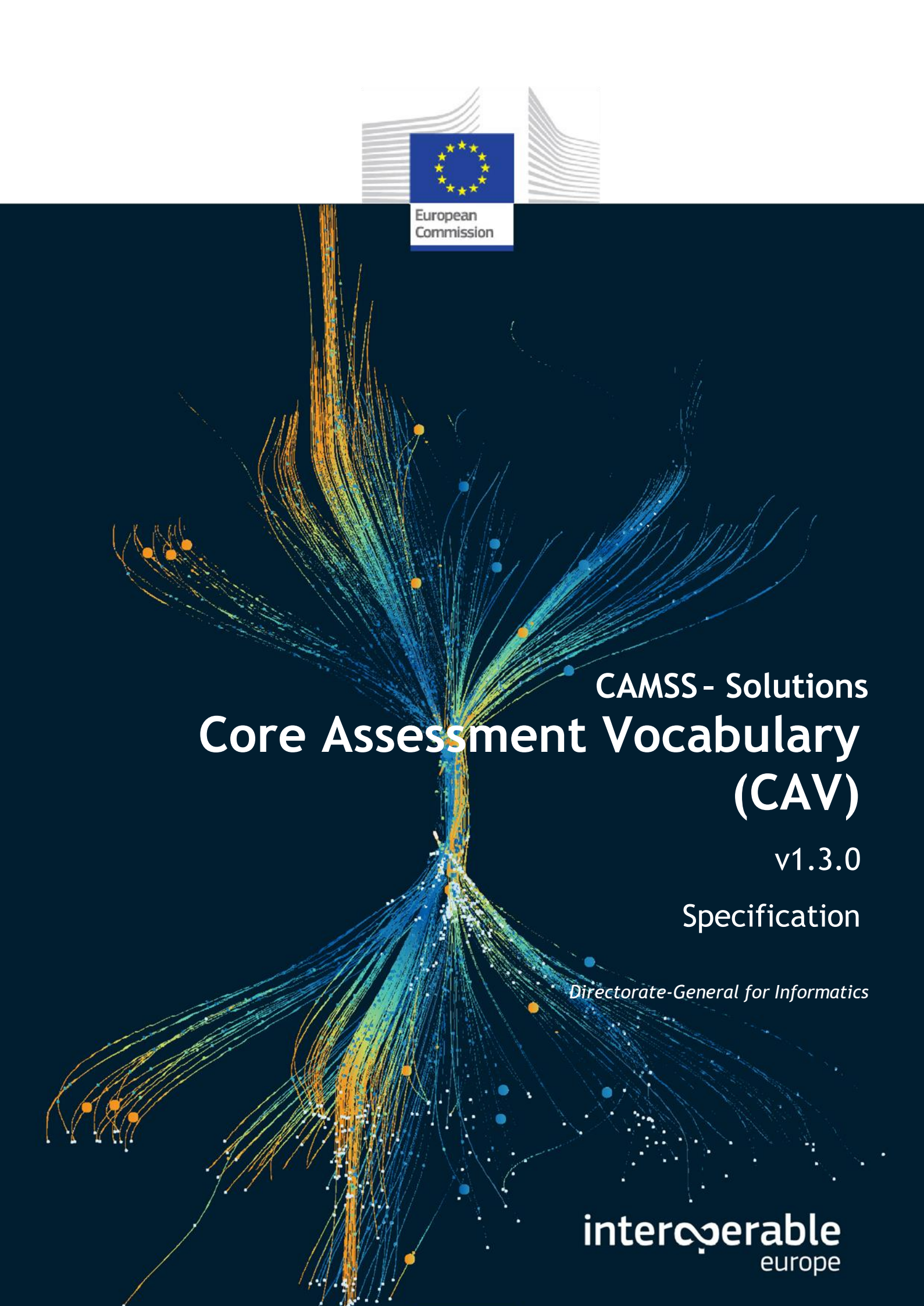


CAMSS – Solutions

Core Assessment Vocabulary (CAV)

v1.3.0

Specification

Directorate-General for Informatics

interoperable europe

CHANGE CONTROL

Modification	Details
Version 1.3.0	
Current version	Main changes for this minor version of the Vocabulary are: - Addition of Assessment extended data properties. - Alignment with SEMIC style guide practices. - CAV update regarding with new versions of DCAT v3, ADMS v3, and CCCEV 2.1. - In the T-box, CCCEV namespace is replaced by CV namespace.
Version 1.2.0	
Last version	Main changes for this minor version of the Vocabulary are: - Addition of Assessment's versioning. - Alignment with SEMIC style guide and W3C practices. - Alignment of CAV T-box and CAV specification. - Addition of Contact Point of the Agent who performs the Assessment.
Version 1.1.0	
	Main changes for this minor version of the Vocabulary are: - Change in class cav:Score definition. - Change in attribute cav:value definition. - Change in property cav:considers definitions for classes, attributes, and properties to adapt the vocabulary to users' needs.
Version 1.0.0	
Initial version	

