ECLASS Guide 30

Process of editing mappings between ECLASS Releases

ECLASS e.V.

November, the 4th, 2024

Authors and contributors

Nikolaus Ondracek, Paradine

Josef Schmelter, Phoenix Contact

Oliver Drumm, Siemens

Frank Scherenschlich, Class.Ing

Fabian Schwanitz, ECLASS Head Office

Please send remarks to info@eclass.de

Revision History

Date	Version	Milestone
03.06.2024	0.1	Draft Version created by Ad hoc group 71 “Mapping between Releases”.
28.11.2024	1.0	Decision about publishing the Guide in CRD.
16.12.2024	1.0	Published on ECLASS Website.

Introduction

There are generally three forms of mapping in ECLASS. There are mappings between...

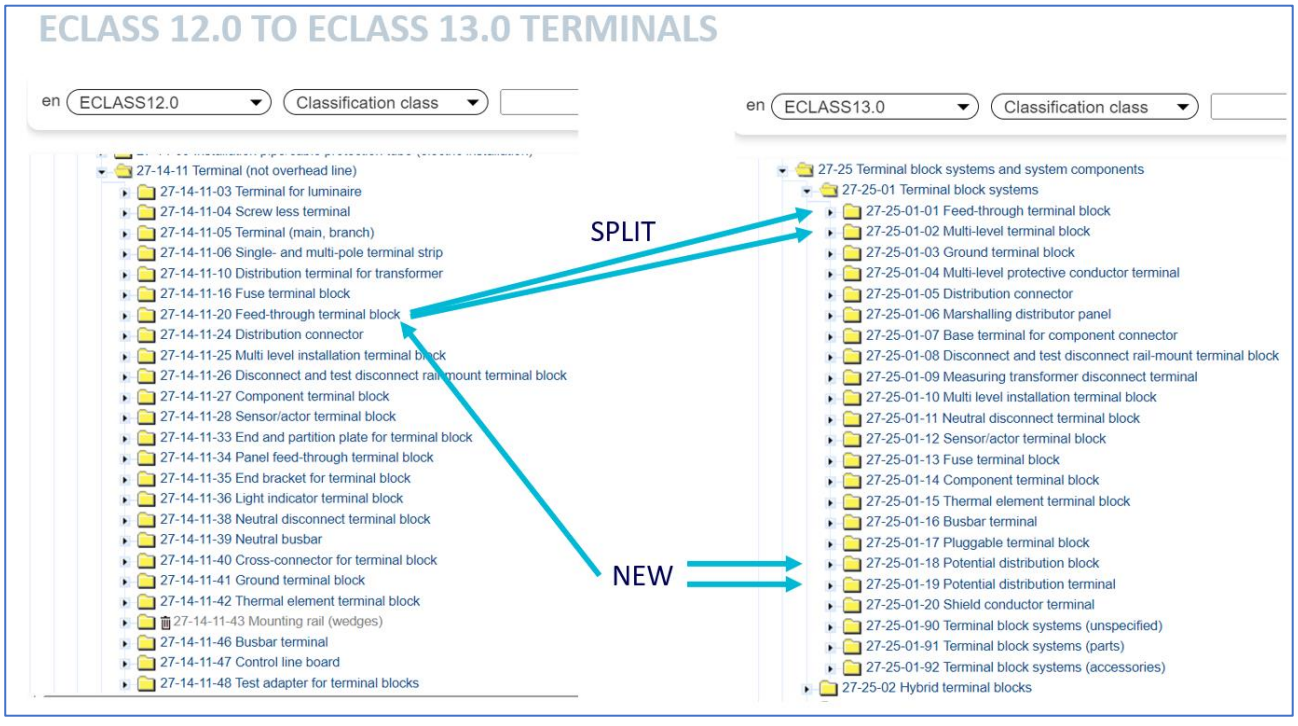
- two ECLASS versions
- Basic and Advanced
- ECLASS and other standards

The following guide explains the process of editing mappings between ECLASS Releases.

The reason to write such a guide is the following:

It is not uncommon for CCs to be split into two successor CCs during the release process. However, the user may subsequently request that a CC has to be split into more than two classes, which was not part of the original change request. It is therefore necessary to identify a method for making subsequent adjustments to the mappings.

