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## **Change and Release Management Policy for DCAT-AP**

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# **Change and Release Management Policy for DCAT-AP**

## 1 INTRODUCTION AND BACKGROUND

The updated change and release management policy contained in this document responds to the need of implementers of the DCAT Application Profile for Data Portals in Europe<sup>1</sup> to understand how the specification of DCAT-AP is maintained and how new versions are developed and published.

This policy is based on the more general change management release and publication process for structural metadata specifications developed by the ISA Programme<sup>2</sup>, adapted and tailored to DCAT-AP as one of the most successful results of the ISA and ISA<sup>2</sup> programmes<sup>3</sup>.

The summary is published as a separate document on Joinup<sup>4</sup> to provide a quick guide of all matters that are of interest to the main stakeholders, including maintainers of national and regional application profiles, developers of solutions that implement DCAT-AP and managers of systems that are built on the functionality of DCAT-AP implementations.

## 2 OBJECTIVE AND SCOPE

There are two main objectives of the change and release management policy for DCAT-AP. Firstly, to ensure stability, making sure that implementers can protect investment as a result of a transparent and well-managed policy that avoids changes that negatively affect either network-wide interoperability or operations of individual implementations. Secondly, to allow the necessary flexibility to make changes based on evolving experience and external factors, such as changes in technological landscape and relevant base standards at W3C and elsewhere.

The objective is to allow implementers to plan sufficiently ahead based on good understanding of functional changes and operational implications.

The existence of a well-defined policy enhances **reliability** of the process and the resulting specifications. As a result of the transparency of the processes, confidence is created that the specifications properly account for the real needs and requirements of the stakeholders. This creates a firm fundament for the interoperability across Europe among data portals on the regional, national and European level.

Finally, the existence of a clear policy governing changes and releases contributes to the **protection of investment** by the stakeholders in the implementation of the DCAT-AP specifications. As all changes in the specifications are communicated to and

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<sup>1</sup> European Commission. Joinup. DCAT Application profile for data portals in Europe (DCAT-AP).

<https://joinup.ec.europa.eu/solution/dcat-application-profile-data-portals-europe>

<sup>2</sup> European Commission, Joinup. Description of a change management release and publication process for structural metadata specifications developed by the ISA Programme.

<https://joinup.ec.europa.eu/node/155875>

<sup>3</sup> European Commission. ISA<sup>2</sup>. Interoperability solutions for public administrations, businesses and citizens. [https://ec.europa.eu/isa2/home\\_en](https://ec.europa.eu/isa2/home_en)

<sup>4</sup> URL of the Policy Summary on Joinup, to be provided.

discussed with the stakeholders, there is certainty that no changes will be made that negatively affect the operation of implementations and the interoperability across the network of data portals. Moreover, in cases where major changes are considered, the DCAT-AP Working Group is the platform where stakeholders can come together to discuss and reach consensus on these changes.

An important external dependency is that DCAT-AP is based on the W3C Recommendation DCAT<sup>5</sup>. Although W3C does not have an explicit change and release management policy for its Recommendations, DCAT may evolve in response to further requirements and emerging experience.

In case that W3C undertakes an activity to revise DCAT, stakeholders of DCAT-AP are encouraged to contribute to work at W3C by participating either in working groups or in the public review process associated with such an activity, in order to ensure that revision of DCAT does not negatively impact DCAT-AP.

### 3 GOVERNANCE

#### 3.1 Governance structure

The governance structure that underpins the change and release management policy consists of four levels:

The **ISA<sup>2</sup> Committee** composed of representatives of the EU Member States acts as a steering group. This group ensures continuity and consistency on the basis of the general directions set by the European Commission in the rolling ISA<sup>2</sup> Work Programme, is informed about activities and progress in their regular meetings; and endorses new releases of the DCAT-AP specifications that contain substantial changes.

The **ISA<sup>2</sup> Programme Management Team** is the maintenance organisation for the DCAT-AP specifications. In the context of that role, the ISA<sup>2</sup> Programme Management Team organises the activities for maintenance of the specifications, safeguards the proper execution of the maintenance process, reports to the ISA<sup>2</sup> Committee and funds the Operational Team.

The **Operational Team** is composed of a single team that carries out the day-to-day work. In the case of DCAT-AP, the Operational Team usually consists of contractors, under the guidance and responsibility of the ISA<sup>2</sup> Programme Management Team. The Operational Team provides the editor of the specifications, plans and prepares communications and meetings for the DCAT-AP Working Group and prepares the publication of new releases of the specifications.