DISCLAIMER

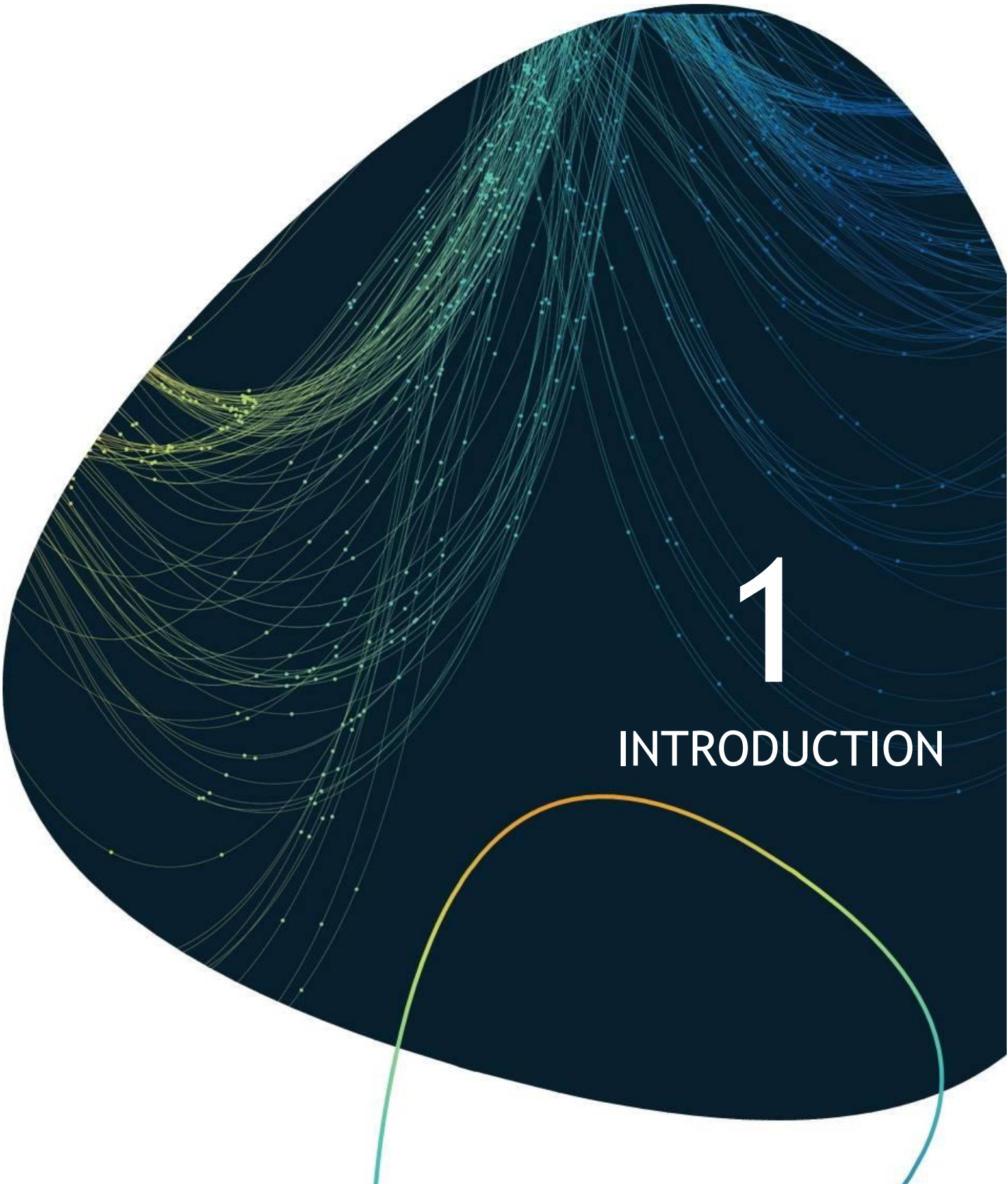
European Commission

Directorate-General for Informatics
Directorate B – Digital Public Services, Unit B2 – Interoperability Unit
Contact: Raul-Mario Abril-Jimenez – Project Officer for the CAMSS action
E-mail: Raul-Mario.ABRIL-JIMENEZ@ec.europa.eu
European Commission
B-1049 Brussels

Foreword

This Specification has been produced by the Common Assessment Method for Standards and Specifications (CAMSS) Team, a Digital Europe (DEP) Programme initiative in alignment with the European Standardisation Regulation 1025/2012.

TABLE OF CONTENTS



1

INTRODUCTION

1. Introduction

The Core Assessment Vocabulary represents, expresses, and defines what an "Assessment" of "Assets" is and how to perform the assessment based on "Criteria". It is a domain-agnostic vocabulary, meaning that it can be used to assess any asset.

1.1 Context

CAMSS stands for Common Assessment Method for Standards and Specifications. It is a development of the DEP Programme Action "*Achieving a modern ICT standardisation policy*"[1] aiming at "assessing and selecting standards and specifications for an eGovernment project, a reference when building an architecture and an enabler for justifying the choice of standards and specifications in terms of interoperability needs and requirements. It is fully aligned with the European Standardisation Regulation 1025/2012"[2].

1.2. Objective and Scope of the document

The objective of this document is to provide an interoperability-oriented solution for the expression and exchange of CAMSS Assessments.

The scope of this document encompasses the following.

- Conceptual data models used for the CAMSS Vocabulary.
- Constraints and rules specific to the CAMSS domain.
- A reference implementation of the A-Box as an OWL Turtle syntax.

In addition, this vocabulary has been publicly analysed to create a stable version of the vocabulary.

The CAV has been reviewed by a group of experts contributing to the new release of the vocabulary.

1.3 Methodological approach

The approach followed for the development of the CAV adheres to three fundamental principles.

1. Reuse and share when possible (i.e., do not reinvent the wheel).
2. Do not betray the knowledge and experience of the domain, nor the terminology and interpretation of the concepts (i.e., do not invent new terms when they already exist

[1] Achieving a modern standard ICT standardisation policy; CAMSS Action 2016.27: https://ec.europa.eu/isa2/actions/achieving-modern-ict-standardisation-policy_en.

[2] See CAMSS Joinup Community for additional details: https://joinup.ec.europa.eu/collection/common- assessment-method-standards-and-specifications-camss/about.

in the communities of practice or generic domains).

3. Isolate technical and business constraints and rules as much as possible (i.e., externalise them in separate artefacts, for example, graph and data shapes for the control and validation of the data). This has a great impact on the quality and cost of the implementation, as well as the maintenance of the vocabulary.
4. One way of facilitating the semantic interoperability consists of reusing existing generic ontologies and vocabularies. This way, the semantics of common concepts and properties are agreed upon without the need for re-discussion. When concepts or properties have not been identified nor defined for the purposes pursued, they must be proposed as either extensions, or from scratch.

The methodological approach followed for the development of the CAV reuses the following ontologies and vocabularies.

- Data Catalogue Vocabulary (DCAT)
- Friend of a Friend (FOAF);
- Asset Description Metadata Schema (ADMS);
- The Organization Ontology;
- Core Criterion and Core Evidence Vocabulary (CCCEV);DCMI Metadata Terms (DCTerms);
- Schema.

The rationale for defining this vocabulary goes as follows.

1. No generic ontologies or vocabularies have been found defining what an Assessment is that fulfils the purposes of CAMSS, partially or totally (e.g., some initiatives define methodologies for assessment, but not ontologies or vocabularies).
2. Although existing concepts in the reused ontologies do not fully cover all the information requirements needed in CAV, some properties that were inherent to CAV have been replaced by the new properties introduced in further releases of the these vocabularies;
3. Concepts and properties existing in other ontologies have different semantics to those needed in CAV.
4. Concepts required in CAV have not been identified in any other existing ontologies and therefore needed to be defined.
5. Given this is “Core” vocabulary, a key goal is to make it as flexible as possible. This means that predicates are set with optional and multiple cardinality (0..n) unless there is a strong reason for further restriction.