Example case: Split CC



As illustrated in the attached screenshot, the CC “27-14-11-20 Feed-through terminal block” was initially split into two successor CCs, which are “27-25-01-01 Feed-through terminal” and “27-25-01-02 multi-level terminal block”. The two CCs “27-25-01-18 Potential distribution block” and “27-

25-01-19 Potential distribution terminal” have been newly created. However, the two classes also originate from source 27-14-11-20. The missing mapping information should now be able to be added to the mapping afterwards.

Going forward, the ability to correct or adjust mappings between releases will be a key functionality.

Other examples:

- User removes a Property from a Class and adds a new Property to the Class instead of requesting a CR of type “Replace Property”
  - The replace information is missing and needs to be added to the mapping afterwards).

Other reasons for editing mappings:

- External standards
- Corrections between Basic and ADV

Table of contents

1 Scope

Out of scope:

- CDP user guide
- Change management / CR workflow
- Set of rules on how to edit mappings (separate documentation)

The objective of this document is to outline the process for editing previously published mapping plans, e.g. on how to

- Correct errors
- Add missing mappings

The document outlines the electronically supported process for correcting mappings, delineating which users are permitted to make changes to the mappings and under what conditions. It also describes the methodology employed in deriving the mappings and the mechanisms through which they are made available via

- Webservice
- XML

2 Normative references

ECLASS Technical Specification 16

3 Terms and definitions

3.1 (Semantic) Mapping

In mathematics, a **map** or **mapping** is a function in its general sense.

Semantic mapping is creation of mapping rules between concepts by usage of a dictionary which can be consulted to look up mapped concepts.

Note: Semantic mapping is only able to discover exact matches between concepts and will not discover any transformation logic.

3.2 Mapping Plan

A Mapping-Plan is a container of Mapping Rule (Business Object) (s) between a Source Release of a Dictionary (Business Object) and the Target Release of a Dictionary (Business Object) Dictionary.

Note: Source and target can be part of the same Release (e.g. Basic and Advanced in ECLASS).

- For more information, please refer to technical specification 16.

3.3 Mapping Rule

A Mapping-Rule connects the tupel of Source Classification with a Target Classification Class, where the source belongs to the Source Release of the mapping plan and the target to the Target Release of the Mapping-Plan (Business Object).

- For more information, please refer to technical specification 16.

3.4 Property Mapping

A Mapping-Rule consists of the relation between a source property and a target property, both in the context of a given property-path.

Note:

The Property-Mapping may need a Value-Mapping in case the property has values assigned, and/or a unit-mapping in case the property allows multiple unit-of-measure.

A Property might have a property-mapping-type (compatible, weak, incompatible) as attribute.

A Property-mapping might depend on conditions which must hold to be valid.

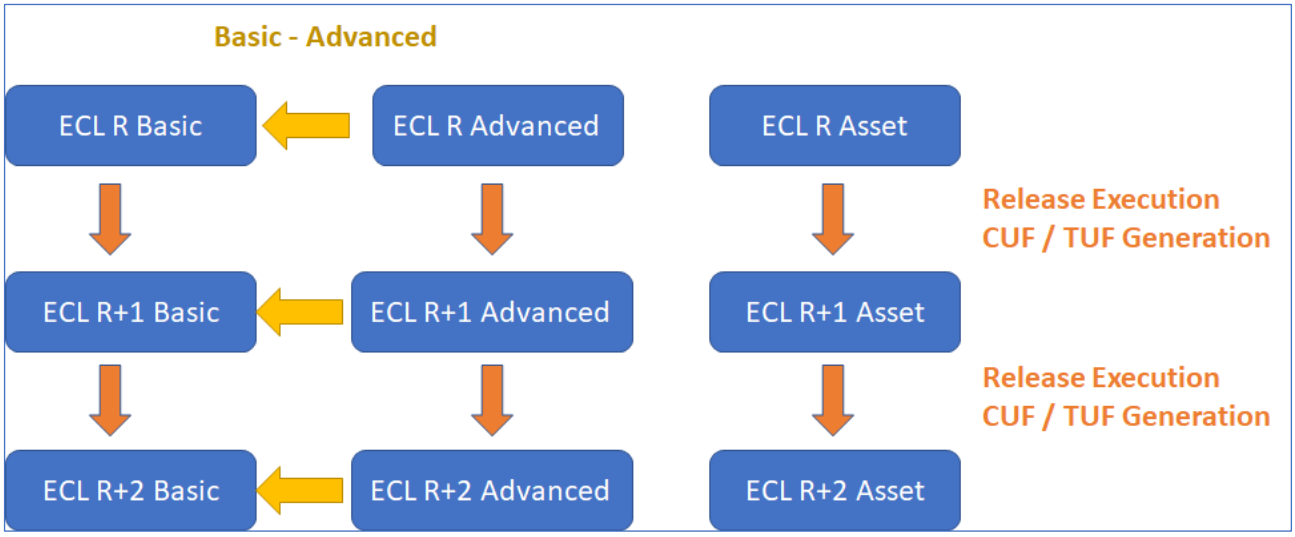
- For more information, please refer to technical specification 16.

