

**D02.01.01.03. Core Public Organisation Vocabulary –
Draft 2**

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1. INTRODUCTION

1.1. Context and problem statement

The notion of 'a public organisation' as a body that is responsible for a range of government functions is deceptively simple. The reality is that almost every characteristic of public organisations is subject to change: changes in function as duties are assigned or reassigned elsewhere, changes in internal structure, changes in working methods and, although some organisation's names may be ancient, others change with remarkable frequency. Such change may be the result of new legislation or policies coming into force, and tend to be particularly common immediately after elections for obvious reasons. It is therefore difficult to keep track of accurate information and yet that is precisely what's needed when considering things like purchase orders, tenders, contracts and invoices.

The need is for a common method of describing an organisation and its functions that is able to capture change and yet is interoperable across domains and across borders. Datasets such as a budgets, spending data, lists of contacts for services maintained and legally defined responsibilities will make references to the relevant public organisation, but the value and usefulness of that data will be greatly diminished if it is out of date or otherwise inaccurate.

1.2. Proposed solution

The Core Public Organisation Vocabulary (CPOV) is designed to support the exchange of basic information about individual public organisations. By using the vocabulary, almost certainly augmented with sector-specific information, institutions publishing data about public organisations will be able to

- Share information G2G (government to government), G2B (government to business) and G2C (government to citizen);
- develop common information systems;
- link data from public organisations to other data sets;
- manage a cross-border repository of public services and organisations;
- browse public organisations by its function;
- keep track of the evolution of public organisations; and
- increase efficiencies by spotting duplicated or overlapping functions.

The use cases of the CPOV are further elaborated in section 3.

1.3. Scope

The Core Public Organisation Vocabulary is designed to describe the organisation itself. Whilst the vocabulary may support links to descriptions of services it operates, members of staff or other resources such as relevant legislation, policies and jurisdictional coverage, it will not describe those resources in detail. The vocabulary is not concerned with features associated with commercial entities such as shareholdings and ownership.

Wherever possible, the CPOV will reuse existing vocabularies and, as a result, might not define any new terms of its own. When reusing existing terms, it will define how they should be used and may suggest specific code lists to be used as values for properties.

1.4. The CPOV Process and methodology

This common data model has been defined as a core vocabulary for public organisations. A Core Vocabulary is a simplified, reusable, and extensible data model that captures the fundamental characteristics of an entity in a context-neutral fashion. Well known examples of existing Core Vocabularies include the Dublin Core Metadata Set¹. Such Core Vocabularies are the starting point for agreeing on new semantic interoperability assets and defining mappings between existing assets. Semantic interoperability assets that map to or extend such Core Vocabularies are the minimum required to guarantee a level of cross-domain and cross-border interoperability that can be attained by public administrations.

The work has been conducted according to the ISA process and methodology for developing Core Vocabularies [2]. The process and methodology provide guidance in two domains. First, the **process** describes how consensus can be reached among stakeholders and domain experts so that the vocabulary is recognised as meeting its design goals, leading to endorsement by Member States. Second, the **methodology** describes how the core vocabulary is specified following best practices for selecting, reusing, developing and presenting concepts. Table 1 provides an overview of the steps in the process and methodology.

Table 1: Process and Methodology Overview

| Process <i>Reaching consensus</i> | Methodology <i>Developing a specification</i> |
|---|--|
| <ol style="list-style-type: none"> 1. Identify stakeholders 2. Form working group 3. Identify chair & co-chair 4. Identify editors 5. Form review group 6. Secure IPR 7. Establish working environment and culture 8. Publish drafts 9. Review drafts 10. Publish last call working draft 11. Review last call working draft 12. Gather evidence of acceptance 13. Submit for endorsement 14. Endorse | <ol style="list-style-type: none"> 1. Identify a meaningful set of Core Concepts 2. Research and review existing solutions 3. Research existing data and services 4. Use cases 5. Requirements 6. Terminology and conceptual data model 7. Naming conventions 8. Identifier conventions 9. The namespace document 10. Quality Assurance & Conformance Criteria |

¹ <http://dublincore.org/documents/dcmi-terms/>
25/01/2015

1.5. Structure of this document

This document consists of the following sections.