1.4 Structure of this document

This document consists of the following sections.

- Section 2 describes the related solutions to the Core Assessment Vocabulary (CAV).
- Section 3 explains the CAV model and identifies the classes and properties defined for the vocabulary.
- Section 4 contains the Conformance Statement for this vocabulary.
- Section 5 describes specific accessibility and multilingualism aspects.
- Section 6 describes how CAV is compliant with the FAIR principles.

- Section 7 lists the different acronyms used in the whole document.
- Section 8 contains related references.

2

RELATED SOLUTIONS

2. Related Solutions

This section lists the different CAV related solutions. Note that some are still under development.

2.1 EIRA Library of Interoperability Specifications (ELIS)

The ELIS is a catalogue of interoperability specifications that define the interoperability aspects of the Architecture Building Blocks (ABBs) contained in EIRA©. ELIS aims to support architects for the modelling of solutions based on EIRA©. The current version of ELIS will need to be slightly revamped to accommodate the concepts defined in the CSSV and to support the requirement of all stakeholders, e.g., EIRA-based solution developer needs, NATO profiles, and others.

2.2 Core Standards and Specifications Vocabulary[3] (CSSV)

The CSSV is the vocabulary used for the information exchange related to standards and specifications amongst software solutions, as well as being the key element for the development of the new release of the EIRA Library of Interoperability Specifications (ELIS).

2.3 Data Catalogue Vocabulary[4] (DCAT)

The Data Catalogue Vocabulary (DCAT) is used to describe public sector datasets in Europe. This vocabulary has been developed by the W3C. DCAT can be used to describe any type of asset (treated as a dataset, especially if you consider that metadata is also data). In the latest release DCAT (version 3), the vocabulary has included the modelling of versions of a resource (dcat:Resource). Another key element is the addition of the status of a published resource, which describes the situation of that resource according to a code list of choice.
The figure below shows the DCAT conceptual data model with its classes and properties:

[3] CSSV: https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/core-standards-and-specifications-vocabulary-cssv

[4] DCAT: https://www.w3.org/TR/vocab-dcat-3/

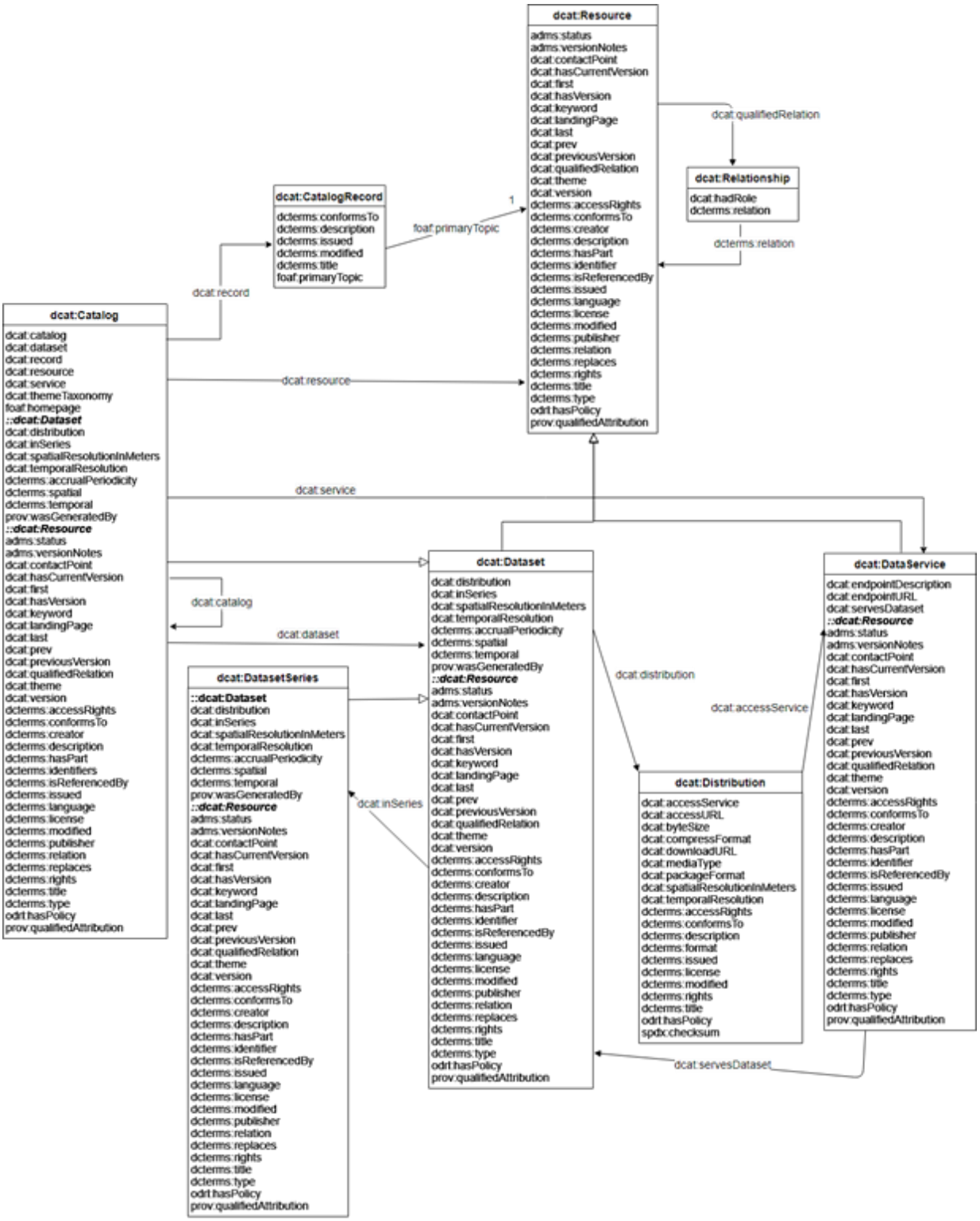
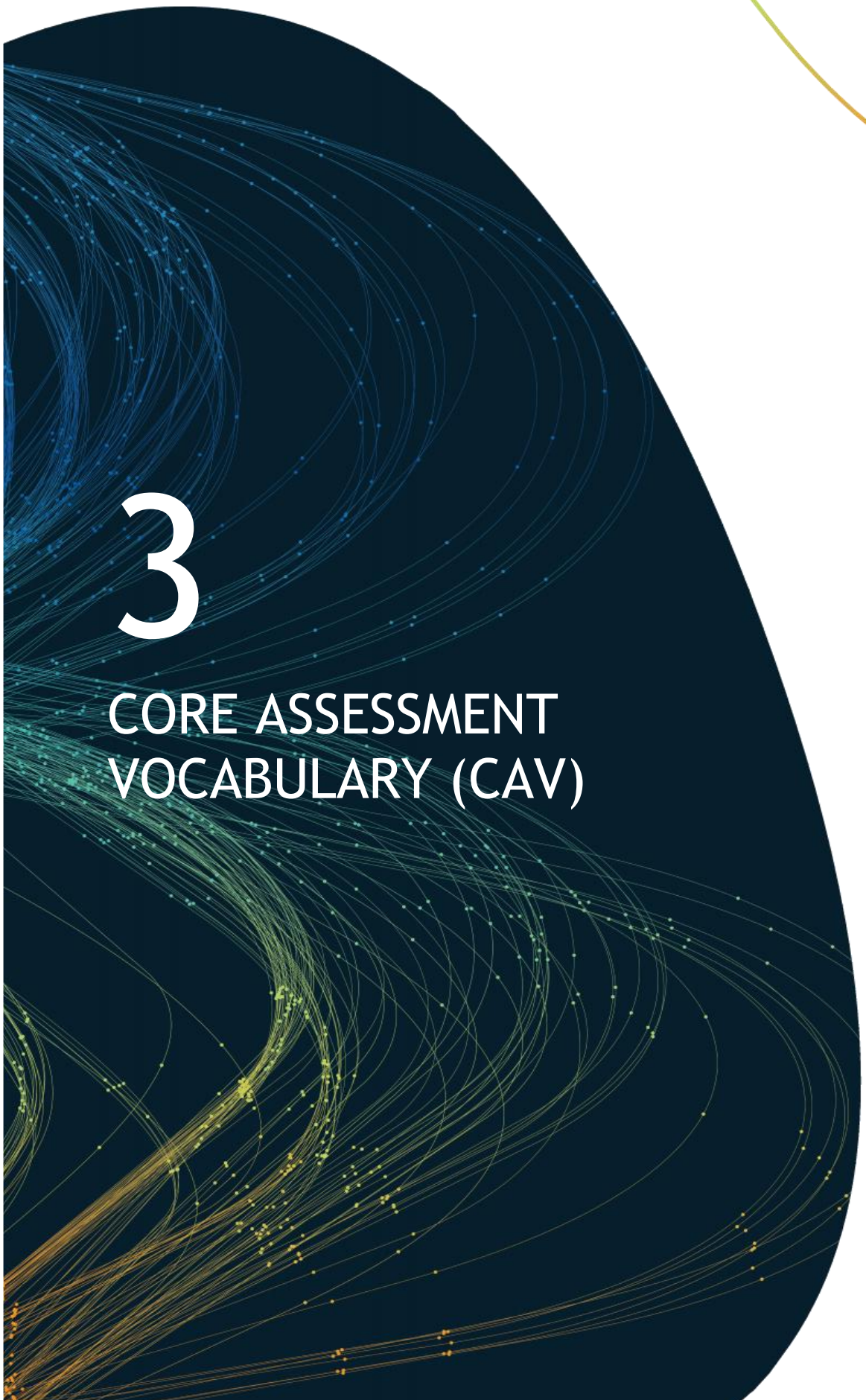