The **DCAT-AP Working Group** ('the Working Group') is where all stakeholders participate in review and discussion of new releases of the DCAT-AP specifications. All stakeholders are invited to become a member of the Working Group. This includes stakeholders like maintainers of national and regional application profiles, developers of solutions that implement DCAT-AP and managers of systems that are built on the

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<sup>5</sup> W3C Data Catalog Vocabulary. W3C Recommendation 16 January 2014. <https://www.w3.org/TR/vocab-dcat/>

functionality of DCAT-AP implementations. Other types of interested parties may contribute and comment but in such case, they will be invited to join the Working Group.

### 3.2 Decision mechanism

The decision mechanism is based on three pillars:

**Consensus:** Decisions in the Working Group are taken by consensus; the Working Group chairs make sure that consensus is reached among stakeholders. Consensus is reported to the ISA<sup>2</sup> Programme Management Team. The ISA<sup>2</sup> Programme Management Team is also informed if consensus cannot be reached; in such case, the ISA<sup>2</sup> Programme Management Team takes a decision, taking into account the overall strategy and objectives of the ISA<sup>2</sup> Programme;

**Appeal:** In the specific case when a stakeholder considers that the process has not been followed properly, or that the stakeholder's opinions have not been taken into account properly, the stakeholder has the possibility to lodge a formal appeal to the ISA<sup>2</sup> Programme Management Team. The ISA<sup>2</sup> Programme Management Team takes a decision on the appeal, taking into account the overall strategy and objectives of the ISA<sup>2</sup> Programme;

**Endorsement:** Revised specifications that contain substantial changes are endorsed by the ISA<sup>2</sup> Committee on proposal from the ISA<sup>2</sup> Programme Management Team.

### 3.3 Transparency

Information about all process events, including change requests, Working Group meeting reports and resolutions are made public on a suitable location on the Joinup platform.

## 4 OVERVIEW OF THE REVIEW AND RELEASE CYCLES

### 4.1 Types of changes

The following categories of changes are distinguished:

**Bug fixes:** this category involves the correction of errors or inconsistencies in the specifications. These types of changes will not affect interoperability in any way.

**Minor semantic changes:** this category includes changes that may affect interoperability but only in non-disruptive ways. Examples include the addition of optional properties or 'deprecation' of unused, optional properties.

**Major semantic changes:** this category includes changes that have more serious consequences for interoperability, such as addition of mandatory properties or changes in the mandatory controlled vocabularies.

## 4.2 Release cycles

**Bug fix releases** will be published on a six-month schedule – every May and November, if not combined with one of the following types of releases. This type of release will not be published if there are no changes requests for this category. For a bug fix release, the Working Group will be informed at least **two weeks** ahead of publication during which time the members can voice objections.

**Minor semantic changes** will be published made on a yearly schedule – every November, if not combined with the following type of release. This type of release will not be published if there are no change requests for this category. If it is published, it will also include any bug fixes if any were requested. A proposed release in this category will be communicated to the Working Group for review at least **six weeks** ahead of publication.

**Major semantic changes** will not be made more frequently than once every two years in November. This type of release will not be published if there are no change requests for this category. If it is published, it will also include any bug fixes and minor semantic changes if any were requested. These changes will be made after discussion and agreement by the Working Group with at least a three-month discussion period and at least a one-month public review of the proposed new release.

Evolution of the W3C Recommendation could lead to the need for major semantic changes. Whenever W3C plans to publish a new version of DCAT, it may be foreseen that the process towards a major semantic release will be scheduled to enable the Working Group to review W3C work and determine implications for DCAT-AP.

The current release schedule is available on Joinup<sup>6</sup>.

## 4.3 Versioning

All releases will receive a version number according to the following numbering scheme:

Bug fix releases: **X.Y.(Z+1)**, e.g. 1.0.1, 1.0.2 etc.

Minor semantic releases: **X.(Y+1).0**, e.g. 1.1.0, 1.2.0 etc.

Major semantic releases: **(X+1).0.0**, e.g. 2.0.0, 3.0.0 etc.

## 5 PROCESS

### 5.1 Submission of change requests

Any problems encountered, or suggestions for new functionalities can be submitted as issues on the DCAT-AP repository on GitHub<sup>7</sup>. Submitters of issues need to register for a free user account by clicking “Sign up for GitHub”<sup>8</sup> on the GitHub start page.

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<sup>6</sup> URL of the release schedule on Joinup, to be provided.

<sup>7</sup> <https://github.com/SEMICeu/DCAT-AP>

<sup>8</sup> <https://github.com/join>



There is no strict structure for submissions, but it will be helpful if information like submitter name, affiliation, portal represented, clear and concise description of the requirement and proposed solution, if any, so that the editor of the specification has enough information to be able to classify and process the request. A short guideline for submission of request is available on GitHub<sup>9</sup> and on Joinup<sup>10</sup>.

### 5.2 Resolution of change requests

The editor classifies every received change request and schedules its processing depending on an initial evaluation of severity, and responds to the issue within two weeks, noting next steps as part of the issue on GitHub.