- In section 2, a set of some key concepts which will serve as a common working terminology for this work are defined.
- Section 3 defines the main use cases that drives the specification of the Core Vocabulary.
- Information requirements for the Core Vocabulary are listed in section 4.
- The classes and properties defined for the vocabulary are identified in section 5.
- Section 6 contains the Conformance Statement for this Core Vocabulary.
- Accessibility and multilingual issues are addressed in section 7.

2. DEFINITION OF A COMMON WORKING TERMINOLOGY FOR KEY CONCEPTS

Public Organisation: any organisation that is defined as being part of the public sector by a legal framework at any level.

Issue

<https://joinup.ec.europa.eu/asset/cpov/issue/definition-public-organisation>

Legal framework: any law or regulation originating in society by the democratic principle.

[Add more as necessary]

3. USE CASES

The Core Public Organisation Vocabulary (CPOV) is designed to meet specific needs of businesses, public administrations and citizens across the European Union. These needs are described in the use cases below.

3.1. Facilitate sharing of basic data about public organisations

Information sharing across organisations is often hampered by the lack of semantic agreements. Common data standards, such as the Core Vocabularies, help public administrations to overcome the semantic barrier to information sharing. The Core Public Organisation Vocabulary is designed to make the exchange of basic information about public organisations easier. By using the vocabulary, administrations publishing data about their organisation will enable

- easier discovery of their organisation within and between countries;
- easier identification of how organisations interrelate;
- improved understanding of provided information because of common definitions; and
- easier comparison of similar organisations across sectors or countries.



The CPOV will facilitate the sharing of basic data about public organisations G2G (Government-to-Government), G2B (Government-to-Business) and G2C (Government-to-Citizen).

3.2. Facilitate the development of common information systems

A common standard for describing public organisations, could support the development of common information systems in which public organisations are referred, such as

- A central **HR system** in which government employees are linked to different public organisations, posts, contact details and salaries;
- A **facilities management** system used across public organisations linking physical resources such as buildings and office equipment to public organisations and their staff; and
- An **e-Invoicing** system in which the data quality can be improved by modelling and uniquely identifying public organisations to whom invoices are addressed.

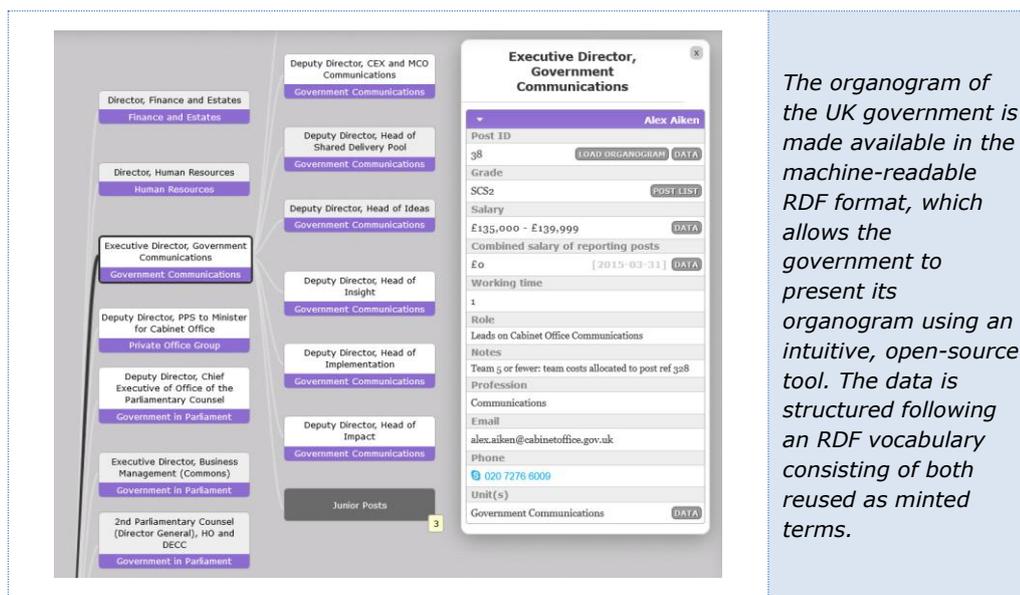


The use of existing data models for the development of common information systems **facilitates the development** of those systems and improves their **interoperability**.