Figure 1: DCAT classes and properties

In the CAV model, the class Assessment can be considered the “root” class. All in all, an Assessment is a subclass of an “Asset”, which is a “Dataset” and by extension a “Resource” in DCAT.



3

CORE ASSESSMENT VOCABULARY (CAV)

3.Core Assessment Vocabulary (CAV)

The Core Assessment Vocabulary represents and defines what an “Assessment” of an “Asset” is and how to perform the Assessment using scenario-based “Criteria”. It is a domain-agnostic vocabulary, meaning that it can be used to assess any type of asset. Hence, the CAV is at the very core of the CAMSS ecosystem.

The CAV is depicted in *Figure 2: The Core Assessment Vocabulary*. The figure shows the classes and properties used or defined in the vocabulary.

3.1 Data Model for the CAV

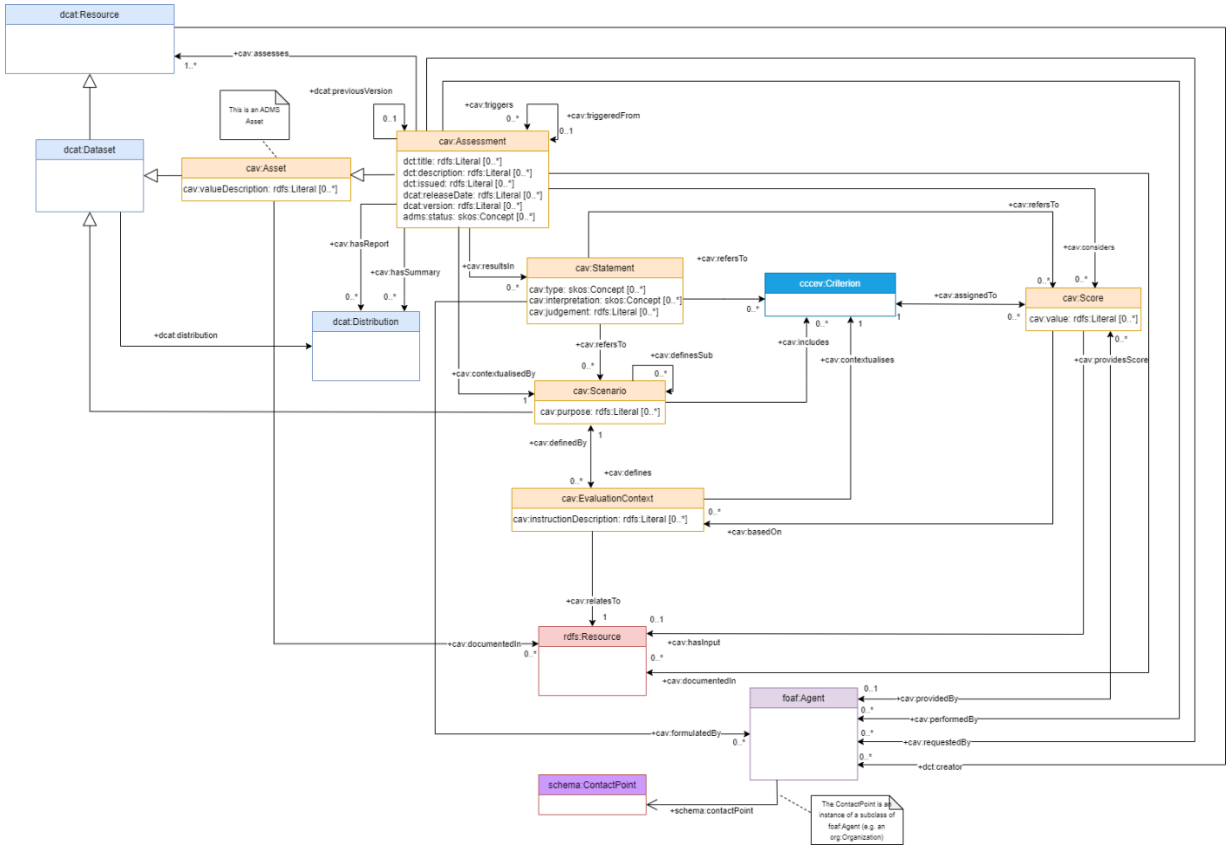


Figure 2: The Core Assessment Vocabulary

3.1.1. Interpretation

A CAV Assessment is a specialisation of an Asset, which is itself also a specialisation of the dcat:Dataset and by extension of dcat:Resource. As any ADMS Asset, the Assessment can be identified and described, and has individuals’ distributions, publishers, etc. Additionally to these properties the CAV class Assessment needs to specify who are the requestors and evaluators of the Assessments. These can be anything represented by a FOAF Agent, such as a natural person, a group or an organisation. Notice that the objects assessed are also Resources meaning that the CAV may be used to assess anything that is considered a valuable resource. Example of such resources could be products, services, or, in the case of CAMSS, standards and specifications.

An Assessment results in Statements capturing the produced knowledge and providing value

judgments. These can refer to the Assessment as a whole or a specific section, even being as detailed as to refer to individual evaluated criteria.

A Criterion is typically derived from a Reference Framework, which is to be understood as a series of "agreed and descriptive reference requirements" coming from one or more sources (e.g., legislation, specifications and standards, ICT policy-related works like the EIF within the EIS, etc.). Throughout the Assessment each Criterion is assigned a Score (in principle by humans, but potentially also by systems) as the value output that is considered when formulating the resulting Statement(s). The Score can take into consideration any resource input (e.g., when the score is calculated based on different input parameters, algorithms, and formulae).

Any Assessment is performed in the context of a Scenario. The Scenario defines the purpose of the Assessment and the set of Criteria to be scored by one or more Agents. Scenarios can be defined with a flexible structure including nested sections (represented as sub-Scenarios) that serve to provide additional context, group thematically Criteria and be referred to by the assessment's resulting Statement(s). Criteria can themselves be simple or complex and originate from various reference sources. The overall context for the evaluation of the Criteria is provided by the Scenario, however in case certain Criteria require additional contextualisation or evaluation instructions these can exceptionally be provided by means of Evaluation Context which is related to a resource. Moreover, an Assessment might trigger another related Assessment of different content which has its own Scenario and Criteria.

Finally, an Assessment has a title and a description to facilitate the identification of the Asset. Note that it is also possible to model work in progress, expressed by having the Assessment defining optional links to Scores, Statements, reports and summaries. The versioning of an Assessment is represented by the version data property of DCAT to keep track of the current version of the Assessment and its relationship with a previous one; setting up the issued date (assessment performance date) and the release date (assessment publication date) of the Assessment is also recommended, where the CAV reuses the DCTerms issued (date) property for both.

3.2 Class: Asset

OWL Class	**cav:Asset**
Label	Asset
Definition	A resource, probably resulting from a work, with purpose and value. Additional information: This definition considers "resource" as a res "available for use" (see the definition of res in the IFLA FRBR/LRM specifications).
Subclass of	*adms:Asset, dcat:Dataset*

3.2.1 Property: documentedIn

OWL Property	cav:documentedIn
OWL type	owl:ObjectProperty
Label	documentedIn
Definition	A link to any information supporting the value of the asset and any other related relevant details. Additional information: A good choice to implement instances of resources supporting the value of the asset can be the use of the cccev:Evidence class from the Core Criterion and Core Evidence Vocabulary.
Domain	cav:Asset
Range	Rdfs:Resource
Cardinality	0..n

3.3.1. Property: valueDescription

OWL Property	cav:valueDescription
OWL type	owl:DataProperty
Label	valueDescription
Definition	Brief description of the Asset.
Range	*rdfs:Literal*
Property Type	xsd:string, *rdf:langString*
Cardinality	0..n

3.3 Class: Assessment

OWL Class	cav:Assessment
Label	Assessment
Definition	The intellectual work to evaluate an asset against the criteria of a given scenario.
Subclass of	cav:Asset

3.3.2. Property: hasReport

OWL Property	cav:hasReport
OWL type	owl:ObjectProperty
Label	hasReport
Definition	A manifestation[5] of all the information related to and resulting from an assessment. Additional Information: The included information usually contains everything about the assessment, e.g. the purpose of the assessment, the criteria defined in the scenario, the responses and the scoring provided by the evaluator; The report may be manifested in one or multiple ways (distributed as different formats), e.g. as OWL triples, as an HTML, as a narrative text (pdf, doc, ods, etc.).
Subproperty of	*dcat:distribution*
Domain	*cav:Assessment*
Range	*dcat:Distribution*
Cardinality	0..n

3.3.3. Property: hasSummary

OWL Property	cav:hasSummary
OWL type	owl:ObjectProperty
Label	hasSummary
Definition	An abbreviated manifestation of the performed assessment. The summary may be manifested in one or multiple ways (distributed as different formats), e.g. as OWL triples, as an HTML, as a narrative text (pdf, doc, ods, etc.).
Subproperty of	*dcat:distribution*
Domain	*cav:Assessment*
Range	*dcat:Distribution*

[5] The term "manifestation" is used herein as defined in the IFLA Library Reference Model (IFLA LRM): https://www.ifla.org/publications/node/11412

Cardinality	0..n

3.3.4. Property: assesses

OWL Property	**cav:assesses**
OWL type	owl:ObjectProperty
Label	assesses
Definition	The reference to the asset(s) that are the object of the assessment.
Domain	cav:Assessment
Range	dcat:Resource
Cardinality	1..n

