

Operations Manual

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1 Log of changes

Version	Changes made	Date
3.1_A1	First version of this document	2019-02-04

2 Introduction

2.1 Operations Manual

This document describes how to interact with Validoo. The document should be read by system developers, when setting up communication to interact with Validoo.

2.2 GDSN Operations Manual

The GDSN Operations Manual describes how to interact inside GDSN. Therefore some of the principles are not applicable when a user interacts with Validoo, because the interaction is outside GDSN.

All system developers must read the GDSN Operations Manual, with the exception of a few sections, that are not applicable. The table below specifies what chapters of the GDSN Operations Manual that should be taken into consideration, or are not applicable, when setting up direct communication with Validoo.

Table 1. Reading instructions for GDSN Operations Manual.

Chapter	Chapter name	Status	Comment
1	Introduction	Take into consideration	
2	GDSN Standards	Take into consideration	Mainly 2.1 and 2.2. Manages all communication to and from the GDSN for users. For communication with a data recipient that is not connected to Validoo, please contact GS1 Sweden for more information.
3		Not applicable	
4	Use of xml in GS1 and GDSN	Take into consideration	
5	Message Transport	Take into consideration	Manages all communication to and from GDSN. It is not mandatory to use AS2 with when the communication is outside the GDSN.
6	GDSN Specifics	Take into consideration	
7		Not applicable	

Chapter	Chapter name	Status	Comment
8		Not applicable	
9		Not applicable	
10		Not applicable	

3 Communication with Validoo

Information is sent through AS2 protocol. Ask GS1 Sweden for the connectivity documentation if you want to connect. The system communicating with Validoo must be identified by a unique GLN.

4 Messages

This section describes the messages sent between the Data source and the Data recipient.

4.1 Standard Business Document Header (SBDH)

This is not a message but a part included in all message types below and not an own message type. SBDH is used as an enveloping mechanism for all XML based exchanges. For more information, see the GDSN Operations Manual.

4.2 Catalogue Item Notification (CIN)

A CIN is a carrier message that carries information about one trade item hierarchy. The content owners at the different levels (Message, Transaction and Document command), plus the Information provider and Data recipient in a CIN message is specified in the description below.

4.3 GS1 Response

The GS1Response message informs about a validation and is described in detail in the current business document specification BDS.

4.4 Catalogue Item Confirmation (CIC)

The CIC message from is a feedback on the CIN regarding the status according to the local validation rules or retailer specific rules.

4.5 Catalogue Item Subscription (CIS)

The Catalogue Item Subscription is created by the data recipient when he has a business need to subscribe for trade item information.

4.6 Catalogue Item Hierarchical Withdrawal (CIHW)

A message from a data source or a data pool to a data recipient for withdrawal of an item hierarchy that has already been synchronized.

5 Information for sending systems (information providers)

5.1 SBDH

The system provided by the solution provider must have a GLN as identification and this GLN must be sent in the SBDH for all message types, as Sender. Every, in Validoo, registered information provider (with a GLN) has a solution provider selected/registered. The combination of these GLNs (GLN of information provider plus GLN for the used system for sending trade item information) must be correct in order to get trade items sent to data recipients. See GDSN Operations Manual for more information regarding how. If this combination of GLNs is incorrect Validoo will reject the CIN sent with validation rule 730245.

Every sent message must have a unique instance identifier value. This value is used when some response messages are sent back.

If a solution provider sends a CIN with a SBDH to Validoo and Validoo forward the information to the data recipient then Validoo add an own SBDH in the message with correct information (GLN for Validoo as sender and an own instance identifier).

GLN for Pre-Prod (PreProd) environment: 7300020000022

GLN for Production (Prod) environment: 7300020000008

5.2 CIN

Validoo validates the CIN according to the GDSN Validation rules and Swedish validation rules. The rules are specified in documents and can be found on the gs1.se website. Validoo also validates the CIN for some data recipients described as Recipient rules. These can also be found in the document with Swedish Validation rules.

Validation result is sent back from Validoo. The validation report also specifies which errors that has been found in the CIN. If any.

Read GDSN Operations for information regarding the content needed in the CIN.

5.2.1 Predefined data recipient list

An information provider can setup a predefined list of data recipient. This list can be used when publish public trade item information.

5.2.2 Publication of trade item information

A trade item information can be sent either public or private.

Public information – Trade item sent to the Community GLN as Data recipient (T3809), on all items in the trade item hierarchy will be treated as public and available to all recipients that have a valid subscription.

Validoo community GLN PreProd: 7300029999921

Validoo community GLN Production: 7300029999938

Note that if the community GLN is used when sending the data, the information provider will, during some time, get a negative CIC from the data recipients not having a subscription for the information provider.