3.3. Linking open organograms

Many Public Organisations across the European Union publish their organograms online. Often, these organograms are published in non-machine-readable formats such as images or PDFs, limiting the reuse potential of organisational data. Publishing data in machine-readable formats enables public organisations and third parties to build tools that increase the usability and understandability of the data. Examples of publishing organograms as machine-readable data include the UK organogram of public staff² and the Italian Index of Public Administrations³.

Figure 1: Organogram of the UK Government



By publishing organograms in linked open data formats, such as RDF, it becomes possible to link data from different sources. For example, the *Salary* data in the British organogram can be linked to high value data sets such as the British annual budget. Moreover, if organograms are structured following a common data model, it would be possible to link organograms across organisations and countries.



The Core Public Organisation Vocabulary has the potential to **link organograms** to each other and to **high value data sets**.

3.4. Cross border information exchange: manage a cross-border repository of public services and organisations

A use case for the development of the Core Public Service Vocabulary (CPSV)⁴, which was developed by the ISA Programme, is the management

² <https://data.gov.uk/organogram/>

³ IPA: <http://spcdata.digitpa.gov.it/dataIPA.html>

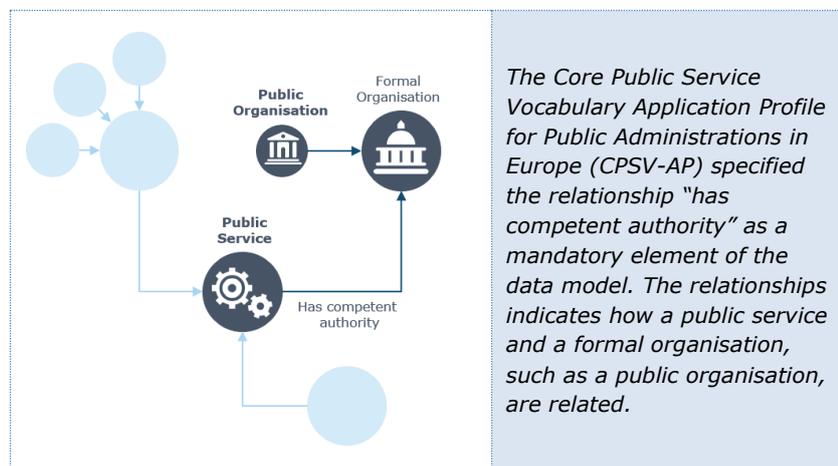
⁴ https://joinup.ec.europa.eu/asset/core_public_service/asset_release/core-public-service-vocabulary-0

of a portfolio of public services. The CPSV was identified as one of the key elements for the development of such a repository.

"In most countries, the ownership and management of **public services** is split amongst different **public administrations** leading to different ways of managing their lifecycle. This makes it difficult to have a complete view of the public services offered within the context of a Member State, and to have a holistic approach for their management and the way the public services are grouped into business events." [3]

The CPSV addresses the need for public administrations to describe their services and events in a common way. The CPOV has the potential to become a second key element of such a repository, providing the ability to link public services to public organisations, hence defining which organisation has the authority over specific public services.

Figure 2: Link between CPSV and CPOV



Public service and organisation portfolio management allows public administration to apply a **holistic** and **systematic management** across authorities.

3.5. Find a public organisation by its function

When looking across borders and across sectors, often it is the *functions performed* by an organisation, rather than the organisation itself, that is the primary focus. For example, the function of improving ICT use across government may be the function of a specific ministry (such as MAREG in Greece), a government agency (such as Italy's AgID), part of the ministry of finance (such as in Finland) or the office of the Prime Minister (such as in the UK and Austria). Someone searching for contacts with people in other countries or regions who perform similar functions to their own will be able to use the CPOV to discover the organisations responsible for specific functions or areas of government. This complements, but does not replace, the notion of a public service directory.