3.3.5. Property: performedBy

OWL Property	**cav:performedBy**
OWL type	owl:ObjectProperty
Label	performedBy
Definition	The agent(s) that carry out the assessment.
Domain	*cav:Assessment*
Range	*foaf:Agent*
Cardinality	0..n

3.3.6. Property: requestedBy

OWL Property	**cav:requestedBy**
OWL type	owl:ObjectProperty
Label	requestedBy
Definition	The agent(s) requesting the assessment of an asset.
Domain	cav:Assessment
Range	foaf:Agent
Cardinality	0..n

3.3.7. Property: contextualisedBy

OWL Property	cav:contextualisedBy
OWL type	owl:ObjectProperty
Label	contextualisedBy
Definition	The assignment of the scenario for the current assessment providing its context, purpose, and criteria.
Domain	cav:Assessment
Range	cav:Scenario
Cardinality	1

3.3.8. Property: resultsIn

OWL Property	cav:resultsIn
OWL type	owl:ObjectProperty
Label	resultsIn
Definition	The creation of the statement(s) resulting from the assessment. Additional Information: The cardinality allows for optional associations to express an Assessment that is typically a work in progress.
Domain	cav:Assessment
Range	cav:Statement
Cardinality	0..n

3.3.9. Property: considers

OWL Property	cav:considers
OWL type	owl:ObjectProperty
Label	considers
Definition	The evaluation of an assessment score as input to issue one or more statements.
Domain	*cav:Assessment*

Range	*cav:Score*
Cardinality	0..n

3.3.10. Property: triggeredFrom

OWL Property	**cav:triggeredFrom**
OWL type	owl:ObjectProperty
Label	triggeredFrom
Definition	The event causing the current assessment as the result of another related assessment.
Domain	*cav:Assessment*
Range	*cav:Assessment*
Cardinality	0..1

3.3.11. Property: triggers

OWL Property	**cav:triggers**
OWL type	owl:ObjectProperty
Label	triggers
Definition	The event causing further related assessment(s) due to the current one.
Domain	*cav:Assessment*
Range	*cav:Assessment*
Cardinality	0..n

3.3.11. Property: previousVersion

OWL Property	**dcat:previousVersion**
OWL type	owl:ObjectProperty
Label	previousVersion

Definition	The previous version of a resource in a lineage.
Domain	*cav:Assessment*
Range	*cav:Assessment*
Cardinality	1

3.3.11. Property: title

OWL Property	**dct:title**
OWL type	owl:DataProperty
Label	title
Definition	A name given to the resource.
Range	*rdfs:Literal*
Property Type	*xsd:string, rdf:langString*
Cardinality	0..n

3.3.11. Property: description

OWL Property	**dct:description**
OWL type	owl: DataProperty
Label	description
Definition	A free-text account of the resource.
Range	*rdfs:Literal*
Property Type	*xsd:string, rdf:langString*
Cardinality	0..n

3.3.11. Property: issued

OWL Property	**dct:issued**

OWL type	owl:DataProperty
Label	issued
Definition	Date of formal issuance of the resource.
Range	*rdfs:Literal*
Property Type	*xsd:gYear, xsd:gYearMonth, xsd:date, or xsd:dateTime*
Cardinality	0..n

3.3.11. Property: releaseDate

OWL Property	**dcat:releaseDate**
OWL type	owl:DataProperty
Label	releaseDate
Definition	Date of formal issuance (e.g., publication) of the resource.
Range	*rdfs:Literal*
Property Type	*xsd:gYear, xsd:gYearMonth, xsd:date, or xsd:dateTime*
Cardinality	0..n

3.3.11. Property: version

OWL Property	**dcat:version**
OWL type	owl:DataProperty
Label	version
Definition	The version indicator (name or identifier) of a resource.
Range	*rdfs:Literal*
Property Type	*xsd:string*
Cardinality	0..n

3.3.1. Property: status

OWL Property	adms:status
OWL type	owl:DataProperty
Label	status
Definition	The status of the Asset in the context of a particular workflow process. Additional Information: A list with different status codes is to be provided by context/domain-specific application profiles to identify the statuses that make sense for that context or domain.
Domain	*cav:Assessment*
Property Type	skos:Concept
Cardinality	0..n

3.4 Class: Scenario

OWL Class	cav:Scenario
Label	Scenario
Definition	The context of the assessment establishing its purpose, the organisation of criteria being evaluated, and its reference Framework(s). Additional Information: A scenario can be used to include criteria sourced from various reference frameworks and organised in a flexible structure including nested parts (expressed as sub-scenarios each with a further specified context). A scenario with no included criteria is considered as high-level or informal.
Subclass of	dcat:Resource

3.4.1. Property: includes

OWL Property	cav:includes
OWL type	owl:ObjectProperty
Label	includes

Definition	The aggregation of criteria to one scenario or parts of it. Additional Information: This aggregation may be contextualised at different granularity levels, scenario, and parts of the scenario or specific criteria. The cardinality is 0..* to allow assessments that are very high-level, informal or subjective without criteria and scoring.
Domain	*cav:Scenario*
Range	*cccev:Criterion*
Cardinality	0..n

3.4.2. Property: definesSub

OWL Property	**cav:definesSub**
OWL typ	owl:ObjectProperty
Label	definesSub
Definition	The definition of nested scenarios grouped based on different sub-purposes, commonalities or particularities of the sub-sets of criteria.
Domain	*cav:Scenario*
Range	*cav:Scenario*
Cardinality	0..n

3.4.3. Property: defines

OWL Property	**cav:defines**
OWL type	owl:ObjectProperty
Label	defines
Definition	The link to the evaluation contexts for specific criteria provided by the given scenario.
Domain	*cav:Scenario*
Range	*cav:EvaluationContext*
Cardinality	0..n

3.4.4. Property: purpose

OWL Property	cav:purpose
OWL type	owl:DataProperty
Label	purpose
Definition	The reason for which the assessment is done.
Domain	*rdfs:Literal*
Property Type	xsd:string, rdf:langString
Cardinality	0..n

3.5 Class: Statement

OWL Class	cav:Statement
Label	Statement
Definition	A value judgement, resulting from the assessment, pertinent to its entirety or to one or more of its specific parts.