Address private information – Populate the attribute Data recipient (T3809) with GLN for a specific data recipient on all trade items in the trade item hierarchy. This will allow the trade item information to be private to the addressed data recipient. Only the addressed recipient can access and receive the trade item information until it is available on the shelf.

5.2.3 Q-lab

In previous version of Validoo Q-lab needed to be addressed as a data recipient. From now Q-lab will automatically get a copy of all trade items if the information provider has a business agreement for Q-lab. A CIC with status Received will be sent from Q-lab when the CIN is received.

5.2.4 Validation of a CIN message

Validates a CIN with a set of three different rules.

- GDSN rules
 - First a set of technical rules is validated. The CIN must pass these in order to get the rest of the GDSN rules validated.
 - A set of rules that the GDSN network has decided to implement. All data pools run the GDSN rules that are applicable to their target market and scope.

These are sent back within a gs1Response message.

- Validoo rules (Local Swedish rules)
 - A set of rules that Validoo and the community in Sweden has decided to implement.

These are sent back within a CIC message.

- Recipient specific rules
 - Different recipients allow different measurements for a trade item and the rules will prevent a recipient from receiving something that is too big or too heavy. The following measurements are validated in the set of recipient rules and the values can vary from recipient to recipient:
 - Pallet height
 - Weight on 1/1 pallet
 - Weight on 1/2 pallet
 - Weight on 1/3 pallet
 - Weight on 1 /4 pallet
 - Weight on non-consumer units
 - Weight on consumer units

These are sent back within a CIC message.

All recipients do not have this functionality added and each supplier need to talk to their recipients about what specific measurements they allow.

5.2.5 Validation result

- a) **Validation OK on all GDSN rules** – sends the validation report GS1 Response with ResponseStatusCode as "ACCEPTED" to the data source.
- b) **Validation NOK (not OK) on GDSN rule(s)** – sends the validation report GS1 Response with ResponseStatusCode as "Rejected" to the data source. Including the errors.
- c) **Validation NOK on Local Swedish rule(s)** – specifies the errors in message type Catalogue Item Confirmation (CIC), and sends the CIC with the status "Review" to the data source.
- d) **Validation OK on all Validoo rules** - sends a RCI (Registry Catalogue Item) to the Global Registry.

Conceptually the CIN is sent to the data recipient that can validate the CIN based on own rules. Validoo is acting as validator for some of the data recipients regarding recipient specific rules. Regardless the below is handled by either Validoo or a data recipient.

Validation by Validoo of the CIN according to recipient specific rules, if the data recipient has specific rules. This step is repeated for every data recipient that has a subscription that matches the trade item information in the CIN. The validation can be either not approved (NOK) or approved (OK). If the data recipient does not have specific rules the CIN is not validated according to recipient specific rules.

- e) **Validation NOK on recipient rules** – specifies the errors, and which data recipient that is not accepted the CIN, in the validation report CIC. Errors is sent in a CIC with the status "Review" to the data source.
- f) **Validation OK on recipient rules** –CIC with the status "Received" to the data source is sent from the data recipient or on behalf of the data recipient (if Validoo is handling the validation of recipient rules for addressed data recipient). Note that it might come additional CIC to a sent CIN.

See subscription process for information if data recipient sends another CIC.

5.2.6 Examples of validation of Recipient specific rules

Example 1

Supplier A sends trade item information for a trade item hierarchy of three trade items to buyers X, Y and Z.

- 1 The lowest level is a jar of honey which is a consumer unit.
- 2 The second level is an outer package containing 10 jars of honey. It is this item which is the orderable unit in the hierarchy.

- 3 The highest level is a logistic unit with its package type set to pallet. The pallet height for the hierarchy is 1500 mm.

has the following recipient specific rules:

- buyer X has recipient specific rules
- buyer Y has recipient specific rules
- Buyer Z does NOT have recipient specific rules.

The supplier chooses to send the trade item hierarchy to his buyers in separate messages (CIN). This means that the hierarchy is sent to three times.

Let us assume that the CIN does not contain an indicator for which level is orderable. The trade item hierarchy will be rejected according to GDSN rule 312. Since the supplier has sent three versions of the same trade item hierarchy, he will receive three error messages showing that the hierarchy has been rejected on GDSN rule 312. Validation reports refer to the sequence number in the CIN.

The supplier corrects the message and sends the trade item information to again.

Let us now assume that the CIN contains an incorrect packaging type which is not found in the relevant code list. The trade item hierarchy will be rejected according to Validoo rule 730119. Since the supplier has sent three versions of the same trade item hierarchy, he will receive three error messages showing that the base unit has been rejected with error code 730119.

The supplier corrects the message and sends trade item information to again.

Since the trade item hierarchy has now passed all GDSN and Validoo rules and buyers X, Y and Z all subscribe to supplier A, three different outbound messages will be created for the respective buyers.