The public organisation portfolio facilitates **discovery** of which public authorities and departments are **responsible** for given areas of the **public task**.

3.6. Increase efficiencies by spotting where responsibilities and functions are duplicated or overlap

The public sector is highly complex. It is all but impossible for anyone to maintain a clear picture in their mind of how different departments and agencies interrelate and where functions and responsibilities overlap. The CPOV, with its links between organisations, their departments and their responsibilities, offers the potential to visualise the different relations and thereby spot similarities, duplications of effort or gaps in the system. Comparisons can also be made across borders so that potential efficiencies can be more easily identified.



A **visualisation** of the **structure of the public sector**, particularly when compared with similar governments elsewhere in Europe, offers the potential for significant **efficiency gains**.

3.7. Keep track of the evolution of public organisations

The structure and responsibilities of public organisations are prone to change, e.g. following elections. A core vocabulary describing public organisations, allows to track these changes over time.



The CPOV allows stakeholders to track the **frequent changes** in structure and responsibilities of public organisations.

4. REQUIREMENTS

The use cases set out in the previous section give rise to the following requirements:

- R1** Basic facts about the organisation must be recorded such as its name, contact point(s), address(es) etc.
- R2** The relationship between an organisation and its constituent departments or subsidiaries must be captured.
- R3** The description must be tied to a time, either the current time, i.e. the description that applies today, or a historical period, ideally with a start and end date.
- R4** Descriptions must persist and be readily referenced beyond the life of the current organisation.
- R5** It should be possible to generate organograms, that is, organisation charts, from data created using the CPOV.
- R6** The vocabulary must support descriptions of the responsibilities conferred and the functions performed by an organisation.
- R7** It must be possible to recognise different organisations by their function/responsibilities.

[More?]

4.1. Existing Solution: The W3C Organisation Ontology

Initially developed in 2010 for the UK government, the Organisation Ontology became a W3C standard in January 2014⁵ and has been widely used elsewhere⁶. It meets all the requirements, however, this is only so *if* it is used in a particular way, notably if different organisations use common code lists as values, in particular, for properties such as `org:classification` and `org:purpose`.

4.2. Existing Solution: ORG-AP-OP

The Application Profile developed by the Publications Office of the European Union underpins their popular whoiswho service⁷. That service provides contact information for staff across the European Institutions and so is focussed on people and the roles they play. Such a service is beyond the scope of the current work although it bears a clear relation in terms of describing the actual institutions. The CPOV should therefore be consistent with the ORG-AP-OP.

⁵ <https://www.w3.org/TR/vocab-org>

⁶ https://www.w3.org/2011/gld/wiki/ORG_Implementations

⁷ <http://whoiswho.europa.eu>

4.3. Existing Solution: CPSV-AP

The Core Public Service Vocabulary and its Application Profile define a number of terms that are closely related to the CPOV. For example, the administrative level, the type of organisation, and its home page. It might be appropriate to include these terms in the CPOV.

[More to say?]

4.4. Existing Solution: Popolo

The Popolo Project created a vocabulary for describing organisations⁸ that reuses a lot of the terms from the ORG Ontology but adds in some new ones. As well as providing serialisations in RDF, it also offers a JSON schema that introduces a few minor tweaks to some of the term names. This means that the same data serialised as JSON and RDF will have different names for, for example, 'seeAlso.' The Popolo vocabulary does not model change events as such but does record previous names, with start and end dates. This is similar to the approach taken in the data behind the Publications Office's whoiswho tool.

⁸ <http://www.popoloproject.com/specs/organization.html>
25/01/2015

5. CORE PUBLIC ORGANISATION VOCABULARY

The data model for the CPOV is shown in Figure 3. It is a subset of the Organisation Ontology covering the basic description of an organisation and the purpose(s) that it exists to serve.

Issue

<https://joinup.ec.europa.eu/asset/cpov/issue/what-core>

5.1. Class: Organization

The Organization class represents the organisation. One organisation may comprise several sub-organisations and any organisation may have one or more organisational units. Each of these is described using the same properties and relationships.

