



INSPIRE Schemas & Repository Proposals

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MIWP MIG-T Sub-group 2.3.1 – Governance of INSPIRE artefacts

Status meeting – September 16th, 2021

Objectives

- Establish practical rules for managing changes to the schemas endorsed by MIG, after going through the governance process.
- Come up with an agreed functional solution for restructuring the official repository of INSPIRE XML app. schemas:
<https://inspire.ec.europa.eu/schemas>
- Update the criteria used for versioning schema releases:
<https://inspire.ec.europa.eu/XML-Schemas/Data-Specifications/2892>
- Keep trace of historic / old versions of schemas in the repository, if possible maintaining them operative.
- Encourage MS to update existing implementations using the last-endorsed versions of schemas, while minimising the impact on them.

Versioning of schema releases

Proposal to maintain existing criteria (*)

Follow the **X.Y.Z** pattern, where:

Breaking changes = **Non-backwards compatible**
Non-breaking changes = **Backwards compatible**

- **X** (major version number):

To be updated (e.g. v3.X --> v4.0) when changes to the applicable legal framework (e.g. Implementing Rules) are applied. These are always **breaking changes**.

- **Y** (minor version number):

To be updated (e.g. v3.0.X --> v3.1) when **non-breaking changes** to the schemas are applied.

- **Z** (bug-fix version number):

To be updated (e.g. v3.0 --> v3.0.1) when errors or bugs are fixed in the XML schemas. These can be **breaking** or **non-breaking changes**.

* Already endorsed by MIG and used in the previous years.

Restructuring the schema repository

1a. Initial proposal - Description

For each (INSPIRE general or thematic-related) schema folder in the repository:

- Keep inside this folder all version folders ('X.Y') of the corresponding schemas, including the last-endorsed and the historic ones.
- Include a 'deprecated' subfolder to keep trace of historic bug-fixes of each version of the schema.
- In case of a new bug-fix endorsed:
 - Copy the (old) incorrect schema into the corresponding subfolder (named with the major, minor and bug-fix version numbers) within the 'deprecated' subfolder.
 - Inside its corresponding ('X.Y') version folder, replace the incorrect schema by the corrected one (bug-fix).
- Maintain updated a 'latest' shortcut, always pointing to the last endorsed version of the schema.

Restructuring the schema repository

1a. Initial proposal - Structure

Folders = In maroon bold text

Files = In blue plain text

am (<https://inspire.ec.europa.eu/schemas/am/>)

latest ← Shortcut pointing to the latest version of the schema endorsed by MIG

deprecated

3.0.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 3.0.0

3.0.1

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 3.0.1

4.0.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 4.0.0

3.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 3.0.2

4.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 4.0.1 (Last endorsed schema)

Restructuring the schema repository

1a. Initial proposal - Example

Release 2021.2

4.0.1 → breaking changes

- <https://inspire.ec.europa.eu/schemas/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.1)
- <https://inspire.ec.europa.eu/schemas/am/deprecated/4.0.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.0)

Release 2022.1

4.0.2 → breaking changes

- <https://inspire.ec.europa.eu/schemas/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.2)
- <https://inspire.ec.europa.eu/schemas/am/deprecated/4.0.1/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.1)
- <https://inspire.ec.europa.eu/schemas/am/deprecated/4.0.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.0)

Restructuring the schema repository

1a. Initial proposal – Pros vs. Cons

Advantages

- Structure based on OGC current practice.
- Existing implementations would be not impacted when breaking changes, non-breaking changes, or non-breaking bug-fixes are applied to the schemas.

Disadvantages

- Breaking bug-fixes may impact existing implementations – However:
 - They are corrections to the schemas, previously endorsed by MIG (i.e. accepted by MS).
 - MS may be properly warned through different mechanisms:
 - INSPIRE Reference Validator (when using deprecated versions of schemas).
 - Notifications sent time in advance to applying changes to the repository (e.g. 1 month before).
- It does not allow storing different bug-fix versions of schemas in the same folder – This forces to use the ‘deprecated’ folder and change the namespace for the deprecated schemas.
- Hard to maintain dependencies between deprecated schemas (schema imports), and keep them operative.

Restructuring the schema repository

1b. Variant of initial proposal - Example

Release 2021.2

4.0.1 → breaking changes

- <https://inspire.ec.europa.eu/schemas/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.1)
- <https://inspire.ec.europa.eu/schemas/am/deprecated/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.0)

- Namespace for the deprecated schemas is maintained.
- Only keeping operative the immediately previous version for bug-fixed schemas.

Release 2022.1

4.0.2 → breaking changes

- <https://inspire.ec.europa.eu/schemas/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.2)
- <https://inspire.ec.europa.eu/schemas/am/deprecated/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.1)
- https://inspire.ec.europa.eu/schemas/am/deprecated/4.0/AreaManagementRestrictionRegulationZone_4.0.0.zip (version 4.0.0)

Restructuring the schema repository

2. Evolved proposal - Description

- Similar structure than the initial proposal but:
 - Avoiding usage of a 'deprecated' folder.
 - Instead: Using a new separated repository – with the full set of XML schemas (*) - to store each historic schema release.
 - Each of this repositories represented by an specific release folder at <https://inspire.ec.europa.eu/schemas> (e.g. 2021.1, 2021.2, etc.).
 - The last release will be always available at <https://inspire.ec.europa.eu/schemas> (without a specific folder).
 - Dependencies between schemas will be maintained and kept running within the context for each separated release repository (**).

* **Including ALL INSPIRE general or thematic-related schema folders in the repository.**

** NOTE: Needed to create deprecated and new versions of any schema for which there are no changes in the new release, but that imports a schema in which there are breaking changes in that release.

Restructuring the schema repository

2. Evolved proposal - Structure

am (<https://inspire.ec.europa.eu/schemas/am/>) ← Last schema release: 2022.1

latest ← Shortcut pointing to the latest version of the schema endorsed by MIG

3.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 3.0.2

4.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 4.0.2 (Last endorsed schema)

2021.2/am (<https://inspire.ec.europa.eu/schemas/2021.2/am/>) ← Release: 2021.2

3.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 3.0.2

4.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 4.0.1

2021.1/am (<https://inspire.ec.europa.eu/schemas/2021.1/am/>) ← Release: 2021.1

3.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 3.0.2

4.0

[AreaManagementRestrictionRegulationZone.xsd](#) ← version 4.0.0

Restructuring the schema repository

2. Evolved proposal - Example

Release 2021.2

4.0.1 → breaking changes

- <https://inspire.ec.europa.eu/schemas/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.1)
- <https://inspire.ec.europa.eu/schemas/2021.1/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.0)

Release 2022.1

4.0.2 → breaking changes

- <https://inspire.ec.europa.eu/schemas/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.2)
- <https://inspire.ec.europa.eu/schemas/2021.2/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.1)
- <https://inspire.ec.europa.eu/schemas/2021.1/am/4.0/AreaManagementRestrictionRegulationZone.xsd> (version 4.0.0)

Restructuring the schema repository

2. Evolved proposal – Pros vs. Cons

Advantages

- Same advantages than the ‘Initial’ proposal + ...
- It allows storing all bug-fix versions of schemas, one in each historic schema release folder - Namespace for deprecated schemas remain the same.
- Easier to maintain dependencies between schemas (schema imports), and keep them operative - Automatic replaces possible when managing a new release.

Disadvantages

- As in the ‘Initial’ proposal, breaking bug-fixes may impact existing implementations. Same ‘buts’ as well.
- More storage is needed at the official repository (full set of XML schemas per each release).

Discussion!

Thank you!



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