### 5.3 Reporting to the DCAT-AP Working Group

At least every three months, the editor prepares a status report for the DCAT-AP Working Group with an overview of change requests received in each of the three categories.

### 5.4 Process outline for the different release types

#### 5.4.1 Bug fixes

The following steps are taken:

1. **One month** before the scheduled publication of a bug fix release, the change requests identified for this category are selected by the Operational Team.
2. The resolutions for these requests are processed into new versions of the specifications and the release documentation.
3. The new specifications and release documentation are shared with the Working Group at least **two weeks** before the scheduled publication date, allowing objections to be raised.
4. Objections are resolved by the Operational Team in consultation with the objecting party and the Working Group.
5. When all objections have been resolved, the new release is published.

#### 5.4.2 Minor semantic changes

The following steps are taken:

1. **Three months** before the scheduled publication of a minor semantic change release, the change requests identified for this category are selected by the Operational Team.
2. The resolutions for these requests are processed into new versions of the specifications and the release documentation.

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<sup>9</sup> <https://github.com/SEMICEu/DCAT-AP/wiki/Submission-guidelines>

<sup>10</sup> URL of the submission guideline on Joinup, to be provided.

3. The new specifications and release documentation are shared with the Working Group at least **six weeks** before the scheduled publication date, asking the Working Group to review the changes and provide comments.
4. Comments from the Working Group are resolved by the Operational Team in consultation with the commenting party and the Working Group. If a resolution cannot be reached, in particular when a change has implications for interoperability, the change is withdrawn, and further discussion may be postponed in the context of the following release for major semantic changes.
5. When all review comments have been resolved, the new release is published.

### 5.4.3 Major semantic changes

The following steps are taken:

1. **Eight months** before the scheduled publication of a major semantic change release, the change requests identified for this category are selected by the Operational Team.
2. The Working Group is informed that discussion on the change requests will take place in the Working Group on the basis of the established *Process and methodology for developing semantic agreements*<sup>11</sup>.
3. The Working Group is given a **discussion period of at least three months** in order to consider the requests and reach consensus on their resolutions.
4. Based on the consensus of the Working Group, the Operational Team prepares a draft of the new release.
5. The draft of the new release is published for a **public comment period of at least one month** with announcement on Joinup, relevant mailing lists and other communication channels (e.g. Twitter, LinkedIn).
6. Comments from public review are discussed and resolved by the Working Group in a final meeting.
7. When all review comments have been resolved, the new release is published.

## 5.5 Preparation of release

The following documents are made available with every release:

- The specification of DCAT-AP in Portable Document Format (PDF), Microsoft Word and OpenDocument Text (ODT) formats.
- The UML diagram as an image (PNG/JPG), in Scalable Vector Graphics (SVG) and in XML Metadata Interchange (XMI) format.
- Machine-readable distributions in RDF, JSON-LD and SHACL/OWL.
- A decision log, showing all issues submitted for the release with their resolutions.
- A change log, showing the differences between the previous release and the new release.

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<sup>11</sup> European Commission. Process and methodology for developing semantic agreements.  
<https://joinup.ec.europa.eu/node/67006>

## 5.6 Publication of release

All releases are published on Joinup with announcements on Joinup, relevant mailing lists and other communication channels (e.g. Twitter, LinkedIn).

## 5.7 Endorsement of release

The ISA<sup>2</sup> Programme Management Team submits minor and major semantic releases to the ISA<sup>2</sup> Committee for formal endorsement.

# 6 DEPLOYMENT ASPECTS

The three types of releases have different implications for implementations of DCAT-AP.

**Bug fixes** will have no implications for implementations. Everything can continue to work as before.

Releases with **minor semantic changes** will not need immediate implementation in operational systems or inclusion in a national or regional profile, as the existing implementations and profiles will remain conformant. Every implementation can choose to implement additional features at a time at the convenience of the maintainer of the system and every profile can be updated independently. Existing systems can continue to operate unchanged, but before they upgrade they will not be able to access functionality that is provided by the new model elements.

Releases with **major semantic changes** will in general not be backward compatible; software solutions that implement the changes cannot fully interoperate with the software that was based on the previous version of the specification. In such cases, the introduction of a release needs to be accompanied by a well-managed software upgrade process. Especially in cases where multiple software vendors are involved, such upgrades need to be carefully planned and executed with ample time for testing and verification.

In parallel with the development of a release with major semantic changes, implementers of systems and maintainers of profiles will need to plan the upgrade process alongside the development of the DCAT-AP specification.

# 7 FUTURE REVIEW OF POLICY

The change and release management policy is reviewed by the European Commission every two years. The next review is scheduled to take place in second half of 2019.