In the RDF release of the CPOV, this class is bound to `org:Organization`.

5.1.1. Property: preferred label [1..1]

As defined in the ORG Ontology, a *preferred label* is used to provide the primary, legally recognised name of the organisation. An organisation may only have one such name in any given language. Primary names may be provided in multiple languages with multiple instances of the *preferred label* property.

In the RDF release of the CPOV, this property is bound to `skos:prefLabel`.

5.1.2. Property: alternative label [0..n]

In line with ORG and SKOS itself, an organisation may have any number of alternative or informal names, irrespective of language.

In the RDF release of the CPOV, this property is bound to `skos:altLabel`.

5.1.3. Property: identifier [0..n]

Many organisations are referred to by an acronym or some other identifier. For example, the ECB for the European Central Bank, OLAF for the European Anti-Fraud Office, and so on. These are formally recognised by the European Commission which provides a list of such acronyms⁹.

In the RDF release of the CPOV, this property is bound to `org:identifier`.

⁹ <http://ec.europa.eu/eurostat/ramon/cybernews/abbreviations.htm>
25/01/2015

5.1.4. Property: *spatial* [1..n]

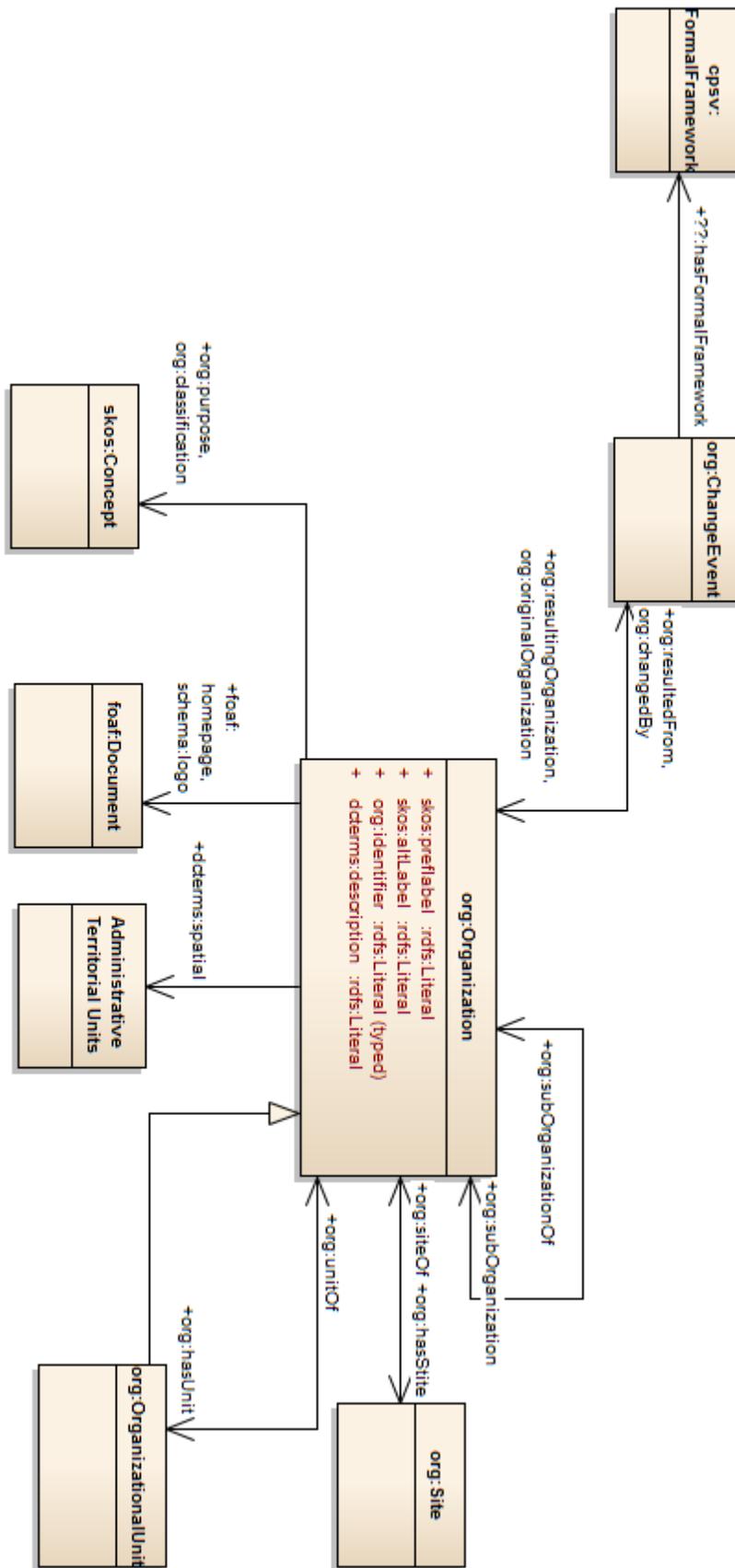
This property links an organisation to the administrative region(s) that it covers. The value of the property should be the URI of the region as defined in the Named Authority List of that name within the Publications Office's Metadata Registry.

