eDAIRY APIs, maintenance procedures

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Document history:
- 30jun22: Copied from ePIGS Implementation Guideline. At its turn, inspired by ICAR implementation guideline. Source: Arjan Lamers.
- 6jul22: Modified, based on results 6jul22 meeting eDairy OC.
- 5jan23: Included time table for implementing major changes.
- 14feb23: Modifications based on eDairy OC meetings.

VERSIONING

Use Semantic Versioning 2.0.0 (https://semver.org/):
- change to MAJOR version indicates a breaking change
- change to MINOR version indicates a planned functional release (e.g. new message)
- change to PATCH version indicates a fix to the specification

Each change is a new version of the specifications. Although many types of changes do not result in a breaking change.

Only MAJOR version numbers are included in the URL, e.g.:
../edary-1/dairy_delivery/en.ubn/1/deliveries

So, eDAIRY 1.0.0, 1.0.1, 1.23.46 all have the same URL
In terms of management of the standard: each MAJOR version has its own branch. Within it, every MINOR / PATCH version is tagged.

Each message type has its own endpoint (url). If the endpoint does not exist, the message is not supported by the data provider.

For data providers that means:
- To supporting a new message type, a new endpoint is published.
- A new MAJOR version means a new endpoint; this new endpoint can coexist with the old endpoint.

For data consumers this means:
- New message types never get in the way of old message types.
- So different message types can be supported in different MAJOR versions.

Note: new MINOR / PATCH versions will not get a new URL and need to be backwards compatible.

Each message type has a JSON schema definition. Fields can be added at any time.

For data providers this means:
- When new fields are added to a message, it is a MINOR version upgrade

For data consumers this means:
- Data consumers are supposed to use a tolerant reader pattern: ignore (new) fields that are not recognized.

Each message has a JSON schema definition. Each data field has a fixed definition that cannot be changed. Changing definitions of data fields therefore means adding a new field.

For data providers that means:
- Both the old and the new meaning must be provided.
- When the old field is optional, it can be omitted. If it is mandatory, the old field will also have to be passed on until a MAJOR version upgrade.

For data consumers this means:
- Both the old and the new fields are available: the data consumer can choose when to switch from using the old data field in using the new data field.

Every data producer can add fields themselves, even if they are not defined in the standard. Do take into account the existing standards.

For data producers that means:

- You may add new non-standard data fields without notice.
- If the data field is potentially standardizable, define it so that it has the best chance of being adopted 1: 1: this will prevent changes later. Ideally, a MINOR version will be released later in which this new field is part of the standard
- If the field is vendor specific (or region specific,…) then use a prefix in the name of the field to avoid conflicting with future fields.

For data consumers this means:

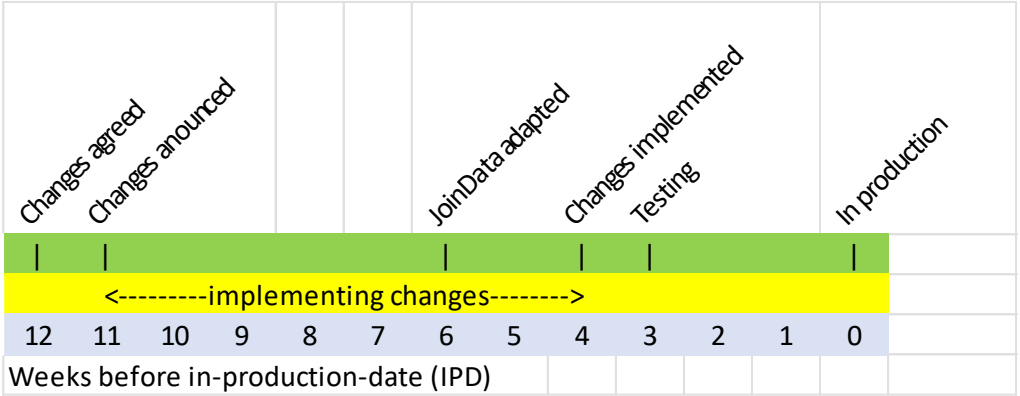
- You are supposed to use a tolerant reader pattern: ignore fields you don't recognize.
- If you know the data producer and want to use the vendor-specific fields, you can. There are (from the standard) no guarantees about version control and quality.

DEPLOYMENT MAJOR CHANGES

Upcoming MAJOR changes need to be announced in an early stage, at least 3 months before bringing the change in production.

The planning for implementing MAJOR changes is as follows (IPD stands for in-production-date):

step	milestone	timing	specification
1	Changes agreed	12 wks before IPD	A clear description of the changes that need to be executed is delivered and is agreed by the eDairy Maintenance Committee and the AgroConnect-workgroup Dairy. Action: AgroConnect-workgroup Dairy and eDairy Maintenance Committee.
2	Changes announced	11 wks before IPD	The changes that are to be executed and deployed are announced to all stakeholders; timing included. Action: AgroConnect.
3	JoinData adapted	6wks before IPD	The changes are deployed on the JoinData test site. Action: JoinData.
4	Changes implemented	4 wks before IPD	The changes are implemented by the developers on the senders' side and the receivers' side) and the modified versions are available for testing. Stakeholders are well informed about the upcoming changes and are invited and instructed for testing. Action: developers on sending and receiving side.
5	Testing	3 wks before IPD until 1 wk before IPD	Testing of the executed changes by all stakeholders. Action: all stakeholders.
6	In production	In production date (IPD)	The changes are deployed for production. Action: developers.



The frequency to execute this deployment cycle for major changes depends on the number, type and urgency of changes that are collected in the back-log. For practical reasons 1 up to a maximum of 4 cycles a year should be feasible.