3.5.4. Property: formulatedBy

OWL Property	cav:formulatedBy
OWL type	owl:ObjectProperty
Label	formulatedBy
Definition	The reference to the agent(s) responsible for issuing the current statement.
Domain	*cav:Statement*
Range	*foaf:Agent*
Cardinality	0..n

3.5.6. Property: refersTo

OWL Property	cav:refersTo
OWL type	owl:ObjectProperty
Label	refersTo

Definition	The provision of a value judgement on one or more elements of the assessment.
Domain	*cav:Statement*
Range	*cav:Scenario, cccev:Criterion, cav:Score*
Cardinality	0..n

3.5.1. Property: judgement

OWL Property	**cav:judgement**
OWL type	owl:DataProperty
Label	judgement
Definition	The text expressing the statement's resulting value judgement.
Range	*rdfs:Literal*
Property Type	*xsd:string, rdf:langString*
Cardinality	0..n

3.5.2. Property: type

OWL Property	**cav:type**
OWL type	owl:DataProperty
Label	Type
Definition	The categorisation of the statement. Additional Information: This code needs a context/domain-specific application profile codelist. An example of what this code can be used for is when there is need of signalling whether the statement is totally subjective, a judgement based on comparative actions performed upon several score inputs, a sentence picked-up from a database and as a result of an automated calculation, etc.
Range	*skos:Concept*
Cardinality	0..n

3.5.3. Property: interpretation

OWL Property	**cav:Interpretation**

OWL type	owl:DataProperty
Label	interpretation
Definition	The favourability perception of the statement (e.g. positive, negative or neutral).
Range	*rdfs:Literal*
Property Type	*xsd:string, rdf:langString*
Cardinality	0..n

3.6 Class: EvaluationContext

OWL Class	**cav:EvaluationContext**
Label	Evaluation Context
Definition	The context for a criterion providing guidance on its evaluation considering the given scenario. This is used exceptionally to extend the context offered by the scenario when it is not sufficient for the evaluation of a given criterion. A criterion's evaluation produces an objective output that will then be considered to form value judgments expressed as the assessment's statements.

3.6.2. Property: definedBy

OWL Property	**cav:definedBy**
OWL type	owl:ObjectProperty
Label	definedBy
Definition	The link to the scenario that provides the evaluation context for one or more criteria.
Domain	*cav:EvaluationContext*
Range	*cav:Scenario*
Cardinality	1

3.6.3. Property: contextualises

OWL Property	**cav:contextualises**
OWL type	owl:ObjectProperty

Label	contextualises
Definition	The provision of context for the evaluation of the criterion.
Domain	*cav:EvaluationContext*
Range	*cccev:Criterion*
Cardinality	1

3.6.4. Property: relatesTo

OWL Property	**cav:relatesTo**
OWL type	owl:ObjectProperty
Label	relatesTo
Definition	The context for a criterion related to a resource.
Domain	*cav:EvaluationContext*
Range	*rdfs:Resource*
Cardinality	1

3.6.1. Property: instructionDescription

OWL Property	**cav:instructionDescription**
OWL type	owl:DataProperty
Label	instructionDescription
Definition	Guideline or description that needs to follow during the evaluation of one particular criterion.
Range	*rdfs:Literal*
Property Type	*xsd:string, rdf:langString*
Cardinality	0..n

3.7 Class: Score

OWL Class	cav:Score
Label	Score
Definition	The value output assigned to the assessment as the result of assessing all the criteria. e.g. In the case of CAMSS, assessments include two different scores.

3.7.1. Property: providedBy

OWL Property	cav:providedBy
OWL type	owl:ObjectProperty
Label	providedBy
Definition	The agent responsible to provide score.
Domain	*cav:Score*
Range	*foaf:Agent*
Cardinality	0..1

3.7.1. Property: providesScore

OWL Property	cav:providesScore
OWL type	owl:ObjectProperty
Label	providesScore
Definition	The agent responsible to provide score.
Domain	*foaf:Agent*
Range	*cav:Score*
Cardinality	0..n

3.7.3. Property: hasInput

OWL Property	cav:hasInput
OWL type	owl:ObjectProperty
Label	hasInput

Definition	The different resources provided to feed the context for the evaluation of a criterion. Additional Information: For example, the assessment of the quality of a criterion that is answered by a multiple respondents, as the cases of an exam question answered by multiple students or the case of multiple evaluators evaluating the same quality aspect, etc.
Domain	*cav:Score*
Range	*rdfs:Resource*
Cardinality	0..1

3.7.4. Property: basedOn

OWL Property	**cav:basedOn**
OWL type	owl:ObjectProperty
Label	basedOn
Definition	The consideration of a specific evaluation context when assigning the score to a criterion.
Domain	*cav:Score*
Range	*cav:CriterionEvaluationContext*
Cardinality	0..n

3.7.5. Property: assignedTo

OWL Property	**cav:assignedTo**
OWL type	owl:ObjectProperty
Label	assignedTo
Definition	The assignment of a value output to the criterion.
Domain	*cav:Score*
Range	*cccev:Criterion*
Cardinality	1

3.7.2. Property: value

OWL Property	cav:value
OWL type	owl:DataProperty
Label	value
Definition	The literal representing the final score assigned the assessment and criteria. Additional Information This literal is normally a number, generally a decimal. Be aware that one criterion may have multiple scores assigned, especially when there is a need to identify who the agent is providing the score.
Range	*rdfs:Literal*
Property Type	*xsd:string, xsd:decimal, xsd:int*
Cardinality	0..n

4

CONFORMANCE STATEMENT

4. Conformance Statement

The performance of an Assessment using scenario-based “Criteria” is conformant with the CAV if:

- it uses the terms (classes and properties) in a consistent way with their semantics as declared in this specification ;
- it does not use terms from other vocabularies instead of ones defined in this vocabulary that could reasonably be used .

A conforming data interchange:

- may include terms from other vocabularies;
- may use only a subset of CAV terms.

The CAV is technology-neutral, and a publisher may use any of the terms defined in this document encoded in any technology although RDF and XML are preferred.

5

FAIR principles conformance

5. FAIR principles conformance

The CAV is compliant with the following aspects of the FAIR (Findable, Accessible, Interoperable, Reusable) principles:

Findable:

- The main properties of the CAV have a unique identifier throughout it and the metadata is registered with the identifier as the description. The properties are also indexed through their classes.

Accessible:

- The CAV is an open source element, meaning that is free, open and universally implementable.

Interoperable:

- The CAV is based on open specifications. Furthermore the data use a formal, accessible, shared, and broadly applicable language for knowledge representation.

Reusable:

- In the CAV the data is structured so it can be used in multiple settings, in this sense it is a domain agnostic vocabulary.
- The CAV can be extended for designing new data models according to the users' needs, while still ensuring the interoperability.

