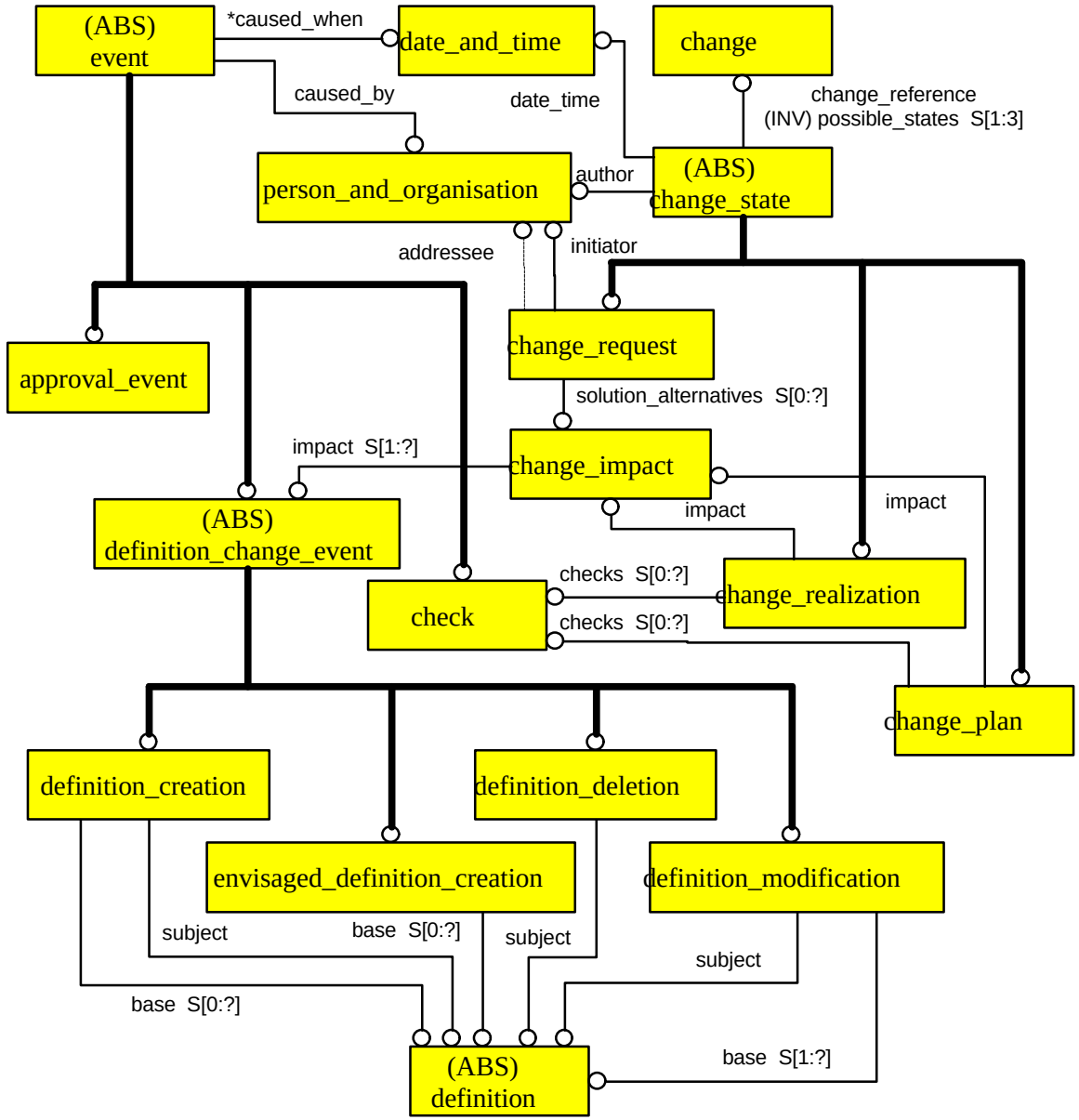
Versions ARM



Versions mapping

- …

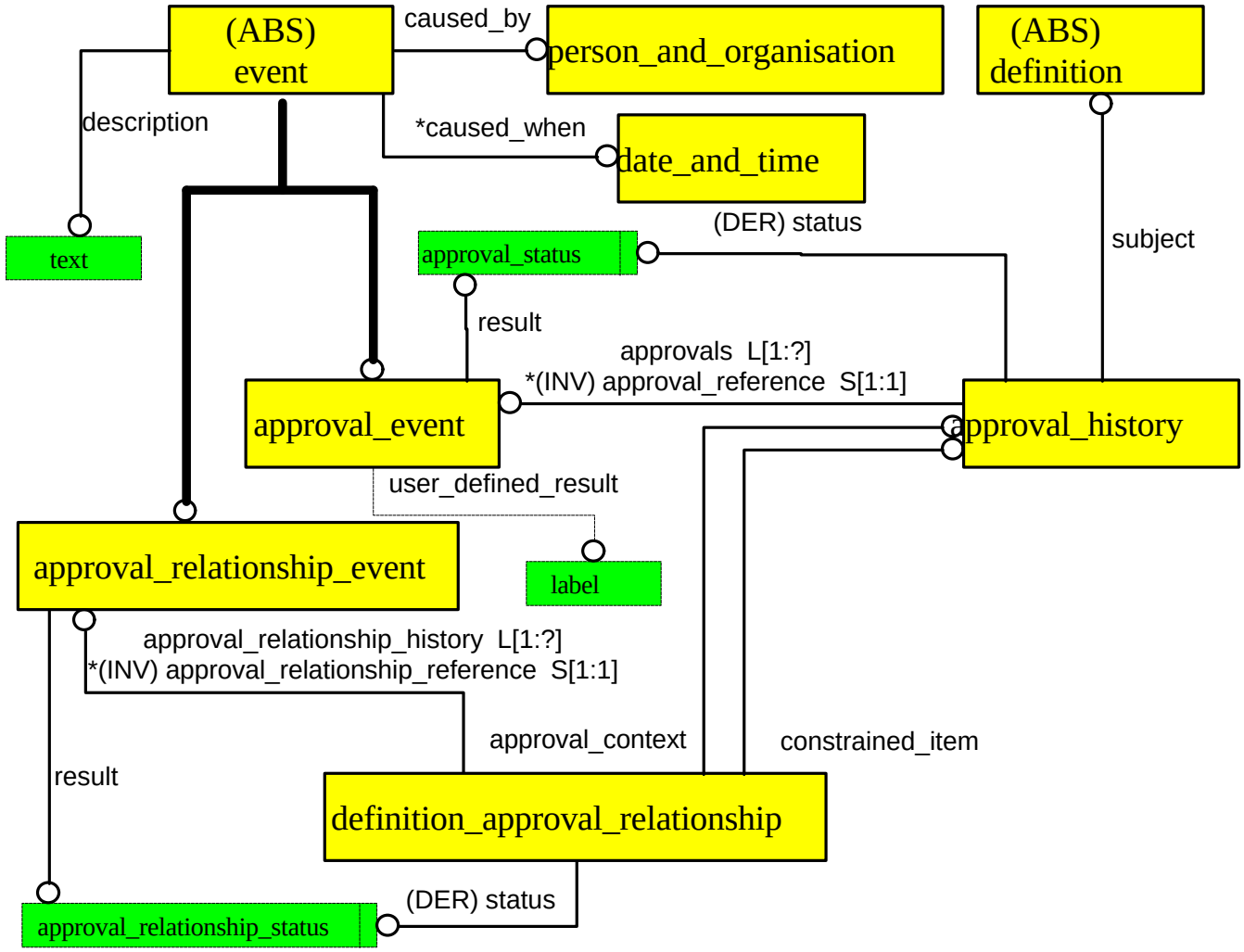
Changes


(ABS) event
*caused_when
date_and_time
change
caused_by
date_time
change_reference
(INV) possible_states S[1:3]
person_and_organisation
author
(ABS) change_state
addressee
initiator
change_request
approval_event
solution_alternatives S[0:?]
impact S[1:?]
change_impact
(ABS) definition_change_event
impact
impact
checks S[0:?]
change_realization
check
checks S[0:?]
change_plan
definition_creation
definition_deletion
envisaged_definition_creation
definition_modification
subject
base S[0:?]
subject
subject
base S[0:?]
base S[1:?]
(ABS) definition

Changes mapping

- **TBD**

Approvals


(ABS) event
caused_by
person_and_organisation
(ABS) definition
description
*caused_when
date_and_time
text
(DER) status
approval_status
subject
result
approvals L[1:?]
*(INV) approval_reference S[1:1]
approval_event
approval_history
user_defined_result
approval_relationship_event
label
approval_relationship_history L[1:?]
*(INV) approval_relationship_reference S[1:1]
approval_context
constrained_item
result
definition_approval_relationship
(DER) status
approval_relationship_status

Approvals mapping

- …