3.5 Compatible, weak and incompatible Mapping

- For more information, please refer to technical specification 16.

4 General Overview

4.1 General Concept of Mapping Plans



As shown in the screenshot, there are mappings between the releases (ECL R and ECL R +1) (orange arrow) or between Basic and Advanced (yellow arrow). When the release is generated, the transaction update files are also produced.

Basic assumption 1: Changes to the mappings only affect a mapping plan between the releases (orange arrow in the figure).

Basic assumption 2: The releases are NOT changed by changes to the mappings. As a consequence, only mapping changes that are compatible with the releases may be made.

Basic assumption 3: The mapping is basically designed for the upward direction (i.e. from ECL R to ECL R +1, etc.). It is also possible to use the mapping in the other direction in special cases, but this requires additional information (e.g. for Split or Join), which is provided by the user (an example is given in chapter 4.2.2)

Note: The mapping plan generated with the release calculation is based on the calculation of the CRs. There is no longer any reference to the CRs for the changed mapping rules.

The following mapping files are affected:

1. Transaction update file (TUF)
2. Classification Update File (CUF)

3. Reference algorithm (Conversion from old data set to new data set: action instruction)

4.2 Mappings of Classification Classes

In the editing process of mappings between releases CCs can be adjusted, e.g.

- **MOVE** - a class will be moved to a new location in the classification tree
- **JOIN** - multiple classes will be joined together into a new target class
- **SPLIT** - a class will be split into multiple new classes

The classification update methodology is described in Technical Specification 16.

4.3 Distribution of Mappings via XML / Webservice

4.3.1 XML - Once per year

With the publication of the current release, adjusted mapping plans are also to be published. To facilitate this process, the ECLASS Shop has created a dedicated area containing all mapping plans from all releases.

Since every mapping plan has its own IRDI, it can be found via searching for the IRDI.

4.3.2 Webservice - Immediately

As soon as work starts on adjusting a mapping plan, a copy of the original mapping plan is automatically created that can be adjusted. The copy is given a new IRDI, i.e. a new version. This new version is immediately visible in the Webservice. It is essential that users have the ability to search for specific mappings in the WebService. There must be a new end point for the available mapping plans. It is recommended that the default setting be that the current mapping plan is displayed with the status "released."

4.4 Direction of Mappings

Mappings are possible upward and downward.

4.4.1 Using the Mapping in an Upward Direction

Based on the Change Requests, the mappings are automatically generated in an upward direction in the release. There are no changes to the existing process here.

4.4.2 Using the Mapping in a Downward Direction

Mapping plans can also be provided in a downward direction, which requires manual input. The following example illustrates the challenges of mapping in a downward direction and instances where additional information is needed that the system cannot provide.

Example of JOIN CC downward mapping:

Command	IrdiSourceRelease	CodedNameSourceRelease	IrdiTargetRelease	CodedNameTargetRelease	SourceRelease	TargetRelease
JOIN	0173-1#01-AKG972#018	23152306	0173-1#01-AHX121#001	23152010	ECLASS13.0	ECLASS14.0
JOIN	0173-1#01-ADH942#012	23152006	0173-1#01-AHX121#001	23152010	ECLASS13.0	ECLASS14.0

In the example screenshot the two classes (23-15-23-06 and 23-15-20-06) are joined into one target class (23-15-20-20). When a mapping is used as a "downgrade," the Join CC is transformed into a Split CC. In such instances, the user is responsible for manually determining the appropriate CC to which the products should be moved. In such cases the system is unable to determine the appropriate destination class for the products from the source class.