6

Accessibility and Multilingual Aspects

6. Accessibility and Multilingual Aspects

The CAV can operate in any language due to the following.

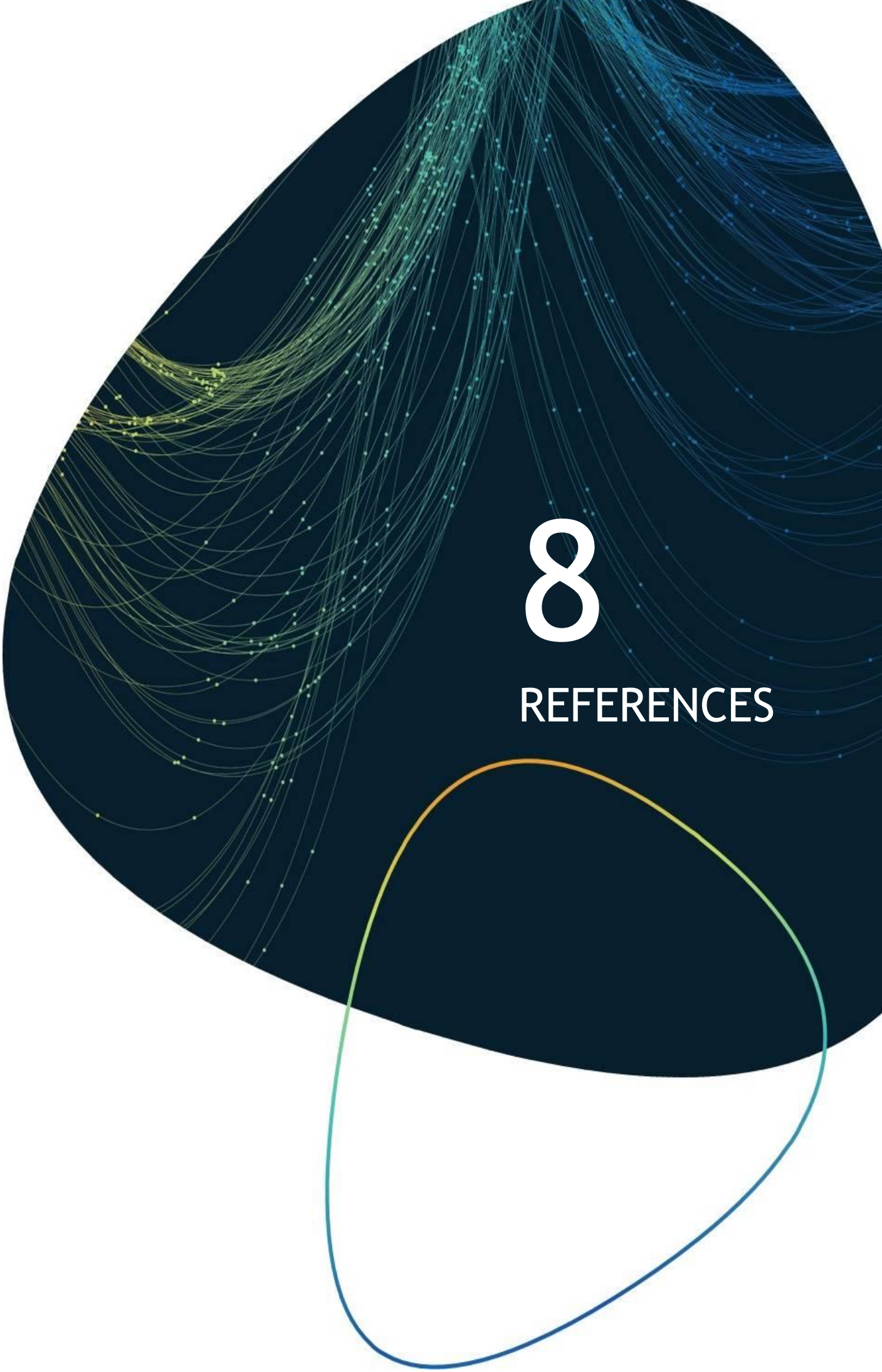
- In a multilingual context, with all properties that are datatype “Text”, the value may exist in multiple languages, the property may be instantiated multiple times and tagged with the language identifier for the value used for that property.
- The CAV specification encourages the use of PURIs as identifiers.

7

ACRONYMS

7. Acronyms

Term	Description
ADMS	Asset Description Metadata Schema
CAV	Core Assessment Vocabulary
CCCEV	Core Criterion and Core Evidence Vocabulary
CSSV	Core Standards and Specifications Vocabulary
CV	Core Vocabulary
DCAT	Data Catalogue Vocabulary
DCTerms	DCMI Metadata Terms
ELIS	EIRA Library of Interoperability Specifications
FOAF	Friend Of A Friend
IFLA - FRBR/LRM	International Federation of Library Associations and Institutions - Functional Requirements for Bibliographic Records/Library Reference Model



8

REFERENCES

8. References

7.1 Normative references

ADMS . (n.d.). Retrieved from https://joinup.ec.europa.eu/collection/semantic-interoperability-community-semic/adms

Common Assessment Method for Standards and Specifications (CAMSS). (n.d.). Retrieved from https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/about

CSSV Public Consultation. (n.d.). Retrieved from https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/news/cssv-public-review

DCAT . (n.d.). Retrieved from https://www.w3.org/TR/vocab-dcat-3/

Dublin Core Metadata Initiative. (n.d.). Retrieved from https://www.dublincore.org/specifications/dublin-core/dcmi-terms/

ELIS - EIRA Library of Interoperability Specifications. (n.d.). Retrieved from https://interoperable-europe.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/elis/release/v610

EU Vocabularies. (n.d.). Retrieved from https://publications.europa.eu/en/web/eu-vocabularies/controlled-vocabularies

FOAF Vocabulary Specification . (2014, January 14). Retrieved from http://xmlns.com/foaf/spec/

Schema.org . (2019, April 02). Retrieved from https://schema.org/

The Profiles Vocabulary . (2019, April 02). Retrieved from https://www.w3.org/TR/dx-prof/

The SEMIC Style Guide for Semantic Engineers. (n.d.). Retrieved from https://semiceu.github.io/style-guide/1.0.0/index.html

W3C XML Schema Definition Language (XSD) 1.1 Part 1: Structures. (2012, April 05). Retrieved from https://www.w3.org/TR/xmlschema11-1/

Annex 1

CAV Model

Annex 1: CAV Model

cav_tbox.ttl

CAV_UML_v1.3.0.drawio