In the RDF release of the CPOV, this property is bound to `dcterms:spatial`.

Issue:

<https://joinup.ec.europa.eu/asset/cpov/issue/use-cpsvadministrativelevel-nuts-code>

Figure 3: Initial Data model for the CPOV



5.1.5. Property: purpose [0..n]

This property links an organisation to its COFOG function(s) which are expressed as a SKOS Concept Scheme. The ORG ontology suggests that this property can also be thought of as meaning 'remit' or 'responsibility' and is therefore appropriate for linking to a COFOG code.

In the RDF release of the CPOV, this property is bound to `org:purpose`.

Issue

<https://joinup.ec.europa.eu/asset/cpov/issue/cofog-skos>

5.1.6. Property: classification [1..n]

This property links an organisation to a SKOS Concept that provides a classification. For European institutions, the named Authority list of Organisation Types¹⁰ is appropriate.

In the RDF release of the CPOV, this property is bound to `org:classification`.

Issue

<https://joinup.ec.europa.eu/asset/cpov/issue/orgpurpose-orgclassification-cpsvtype>

5.1.7. Property: homepage [0..1]

A property to link an organisation to its website homepage. The value of this property is a URL irrespective of the serialisation of the data.

In the RDF release of the CPOV, this property is bound to `foaf:homepage`.

5.1.8. Property: logo [0..1]

A property to link an organisation to its logo. The value of this property is the URL of the logo online, irrespective of the serialisation of the data.

In the RDF release of the CPOV, this property is bound to `schema:logo`.

5.2. Class: Change Event

More to be added here, reflecting ORG's suggestion of using `prov:startedAtTime` and `prov:endedAtTime`. Do we want to classify events?

There is an active discussion on this topic. See

<https://joinup.ec.europa.eu/asset/cpov/issue/change-event-class>

¹⁰ <http://publications.europa.eu/mdr/authority/organization-type/index.html>
25/01/2015

5.2.1. Property: *has formal framework* [0..n]

Links a Change Event to a piece of legislation or a policy document that prompted the change. This includes the founding of the organisation. This property is the inverse of the *implements* property described below.

In the RDF release of the CPOV, this property is bound to `cpsv:hasFormalFramework`.

The CPSV mentions this property but it doesn't appear in the machine readable file itself. Looking at the OP's work, an alternative name for this property would be `legalBasis`.

Issue <https://joinup.ec.europa.eu/asset/cpov/issue/hasformalframework>

5.3. Class: Formal Framework

This class is defined in the Core Public Service Vocabulary and may represent legislation or official policy that leads to a change event, including the establishment of the organisation.

In the RDF release of the CPOV, this class is bound to `cpsv:FormalFramework`.

5.3.1. Property: *implements* [0..n]

This is the inverse of the *has formal framework* property described above and points from a *Formal Framework* to an organisation that exists as a result of the legislation or policy, or that is responsible for carrying out the functions described in it.

In the RDF release of the CPOV, this class is bound to `cpsv:implements`.

6. CONFORMANCE STATEMENT

7. ACCESSIBILITY AND MULTILINGUAL ASPECTS