5 Process of editing mappings between ECLASS releases

Base assumption: The adjustments in the mapping cannot be requested as a Change Request.

5.1 Responsibility for editing mappings

The ECLASS Head Office is tasked with the distribution of updates. The release, input, and maintenance of mappings is the responsibility of an expert group called the "Mapping Plans between Releases" group. It should be noted that the expert group does not generate mappings as a matter of course.

The group's sole responsibility is the creation of mappings between releases. All other mapping-related inquiries should be directed to the ECLASS Head Office or CRD.

5.2 Timeframe for editing mappings

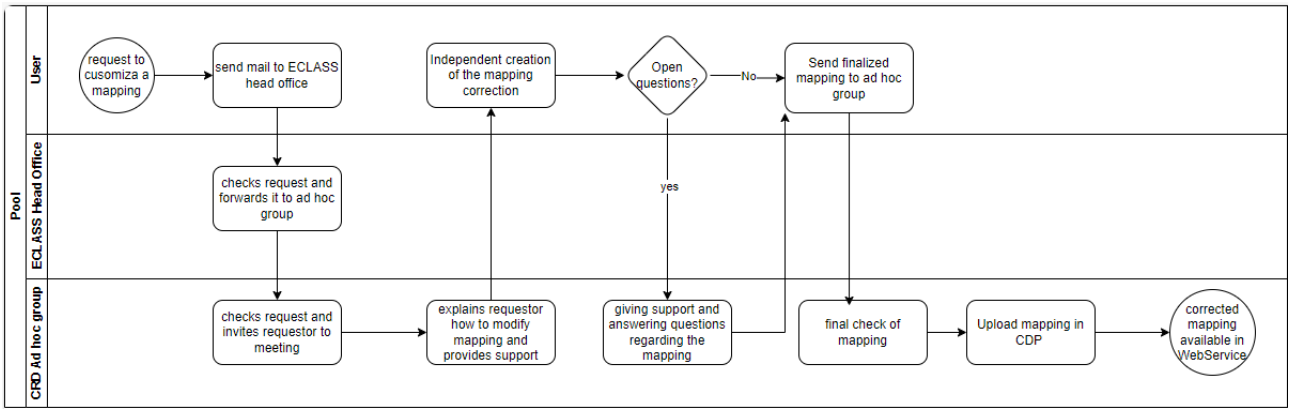
Generally, requests and imports can be made at any time. The group “Mappings” acts as gatekeeper.

5.3 Process steps

5.3.1 Initial process

1. User wants to adjust a mapping plan and sends the request to the ECLASS Head Office.
2. Head Office informs the Ad hoc group “Mapping between ECLASS releases” about the request.
3. The group invites requestor to a meeting and gives requestor support (e.g., explaining how to modify a mapping).
4. Note: The requester must prepare the mappings independently.
5. After creation of the modified mapping plan by the requestor and a final check by the ad hoc group, the modified mapping file can be uploaded to the CDP.
    - Note: After two ECLASS releases, re-evaluation of how the group shall be continued (e.g. as a cross-expert group).

5.3.2 Process chart



5.3.3 Retrieval of (adjusted) mappings

After importing the mapping plan, the system offers the following statuses:

1. Draft
2. Submitted
3. Released

It is essential that the mapping plans be accessible in all available statuses within the Webservice. Users have the following search options for mappings in the WebService

- the release,

- IRDI,
- status of the mapping plan.

Once the mapping plan is set to status “released”, the mapping plan can be exported. The export is only made available to users when the current ECLASS version is released. Upon the release of the current ECLASS version, all affected mappings from legacy releases will be made available. The ECLASS Head Office has incorporated this into the Release Management process. An area has been created in the ECLASS Shop that contains all mappings from all releases.

5.4 Versioning

The adjusted mapping plans are versioned and have a unique IRDI.