Buyer Z has no recipient specific rules, so the trade item hierarchy will be sent and a CIC Received sent from to the system used by a supplier A.

Buyer Y permits pallet heights of up to 1250 mm. The supplier has agreed in advance with buyer Y that the trade item hierarchy in question may have a pallet height of 1500 mm. Buyer Y has made an exception (so-called dispensation) to his recipient specific rules for this trade item hierarchy. The trade item hierarchy is sent to the buyer Y and a CIC Received sent from to the system used by a supplier A.

Buyer X permits pallet heights of up to 1250 mm. The supplier has spoken in advance to buyer X who has not agreed that the trade item hierarchy in question may have a pallet height of 1500 mm. The trade item information is therefore rejected and a CIC REVIEW sent from to the system used by a supplier A.

5.3 GS1 Response

For every correctly addressed message sent to Validoo a GS1 Response will be sent back and it will contain different information based on the result of the validations made on the input message. The instance identifier value in the sent message will be included in the gs1Response. See GDSN operations manual for more information.

ResponseStatusCodes:

- REJECTED, is used to indicate back to the sender of the original (requesting) message various errors that might occur while processing the message at the recipient side.
- ACCEPTED, is used to indicate that the message was accepted by Validoo.

5.4 CIC

GTIN is used in the CIC to connect the message with the CIN sent from the solution provider.

When to expect a CIC message:

- For every sent CIN, one data recipient can send several CIC messages, each with different or the same status.
- The CIC can be positive from one data recipient but negative from another.
- The data recipient can choose to send only positive or only negative CIC messages.
- The data recipient can choose to not send CIC messages thus this is not mandatory.
- If Community GLN is used, a CIC can be sent from any data recipient that subscribes on the trade item data.
- CIC messages can be sent at any time, even a long time, after the CIN was sent.

5.5 CIHW

Catalogue Item Hierarchical Withdrawal (CIHW) message are used to withdraw a published hierarchy to correct an issue with the hierarchical links but also can be used by the Data Source or Data Pool to inform their respective Data Recipient that a given Catalogue Item is being withdrawn from publication to a trading partner.

- 1 The only valid document command for the CIHW document is DELETE.
- 2 The CIHW message can only be sent on highest level of the published hierarchy, top GTIN.
- 3 The trade item being deleted via a CIHW must have been previously registered.
- 4 To correct a hierarchy for incorrect links, the hierarchy must be deleted using the CIHW message with a reason code of HIERARCHY_LINK_CORRECTION and then re-added with correct links.
- 5 To stop the publication of a hierarchy to data recipient, a Catalogue Item Hierarchical Withdrawal message and a hierarchy deletion reason code of PUBLICATION_WITHDRAWAL is sent to Validoo.
 - i. To withdraw a public trade item information, Validoo community GLN is addressed as data recipient in the CIHW message.
 - ii. To withdraw a private hierarchy, the recipient GLN is addressed as data recipient in the CIHW message.

6 Information to receiving systems (data recipients)

In order to get trade item information a subscription has to be made. You can either add a subscription manually in Validoo or send a CIS containing the subscription information.

6.1 CIS (catalogue Item Subscription)

Sending a CIS is described in GDSN Operations Manual.

6.1.1 CIN

When you have a subscription that matches a CIN sent from an information provider this CIN will be sent to you.

6.1.2 CIC

A Catalogue Item Confirmation (CIC) can be sent from the data recipient to the data source as verification that the data recipient has received the CIN, and as a feedback on the CIN.

The CIC is sent to Validoo that passes the CIC to the system that the information provider is using.

The CIC is not mandatory, but it is recommended that the data recipient sends CICs. It is possible to send multiple CIC for a CIN, also long time after the CIN was received.

The feedback (CIC information) can be positive (status "Received" or "Synchronized") or negative (status "Review" or "Rejected"):

- **Received** – The CIN follows the data recipient's specific rules, but no business decision has been made on the data.
- **Review** - The data recipient has opinions on the trade item and requests that the data source changes or corrects the trade item characteristics.
- **Rejected** - The data recipient is not interested in this trade item information and does not want to receive any more CIN for it.
- **Synchronized** – item information is approved by the data recipient and is integrated into the data recipient's internal systems.

Validoo will validate the CIC sent from the data recipient. If a message is considered incorrectly a GS1 Response is sent back. The recipient **MUST** act on this message.

7 Other information

More information for example code lists, example files and xml schemas can be found at gs1.se.

7.1 Code lists

Code lists can be downloaded in an XML structure through <https://www.gs1.se/sv/vara-standarder/teknisk-dokumentation/kodlistor/>. Validoo recommend that the code lists are downloaded automatically one time each day since this will allow the system to always have updated codes and definitions.